Treas.
HJ
10
.A13P4
v.338

U.S. Department of the Treasury

PRESS RELEASES

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE AT 2:30 P.M.
August 2, 1994

CONTACT: Office of Financing
202/219-3350

TREASURY'S WEEKLY BILL OFFERING

The Treasury will auction two series of Treasury bills totaling approximately $24,800 million, to be issued August 11, 1994. This offering will result in a paydown for the Treasury of about $675 million, as the maturing weekly bills are outstanding in the amount of $25,483 million.

Federal Reserve Banks hold $6,586 million of the maturing bills for their own accounts, which may be refunded within the offering amount at the weighted average discount rate of accepted competitive tenders.

Federal Reserve Banks hold $2,120 million as agents for foreign and international monetary authorities, which may be refunded within the offering amount at the weighted average discount rate of accepted competitive tenders. Additional amounts may be issued for such accounts if the aggregate amount of new bids exceeds the aggregate amount of maturing bills.

Tenders for the bills will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D. C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR Part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about each of the new securities are given in the attached offering highlights.

oOo

Attachment

LB-991

HIGHLIGHTS OF TREASURY OFFERINGS OF WEEKLY BILLS TO BE ISSUED AUGUST 11, 1994

August 2, 1994

Offering Amount	$12,400 million	$12,400 million
Description of Offering:		
Term and type of security	91-day bill	182-day bill
CUSIP number	912794 N9 1	912794 Q4 9
Auction date	August 8, 1994	August 8, 1994
Issue date	August 11, 1994	August 11, 1994
Maturity date	November 10, 1994	February 9, 1995
Original issue date	May 12, 1994	February 10, 1994
Currently outstanding	$12,510 million	$16,521 million
Minimum bid amount	$10,000	$10,000
Multiples	$ 1,000	$ 1,000

The following rules apply to all securities mentioned above:

Submission of Bids:

Noncompetitive bids . . . . Accepted in full up to $1,000,000 at the average discount rate of accepted competitive bids

Competitive bids . . . .
(1) Must be expressed as a discount rate with two decimals, e.g., 7.10%.
(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is $2 billion or greater.
(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.

Maximum Recognized Bid at a Single Yield . . . . 35% of public offering

Maximum Award . . . . 35% of public offering

Receipt of Tenders:

Noncompetitive tenders . . . . Prior to 12:00 noon Eastern Daylight Saving time on auction day

Competitive tenders . . . . Prior to 1:00 p.m. Eastern Daylight Saving time on auction day

Payment Terms . . . . Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE UPON DELIVERY
Text as prepared for delivery
August 3, 1994

Testimony of Treasury Secretary Lloyd Bentsen
Senate Committee on Banking, Housing and Urban Affairs

LB-992

FOR RELEASE UPON DELIVERY
Text as prepared for delivery
August 3, 1994

TESTIMONY OF TREASURY SECRETARY LLOYD BENTSEN
SENATE COMMITTEE ON BANKING, HOUSING AND URBAN AFFAIRS

Mr. Chairman, members of the committee:

There are a number of points I would like to cover this morning. For organization's sake, I want to present my testimony in four parts. First, I want to describe my relationship to the oversight of the Resolution Trust Corporation and how my office operates. I want next to address my recollection of events. I'd like also to discuss the steps I have taken over the past months. And finally, I want to cover the conclusions which have been reached and the actions I will take.

Knowing that the responsibilities of a Cabinet office are different from those of a congressional office, I put two systems in place when I came to Treasury to help me make the transition.

First, as it regards the RTC, I serve as Chairman of the Oversight Board. By law I am prohibited from involving myself in any day-to-day matters. I can discuss policy in broad terms, but I cannot intervene in any case-specific matters.

I asked my legislative director, Mike Levy, to make it clear if members or staff inquired about specific cases, that they should be directed to the RTC, not to me.

Second, I have organized my office such that all the paperwork on matters of policy and Treasury's varied operations flows through my Executive Secretary, Ed Knight. Ed's the gatekeeper. It's his job to make certain that what crosses my desk as it regards the RTC -- or any issue for that matter -- contains only those materials which I should be seeing -- and nothing else.

We have a thick manual at the department about how information flows to my office. I insist on written briefings. It makes the best use of my time. It's the best way I've found to absorb information. When I'm asked for a decision, I expect a memo that gives me the background, lays out the options, tells me what the staff recommends. That way I can either make the decision, or let my staff know I want more information or want a meeting on the issue. That's how I deal with substantive issues, not in some bull session.

In short, I have a very organized office procedure. I have run my offices like that for years -- in business, in the Senate, and at the Treasury Department.

Mr. Chairman, if someone on my staff wanted to communicate with me in a meaningful way, this is how they would have done it. Through my in-box, with a memo, with a meeting on which I was briefed, in writing. That's not to say I don't have occasional impromptu visits from or conversations with my staff. That often happens if there's a developing crisis that must be dealt with. But for matters of any import, I prefer paper.

I asked my staff to go back and look at my office records to see what I was involved in over the period in which the committee is interested. From the 23rd of September last year until March 21 of this year, I had nearly 800 meetings on 560 topics. I attended 130 meetings at the White House, met with 51 members of Congress, and testified on the Hill 11 times. I received more than 500 written briefings to prepare for my meetings. I delivered 60 speeches, gave 80 interviews, had 25 press conferences. I received over 2,400 memos. And during that period I traveled to six countries and ten states.

This entire issue revolves around meetings that I understand were on the issue of handling press inquiries about the Madison Guaranty referral, or on the procedures the RTC would follow in pursuing civil claims. There are differing recollections, but they are about actions that two independent investigations tell us broke no criminal law and violated no ethical standard.

I have turned the Treasury Department upside down. I've turned my memory inside out. We went through thousands and thousands of documents and can't find one written briefing to me on these White House meetings. It wasn't until March 3rd that I learned the extent of these meetings. I issued a statement about the meetings and said that I had not attended them and did not know about them.

I may be walled off from most RTC matters, but I am responsible for what happens at the Treasury Department, and I accept that responsibility. That's why I also immediately asked the Office of Government Ethics to examine these contacts. They're a nonpartisan agency. They're the experts.

In preparing for this hearing, I agreed to the committee request to avoid looking at materials regarding the case until I gave my deposition to the committee staff. I agreed to that request, although it frustrated me because I wanted to wade into this and find out all I could. I had to wait over four months to start looking at these papers.

After I gave my deposition last week, I sat down and began to read through the material. I saw nothing that changes my recollection.

Let me lay out for you what my basic recollection is about these matters.

First, I read in the press sometime in October about criminal referrals and Madison Guaranty. Second, on February 1, Roger Altman and Jean Hanson came to my office. Roger told me he was thinking of recusing himself, and the other subject that came up was the legislation on extending the statute of limitations. Later that month Roger told me he had decided not to recuse himself.

On February 23rd, I met with Roger and Jean Hanson briefly in advance of the RTC oversight hearing the 24th. I again told Roger the recusal issue was a personal issue for him. On the 25th of February, I learned that Roger had testified the day before as to one meeting with people from the White House, and that he had recused himself. On March 3rd, I read in the press about two additional meetings. It was then that I asked for the OGE examination of the contacts and issued my statement.

Now, I would like to review the subsequent events.

Our Treasury Department Inspector General's office was asked to support the OGE examination. Mr. Fiske, the Independent Counsel, was already looking at this from the standpoint of the criminal statutes.

After I asked the OGE to examine the ethics issues involved, Mr. Fiske asked the Treasury IG to suspend his work while Mr. Fiske's investigation was under way. And the OGE also independently decided it would hold off until Mr. Fiske's work was complete so as not to interfere.

I want to point out the lengths to which the Treasury Department, at my direction, went to cooperate with Mr. Fiske, with the IG and with the congressional committees.

Every scrap of paper that remotely looked like it might conceivably have some relation to the Madison Guaranty savings and loan, or to contacts with the White House, was turned over to various investigators -- something on the order of 6,500 pages. We went through hundreds of thousands of documents with investigators to find the ones they needed. We used extra warehouse space to hold back our trash.

I brought in professional investigators from the IRS to go through the top offices in Treasury -- mine included. We removed computers from the offices of those involved, including those used by the support staff, and had experts go through them to find anything that would be useful. We worked around the clock, quite literally. We searched offices nationwide to see what could be found. And my staff was always promptly available to Mr. Fiske, the IG, and congressional investigators to answer questions.

Now, when Mr. Fiske completed his report on this phase of his investigation and concluded that no criminal laws were broken, I asked the OGE to complete its examination of the contacts and report back to me.

Over the past weekend I received the OGE report. I released it to the public, and then I sent it to the President's counsel. I also sent it to every member of this committee and the House Banking Committee.

The Office of Government Ethics, after a careful analysis of the independently-gathered facts, says I can conclude that those working at the Treasury did not, repeat did not violate any of the standards of ethical conduct for employees of the executive branch of government.

I heard a senator say something the other day that stuck with me. He said that in this town, an allegation is synonymous with conviction, without benefit of a trial or hearing.

Clearly, in retrospect, it might have been better if some of these meetings or contacts had not taken place, or had occurred in a different context. But when you boil it down, no criminal law was broken, and the people who work at Treasury did not violate the ethical standards. And no one at Treasury intervened in any way or interfered in any RTC action.

The OGE report did say it was troubled by some of the contacts, and it raised important issues that I believe should be addressed.

The OGE said it appeared there were misconceptions by Treasury officials that may have contributed to the contacts. Those include a possible lack of appreciation of the difference between a Treasury function and one belonging to the Resolution Trust Corporation, and what rules apply. They also include a misconception about the standard on the use of nonpublic information, and a misconception about the function of a recusal.

Those are very good points. I would point out the unique situation in which these contacts occurred no longer exists. Mr. Altman is no longer acting CEO of the RTC. And there no longer are lines of responsibility here that could give rise to misconceptions about job functions and the rules that apply. So the possibility for a jumbling of roles and a confusion about the rules has been greatly lessened.

I've only had this report for a few days, and I'm not going to make any knee-jerk reaction to what clearly are complex issues involving management of Treasury functions. I want to reserve judgment on that. I'm not going to make my decisions in the heat of debate. I will study this information -- and any thoughts the committee might have -- and take whatever steps I consider appropriate.

Before I conclude my testimony, I want to remind the committee of one important point: The Treasury Department has a law enforcement role, as do a number of other government agencies. It is critical that the Department be able to communicate with other agencies, and the White House when necessary. Let me give you some examples: The White House may need to know that the Secret Service is investigating a crime in which a visiting dignitary is involved. Or the ATF might have an arms export case involving high officials of this government, or of a foreign country.

Clearly, there is a legitimate need to discuss matters, in the proper forums, with the proper individuals. There must be a mechanism in which public officials can communicate with one another without fear they're stepping over the line.

We've seen how grey areas can be -- where there's one set of rules at the RTC, and another at Treasury. And we've seen how there sometimes is no bright white line that gives public officials the guidance they need.

I intend to work with the Attorney General, our Inspector General, and the Office of Government Ethics, to see what remedies would offer our employees better guidance. And it should be clearer for our officials how to handle the issue of confidential information as it regards press inquiries.

Mr. Chairman, members of the committee, two quick points in closing. First, I've been in public service for nearly 30 years. I've seen everything from the McCarthy hearings to Watergate, Iran-Contra, the Church Committee, all of it. What you have here is a unique confluence of circumstances that, when you strip away all the rhetoric, resulted in actions that broke no criminal law, did not violate the ethics rules and did not in any way affect the Madison case. I think that when Congress concludes these hearings, Congress and Americans who have followed this matter, will conclude the same. And finally, I am proud that throughout it all the Treasury Department has continued to operate at 100 percent and done a good job.

-30-

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

REMARKS BY JEFFREY R. SHAFER
ASSISTANT SECRETARY FOR INTERNATIONAL AFFAIRS
BEFORE THE
GASTON SIGUR CENTER FOR EAST ASIAN STUDIES
GEORGE WASHINGTON UNIVERSITY

AUGUST 2, 1994

I was invited here to discuss the capital needs of East Asia, and to give special emphasis to the ASEAN countries and their need for financial services liberalization.

Frankly, I can't think of a more appropriate topic for me to focus on this evening because I have just returned from a visit to five ASEAN countries. The purpose of that trip was to encourage them to develop a strategy for liberalizing their financial sectors. This is key to meeting their capital needs. I would like to discuss in more detail my impressions from the trip and why I believe financial sector opening is critical to sustained growth in the region.

One purpose of this conference is to consider "What next?" now that the Uruguay Round has been concluded. That's an easy question for me to answer because financial services negotiations, along with maritime, telecom and aviation, were not concluded last December: the negotiations have in effect been granted an eighteen month extension. That means I will be very busy over the next twelve months working to achieve our still unmet objective of securing market access and national treatment abroad for our financial services providers.

Participants and onlookers of the Round were surprised that we could not conclude the entire package of negotiations on time. In retrospect, it is not surprising at all. Negotiating services multilaterally was uncharted territory, and I think for a lot of people, the terrain proved a little rockier than expected. By contrast, goods negotiators were on

LB-993

surer ground because they had several rounds of negotiations behind them. As we develop a bit more experience and expertise on how to deal with the special features of services trade -- inseparability of trade and investment issues, and the role of regulations, services negotiations will become familiar territory as well, and I am confident that we will be able to reach a fair agreement.

A lot of people continue to doubt that we will be able to negotiate financial services successfully. Skeptics argue that we can negotiate multilateral agreements for goods because other countries want to sell goods here, so it's in each country's best interest to come to the table and work out a deal. However, they assert that countries are not interested in having banks or other financial service providers here, so we have no leverage. But I think there is value in a reservation for reciprocity, and that this value grows as countries develop and seek to become established in the major centers of the global financial marketplace. More importantly, I see financial market opening as a win-win proposition. In creating opportunities for American firms in the fastest growing region in the world, we are helping to ensure that growth can be sustained.

My view that countries will be willing to open up because it is in their self-interest to do so was borne out during my trip to East Asia. It is well understood by many in the region that financial services liberalization is vital to sustained rapid, private sector-led growth. By offering support to the reformers, and evidence that financial sector opening helps economies grow, I believe we will see countries make the kind of commitments we are looking for.

It won't happen as fast as it should and some countries will try to stand aside. Vested interests will seek to freeze the status quo. Economic nationalism will hold others back. Hence, pressure is needed and the right inducements will be required.
These will have to come from leaders among the emerging markets, as well as from the United States. But we will be reinforcing trends, not bucking them.

Europe's experience with financial sector liberalization supports this contention. During the nine years I was with the OECD, I was a close observer of capital market development in the region. I saw the last phase of a process that began with the establishment of the OECD in 1961 -- a process that completely dismantled restrictions on

capital flows and opened up national financial markets to foreign participation. The United States consistently goaded European governments to give us fair market access. The OECD provided a forum for peer pressure. And European countries did open up -- both by integrating with each other in the European Union, and by opening up to the outside. I am the first to acknowledge that they didn't open up just because the U.S. pressured them, but because they knew it was important in order to live up to their growth potential. Still, U.S. leadership is critical.

I expect that this phenomenon will be repeated in East Asia because financial sector opening is an essential component of a successful, long term development strategy. When I was in Asia I made this point privately to the finance ministers and other officials I met with, and in speeches to foreign and American audiences. I want to give you the same pitch I gave them.

Let me begin by noting that the development process in East Asia is as worthy of a chapter in history as any other major revolution. The growth rates of the best performing countries in East Asia have no equal in history. Per capita income in much of East Asia has been doubling every 13 years. In the last 30 years, Korea grew as much as the United States did in all of the last century. Hong Kong, Taiwan, and Singapore have gone from extreme poverty to OECD income levels in a very short time. The record shows that, within one generation, there can be qualitative improvements in living standards that benefit all segments of the population.

The changes brought by this rapid growth mean that the development process must evolve or it will run down long before these economies achieve their full potential. That potential is to match the United States and the European Union and (except for Singapore) they are far, far short of this. For example, per capita GDP in the ASEAN countries ranges from $740 for Indonesia to $3400 for Malaysia (the high), compared to $25,000 in the United States and about $19,000 in the EU.

In most of the countries I visited-- the Philippines, Indonesia, Malaysia and Thailand-- growth is being constrained by infrastructure bottlenecks. Clogged traffic, brown-outs and poor communications systems are inhibiting business, and hence, private sector growth.

The Asian Development Bank has estimated that Asia's financing needs will approach

$1 trillion for infrastructure alone through the year 2000. In some East Asian countries, the World Bank has found that shortfalls in infrastructure investment in the 1980s may have been equivalent to 2-3 percent of GDP. Countries cannot rely on official sources of capital to meet these financing needs. Nor will official channels direct resources as efficiently as competitive markets. In addition, many emerging financial markets in the region are not up to providing the depth and liquidity of markets and range of financial instruments which are needed to support a gamut of investments ranging from small enterprise loans to giant infrastructure projects.

In my view, Asian economies need strong, well-developed financial systems to channel domestic and foreign savings to the most promising investment opportunities. By serving as the economy's "nervous system", the financial sector sends signals that help direct the operation of the real economy.

What, then, can countries do to support capital market development in their economies? Areas to consider include stock and equity markets, bond markets and pension funds. Asian stock markets have begun to contribute significantly to capital mobilization, and bond markets could potentially support some of the large, long-term investment and infrastructure needs in the region. Private pension funds can marshall domestic savings for long-term investment in equities and bonds.

Authorities in developing East Asian countries also need to more fully develop the potential of their banking sectors for intermediating domestic savings. This means improving the regulatory environment for both banks and capital markets, including the modernization and enforcement of prudential regulations and the development of better accounting and disclosure standards.

Foreign banks and securities firms can make an important contribution to the development of Asia's financial markets. They can add depth, and they can contribute expertise on market operation and new instruments. This is a point I raised many times during my trip, and encountered little disagreement from Asian officials.

Yet, foreign firms are barred from meaningful participation in a number of financial sectors and markets in the region. Foreign banks are limited in their ability to enter Asian domestic financial markets to set up new branches, and often fund their operations through

deposit-taking or borrowing abroad. Even if they can overcome obstacles to establishment, foreign banks face numerous restrictions which limit their operations, such as prohibitions on branch offices or automatic teller machines.

In a number of regional securities markets, foreign shareholding is limited to a minority share in any one listed company. Securities firms operating in Asia are often barred from full membership in local stock exchanges, or from acquiring a majority interest in local stock exchange markets.

These are the types of barriers I am encouraging foreign governments to knock down. They won't come down overnight, but movement in the region is clearly in the direction of liberalization. All of the finance officials I spoke to indicated that they are committed to gradual liberalization, and most could point to evidence of this commitment. The Philippines, for example, just passed a new banking law and Thailand has announced that it will grant a limited number of additional banking licenses.

At the same time, I heard a number of arguments advocating a slow-down. I noticed that officials are concerned that their comparatively small banking systems would be overwhelmed by sophisticated foreign banks. I agree that it would not be prudent to eliminate all controls overnight. A big-bang approach can have short term costs. And a gradual approach will provide comfort for doubters as the waters are tested. What the United States is seeking is a commitment to increasing openness at a good pace until effectively full market access and national treatment prevails.

To conclude, for those concerned that multilateral initiatives will languish a fter the Uruguay Round, this is one area where a lot of work remains to be done to open markets. We have national interest in ensuring the success of this effort. The best way for countries to develop their financial capacities is to open up. This will increase competition, deepen markets on a regional or global basis, and foster innovation as ways of doing business in pioneering markets are brought in. Countries that maintain strict controls will discover that protectionism will not support a competitive and mature financial sector. The force of these arguments will need backing -- we will not give full access to our markets in a multilateral agreements if others are unwilling to do so. We count on peer pressure to bring these countries along, and I am looking forward to going back to the table to move on to the next phase of negotiations.

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

Statement of Roger Altman

Deputy Secretary of the Treasury

Before the Committee on Banking, Finance
and Urban Affairs of the
U.S. House of Representatives

August 3, 1994

LB-994

Mr. Chairman and Members of the Committee: My name is Roger Altman. On January 21, 1993, I was unanimously confirmed by the Senate as Deputy Secretary of the Treasury and have served in that capacity since then. That was the second time I was unanimously confirmed to serve in the Treasury. Over the four years of the Carter Administration, I served as Assistant Secretary for Domestic Finance.

I feel privileged to have served in these capacities. Public service has always been an important part of my life, as it was for my parents. Over those years, and in those positions, I may have made some poor decisions or other mistakes, but my integrity has never been questioned.

Let me address first the very basic issue as to whether any effort was made by Treasury or White House staff to impede or alter in any way the criminal or civil processes of the RTC as they relate to Madison Guaranty. I include within that question, the issue of whether any information was improperly imparted to the White House.

To the best of my knowledge, there was no effort on the part of any White House or Treasury staff to impede or affect in any way the RTC investigations. Moreover, no member of the RTC or Treasury staff, to my knowledge improperly imparted any information about Madison Guaranty to the White House. I did not do it myself, and I am not aware of anyone else doing so.

Three independent investigations have addressed these questions. First, we have the results of the legal investigation by the independent counsel, Mr. Fiske. All issues involved in his investigation were fully and thoroughly investigated. And we are all familiar with his conclusions.

There is also the report of the Office of Government Ethics which Secretary Bentsen released on Sunday. This concluded that there had been no unethical activities on the part of any Treasury personnel. The Office of Government Ethics is an independent body. As with Mr. Fiske, it had access to all documents and took testimony, under oath, from all those involved, including your witnesses.

There is also the report of Mr. Cutler, White House Counsel, on the question of any unethical behavior by White House staff. He concluded there was none.

These investigations have confirmed that the Clinton Administration did not interfere in any aspect of the Madison Guaranty case. There is no evidence, I repeat, no evidence that either the criminal or civil aspects were compromised, delayed or altered in any way. Simply none.

I believe that the conclusions of these three separate investigations are absolutely correct. And I ask the Committee to bear in mind the larger context of my involvement in the handling of the Madison matter by the RTC:

- Most importantly, I never made any decisions with respect to the Madison case;

- I was committed, as I told the White House staff and others, to have the RTC General Counsel, Ellen Kulka, make whatever determination was necessary with respect to any civil claims arising from Madison;

- My meeting with the White House staff on February 2 was cleared by both Treasury General Counsel and the designated Treasury Ethics Officer;

- I obtained two written ethics opinions stating that my recusal was not required; and

- I recused myself from the Madison matter on February 25th without ever having made any decision in that case.

The Treasury/RTC Relationship

Let me turn to describing the interaction between the Clinton Administration and the RTC.

First, when Mr. Casey resigned as CEO in March 1993, the Administration had only taken office five or six weeks beforehand and had not yet chosen its nominee for this position. Indeed, only two U.S. Treasury officials had even been confirmed -- Secretary Bentsen and me.

Secretary Bentsen asked me to assume this position until a permanent CEO was nominated and confirmed. As others will attest, I neither sought nor wanted this assignment, but accepted it because there was no one else. And, during the discussions about my appointment, there was no mention by anyone of Madison Guaranty.

In June 1993, we submitted a nomination for permanent chairperson of the RTC. Our expectation was that he would be promptly confirmed, and I could leave the agency.

Our nominee was a Republican, and an active one. He was well qualified for this position, and the Administration supported his nomination throughout the Congressional session. But, the nomination was not taken up by the Senate. After Congress completed its work last Fall, he withdrew his name from further consideration.

Let me make an observation about this situation. The Administration nominated an active Republican for the top RTC job. That is not consistent with trying to exert undue control over the agency or one of its investigations.

When I became RTC Chairman, the agency was managed on a day to day basis by its two Senior Vice Presidents -- Bill Roelle and Lamar Kelly. Almost all members of the RTC senior staff reported to one or the other. These two men were appointees of Mr. Casey, who, in turn, had been appointed by President Bush. They were thoroughly professional and were retained throughout all of 1993. Each then left at his own initiative to rejoin the FDIC.

Retaining the two Senior Vice Presidents who we inherited is also not consistent with trying to exert political control over the agency. Moreover, these two individuals had no motivation to show favoritism on Madison Guaranty, and I do not believe that they did so.

During my tenure at the RTC, I was also serving as Deputy Secretary of the Treasury. In that role, I was deeply involved in policy initiatives ranging from passage of the President's Economic Plan to co-chairing the U.S.-Japan framework negotiations. These responsibilities permitted me limited time for RTC matters.

My RTC involvement typically related to broad public issues, like the long struggle to pass the RTC Completion Act last year. At no time did I ever ask to be briefed, or was I briefed, on any investigation or the status or outlook for any case. Not once. My role was to provide general oversight at twice-weekly RTC Senior Staff meetings. These involved 8 - 10 RTC officials. They were the only RTC employees with whom I ever had personal contact of any kind.

The Criminal Referral

Last Fall, Bill Roelle or Jean Hanson, or both, advised me, because of impending publicity, that the RTC was considering referring the Madison matter to the Justice Department for criminal investigation and that the referral could mention the President and First Lady in some capacity. I had never asked to be involved in Madison-related matters or any other RTC investigation. Indeed, until that time, I had known nothing about Madison except through the press. And, as I said, I believe they advised me because publicity was imminent.

I was also advised that such referral decisions are typically made at the regional office level. I responded by saying that this referral decision should be made in exactly the same fashion as in any other case. If that meant the regional office level, then that's where the decision would be made.

There were no further conversations with me on this subject. I ultimately learned through the press that the case indeed had been referred to the Justice Department.

I do not believe that I suggested that the White House be informed on any facts relating to this referral. But, if Ms. Hanson did advise the White House of an impending press leak on it, I see nothing improper in that.

Mr. Roelle has testified that he advised me of a possible criminal referral as early as March 1993. I respect him but I do not recall it.

There have also been questions on press articles on Madison which I may have faxed to Mr. Nussbaum. He has said that he has no recollection of receiving them. I don't recall sending them either. But there would be nothing wrong with sending press articles to anyone. And, there isn't a shred of evidence that I conveyed sensitive information then or at any other time.

The February 2 Meeting

During our meeting at the White House on February 2, we conveyed no information on the facts, merits or outlook for the case or the statute of limitations decision. That would have been impossible because I had no information on those matters. I never had such information on Madison, or any other case, and don't have any today.

The only information we provided which related to the case involved a description of the generic and procedural alternatives which face the RTC on any expiring statute of limitations situation, and indeed faced it on Madison. All of that information was in the public domain. It had previously been provided to representatives of the Congress, upon request. And, it was in the hands of the media. The Washington Times, for example, had already printed a summary of these procedural alternatives.

During the months of December and January, there were at least seven meetings or conversations between RTC officials and House and Senate staff, all requested by the latter. Three of these involved Senator D'Amato's staff. All of these centered around the statute of limitations issues and the supplying to Congress of documents related to Madison.

Moreover, from December 1993 through February 1994, a series of Congressional inquiries regarding the pursuit of civil claims arising from the Madison failure came directly to me.

They included a letter on January 11 from forty-one Republican Senators and a letter on January 25 from Senator D'Amato and a letter from Congressman Leach. These urged, in Senator D'Amato's words, "take action to voluntarily seek agreements from potential parties to pre-initiated legal action . . . I can see no reason for further delay on your part . . . please provide me with your conclusion immediately."

The Congressional inquiries directed to me, of course, required a response. Prior to receiving them, I was not familiar with the statute of limitations issues. I am not a lawyer and, for example, had never previously heard of a tolling agreement.

To assist in preparing responses to Congressional inquiries, Ellen Kulka, RTC General Counsel, briefed me on these issues. I learned that the RTC had to make a decision by February 28. The alternatives were: (1) seeking a tolling agreement with the parties against whom a claim might be brought; or (2) failing that, filing a claim in court; or (3) concluding that no basis existed for pursuing a claim. This information, together with the facts relating to the criminal referral, was the sum total of information relating to Madison which was known to me.

My responses to Members of Congress were very direct. We pledged an impartial process, a thorough review and "if such (civil) claims do exist, the RTC will vigorously pursue all appropriate remedies using standard procedures in such cases, which could include seeking agreements to toll the statute of limitations."

With the volume of Congressional and press inquiries rising, it seemed to me that, first, the White House should have the same information which was being provided to Congressional Staff and the press; and second, it was appropriate to advise the White House of events which could affect its function. Those were my only motivations.

On February 2, Jean Hanson and I went to the White House. She attended because, as Treasury's senior lawyer, she had been helping me on various RTC legal matters, and the subject matter was inherently legal. She saw nothing wrong with providing this information to the White House. I later learned that she also had the good judgment to check the ethical issues with Dennis Foreman, Treasury's chief ethics officer, who also saw nothing improper. Mr. Foreman is a career appointee who preceded the Clinton Administration.

In other words, Treasury's General Counsel and its senior ethics officer both approved this meeting.

The meeting lasted no more than twenty minutes. Initially, Ms. Hanson and I described the generic procedures which the RTC used in this or any other case facing an expiring statute of limitations. We recited the three alternatives, following talking points which she had prepared. This Committee has a copy of those.

This was the total information provided which related to the case. We provided no information on the status or outlook for the case. That would have been impossible because we possessed none.

The Office of Government Ethics, which took testimony under oath from all participants, said in its report that "nothing . . . suggests that (this) part of the meeting involved a disclosure of nonpublic information."

The Question of Recusal

Toward the end of the February 2 meeting, I also raised the question of recusal. Let me now address that. The issue of recusal is a false one. Whether I recused myself or not would have had no impact on the case. None at all.

The facts are that I began thinking about recusal around February 1, and on February 25, I did recuse myself. No matter came to me for decision on any case, including Madison.

Moreover, prior to recusing myself, I was de facto recused. Decisions on cases never came to me at any time during my RTC tenure. And, I had specifically reaffirmed to the RTC General Counsel, before the February 2 meeting, that she would be making all decisions related to Madison, not me. Indeed, I had told her that more than once and with others present.

On February 2 when I informed the White House that I was thinking about recusal, I told them that it was irrelevant because the RTC General Counsel would be making all decisions on Madison, not me. The Office of Government Ethics report confirms my de facto recusal. It states that "recusal is just another word for nonparticipation." I had already chosen non-participation.

Nine days after the February 2 meeting, Congress passed a two-year extension of the statute of limitations on Madison Guaranty. That made recusal entirely moot. My term as RTC Chairman was to expire (and did expire) on March 30. With such additional time, it was almost certain that the RTC would not be making any Madison decisions by my March 30 termination date.

In retrospect, I perhaps should have recused myself right off the bat. Some of this controversy would have been avoided.

But, before February 2, I had been advised that there was no legal or ethical requirement to recuse myself. I later received two written opinions from ethics officers to that effect. Moreover, it isn't clear whether recusing oneself in the absence of such requirements is entirely appropriate either. The Office of Government Ethics Report questions whether I made the right decision to recuse or, instead, had a duty to serve.

I don't think that taking three weeks to make such a complex decision is all that surprising. But, again, the important point is that I recused myself without ever having participated in any decisions on Madison.

Following the meeting on February 2, there were several incidental contacts, all of which involved only the issue of my recusal or the conclusion of my term at the RTC. These included a brief telephone call to Mr. McLarty a few days after the February 2 meeting to

the effect that I was still considering the issue of recusal. Around the same time, I had a brief discussion with Harold Ickes to tell him essentially the same thing. Those brief conversations on recusal could not, under any circumstances, have had a bearing on the case. I already had removed myself from any possible role on the case.

Finally, I also had a brief discussion with Mr. Ickes the night before my Senate testimony. I told him that I intended to announce during my testimony that I was stepping down as CEO of the RTC, as I did announce the next day. Around the same time, I literally ran into Mr. Nussbaum in a corridor of the White House. He told me the Administration would soon be submitting its nominee for permanent RTC head. Again, however, neither of these contacts had anything to do with the Madison investigation.

Conclusion

In closing, I would like to reiterate the key facts. Three separate investigations have concluded that no legal or ethical violations occurred. And, no one interfered in any way with the Madison Case nor improperly imparted information on it.

I hope that these points, and the answers I'll now provide to your questions, will satisfy this Committee that my conduct was proper. Thank you.

DEPARTMENT OF THE TREASURY

TREASURY NEWS
OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

STATEMENT OF JOSHUA L. STEINER

CHIEF OF STAFF

U.S. DEPARTMENT OF THE TREASURY

BEFORE THE COMMITTEE ON BANKING,
FINANCE AND URBAN AFFAIRS
U.S. HOUSE OF REPRESENTATIVES

AUGUST 3, 1994

LB-995

August 3, 1994

Mr. Chairman, Congressman Leach, Members of this Committee:

My name is Joshua Steiner and I serve as the Chief of Staff at the Department of the Treasury. Before joining the Treasury Department, I was Executive Assistant to Timothy Healy, the President of the New York Public Library.

I am here today to answer your questions and help clarify any outstanding issues concerning contacts between the Treasury Department and the White House on the Resolution Trust Corporation's investigation of Madison Guaranty. I have cooperated fully with all investigations into this matter, including those conducted by Mr. Fiske, the Office of Government Ethics and Congressional committees.

Several members of this Committee have commented on my personal diary and, if I might, I would like to make one brief point about it.

I started keeping this diary nearly six years ago. I would write in it fairly infrequently -- sometimes every two weeks, other times six weeks would go by before I made an entry. Indeed, some of the entries of interest to this Committee describe events that occurred nearly a month before I wrote about them.

I made no effort to check the accuracy of my diary because this was never intended to be a precise narrative or a verbatim account of what took place. At times, it included impressions of meetings that I did not even attend. It was, more than anything, a way to reflect on events and draw lessons from my personal and professional experiences.

Today, you will ask me questions under oath and I hope my answers will clarify the entries I made in my diary. Since the time I first made these entries, I have had a chance to reflect about precisely what I know.

I wish that my diary was more accurate, but I take my responsibility to this Committee very seriously and I feel obligated to present the facts as truthfully as I possibly can.

Thank you.

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE WHEN AUTHORIZED AT PRESS CONFERENCE
August 3, 1994

CONTACT: Office of Financing
202/219-3350

TREASURY AUGUST QUARTERLY FINANCING

The Treasury will auction $17,000 million of 3-year notes, $12,000 million of 10-year notes, and $11,000 million of 30-1/4-year bonds to refund $29,600 million of publicly-held securities maturing August 15, 1994, and to raise about $10,400 million new cash. The Treasury will also auction $7,000 million of 38-day cash management bills. Details about the cash management bill are given in a separate announcement.

In addition to the public holdings, Federal Reserve Banks hold $3,213 million of the maturing securities for their own accounts, which may be refunded by issuing additional amounts of the new securities.

The maturing securities held by the public include $2,683 million held by Federal Reserve Banks as agents for foreign and international monetary authorities. Amounts bid for these accounts by Federal Reserve Banks will be added to the offering.

The 10-year note and 30-1/4-year bond being offered today are eligible for the STRIPS program.

Tenders will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D. C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR Part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about the notes and bond are given in the attached offering highlights.

oOo

Attachment

LB-996

HIGHLIGHTS OF TREASURY OFFERINGS TO THE PUBLIC

AUGUST 1994 QUARTERLY FINANCING

August 3, 1994

Offering Amount	$17,000 million	$12,000 million	$11,000 million
Description of Offering:			
Term and type of security	3-year notes	10-year notes	30-1/4-year bonds
Series	X-1997	C-2004	Bonds of November 2024
CUSIP number	912827 Q7 0	912827 Q8 8	912810 ES 3
Auction date	August 9, 1994	August 10, 1994	August 11, 1994
Issue date	August 15, 1994	August 15, 1994	August 15, 1994
Dated date	August 15, 1994	August 15, 1994	May 15, 1994
Maturity date	August 15, 1997	August 15, 2004	November 15, 2024
Interest rate	Determined based on the average of accepted competitive bids	Determined based on the average of accepted competitive bids	Determined based on the average of accepted competitive bids
Yield	Determined at auction	Determined at auction	Determined at auction
Interest payment dates	February 15 and August 15	February 15 and August 15	November 15 and May 15 (first payment on November 15, 1994)
Minimum bid amount	$5,000	$1,000	$1,000
Multiples	$1,000	$1,000	$1,000
Accrued interest payable by investor	None	None	Determined at auction (from May 15 to August 15, 1994)
Premium or discount	Determined at auction	Determined at auction	Determined at auction
STRIPS Information:			
Minimum amount required	Not applicable	Determined at auction	Determined at auction
Corpus CUSIP number	Not applicable	912820 BK 2	912803 BD 4
Due dates and CUSIP numbers for additional TINTs	Not applicable	Not applicable	May 15, 2023 --- 912833 LN 8 November 15, 2023--912833 LP 3 May 15, 2024 --- 912833 LR 9 November 15, 2024--912833 LT 5

The following rules apply to all securities mentioned above:

Submission of Bids:

Noncompetitive bids . . . . Accepted in full up to $5,000,000 at the average yield of accepted competitive bids.

Competitive bids . . . .
(1) Must be expressed as a yield with two decimals, e.g., 7.10%.
(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all yields, and the net long position is $2 billion or greater.
(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.

Maximum Recognized Bid at a Single Yield . . . . 35% of public offering

Maximum Award . . . . 35% of public offering

Receipt of Tenders:

Noncompetitive tenders . . . . . . Prior to 12:00 noon Eastern Daylight Saving time on auction day

Competitive tenders . . . . Prior to 1:00 p.m. Eastern Daylight Saving time on auction day

Payment Terms . . . . Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

TALKING POINTS OF DARCY BRADBURY

DEPUTY ASSISTANT SECERTARY FOR FEDERAL FINANCE

AT THE

FINANCING PRESS CONFERENCE

AUGUST 3, 1994

TALKING POINTS
FOR THE
FINANCING PRESS CONFERENCE

August 3, 1994

Today, we are announcing the terms of the regular Treasury August midquarter refunding. I will also discuss Treasury financing requirements for the balance of the current calendar quarter and our estimated cash needs for the October-December 1994 quarter.

1. We are offering $40.0 billion of notes and bonds to refund $29.6 billion of privately held notes and bonds maturing on August 15 and to raise approximately $10.4 billion of cash.

The three securities are:

-- First, a 3-year note in the amount of $17.0 billion, maturing on August 15, 1997. This note is scheduled to be auctioned on a yield basis at 1:00 p.m. Eastern time on Tuesday, August 9, 1994. The minimum purchase amount will be $5,000 and purchases above $5,000 may be made in multiples of $1,000.

-- Second, a 10-year note in the amount of $12.0 billion, maturing on August 15, 2004. This note is scheduled to be auctioned on a yield basis at 1:00 p.m. Eastern time on Wednesday, August 10. The minimum purchase amount will be $1,000.

-- Third, a 30 1/4-year bond in the amount of $11.0 billion, maturing on November 15, 2024. This bond is scheduled to be auctioned on a yield basis at 1:00 p.m. Eastern time on Thursday, August 11. The minimum purchase amount will be $1,000.

2. We are also announcing a $7 billion 38-day cash management bill, which will be issued on August 15 and mature on September 22, 1994. This bill is scheduled to be auctioned on a discount rate basis at 11:30 a.m. Eastern time on Thursday, August 11. Noncompetitive tenders will be accepted up to $1 million and, in order to be timely, must be submitted by 11:00 a.m. Eastern time. The minimum purchase amount will be $10,000 and purchases above $10,000 may be in multiples of $1,000.

3. As announced on Monday, August 1, 1994, we estimate a net market borrowing need of $45 billion for the July-September 1994 quarter. The estimate assumes a $40 billion cash balance at the end of September. Including the notes and the bond in this refunding, we have raised $19.6 billion of cash from the sale of marketable securities. This was accomplished as follows:

-- raised $3.2 billion from the 2-year note that settled August 1;

-- raised $11.5 billion from the 5-year note that settled August 1;

-- raised $1.7 billion from the 52-week bills;

-- raised no new cash in the regular weekly bills, including those announced yesterday, August 2;

-- paid down $7.2 billion in the 7-year note that matured July 15; and

-- raised $10.4 billion of cash from the securities announced for the refunding today.

4. The Treasury will need to raise $25.5 billion in market borrowing during the rest of the July-September quarter. We have taken into account the fact that the $7 billion cash management bill to be issued on August 15 and the $6 billion cash management bill that was issued on July 15 will mature on September 22, before the end of the quarter. The financing remaining to be done before the end of September can be accomplished through regular sales of 13-, 26-, and 52-week bills and 2-year and 5-year notes, although a cash management bill may be necessary to cover the cash low-point in mid-September.

5. We estimate Treasury net market borrowing needs to be in the range of $45 to $50 billion for the October-December 1994 quarter, assuming a $30 billion cash balance on December 31.

6. We are also announcing that we intend to establish 3-decimal competitive yield bidding for auctions of Treasury notes and bonds, possibly beginning in the spring of 1995. We believe

that 3-decimal bidding will tend to encourage participation in Treasury auctions and will conform Treasury auctions to current market practice for when-issued trading of Treasury securities.

7. We are also announcing that the Treasury will continue to auction regular monthly offerings of 2- and 5-year notes using the single-price method.

Treasury's use of the single-price auction method began with the 2- and 5-year note auctions in September 1992. The stated purpose of the experiment was to determine whether the uniform-price auction technique broadens participation and reduces concentration of securities on original issue, and whether it reduces the Treasury's financing costs, by encouraging more aggressive bidding by participants.

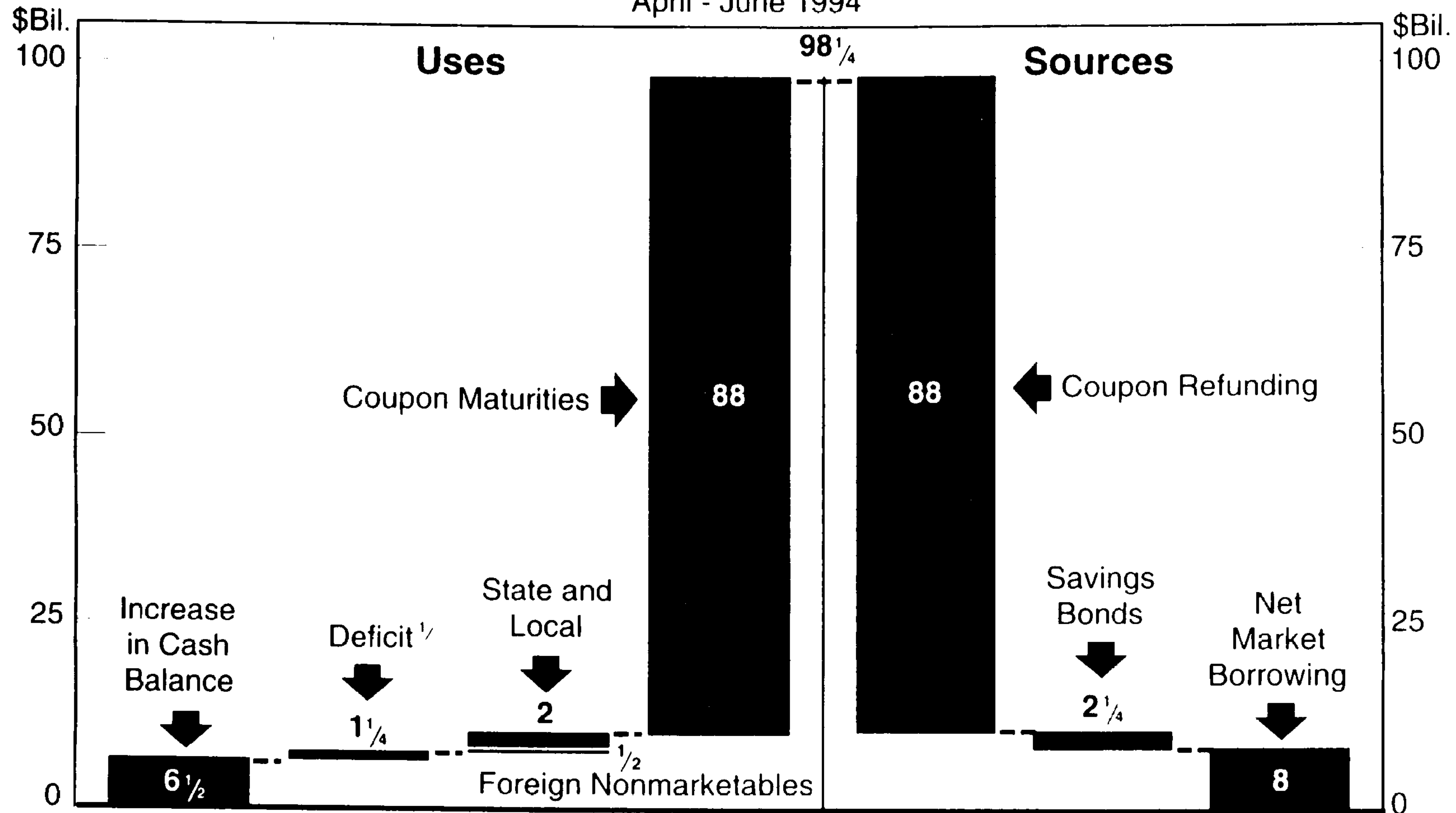
The results of the single-price auction technique to date have been neutral to slightly positive. Certain information concerning the results of the auction technique are included in the package summarizing the Borrowing Advisory Committee meeting, which you can pick up as you leave.

Until recently, market conditions had been very stable with a prolonged period when interest rates were declining to flat. We want to continue to examine evidence on the single-price technique over more varied interest rate environments. We expect

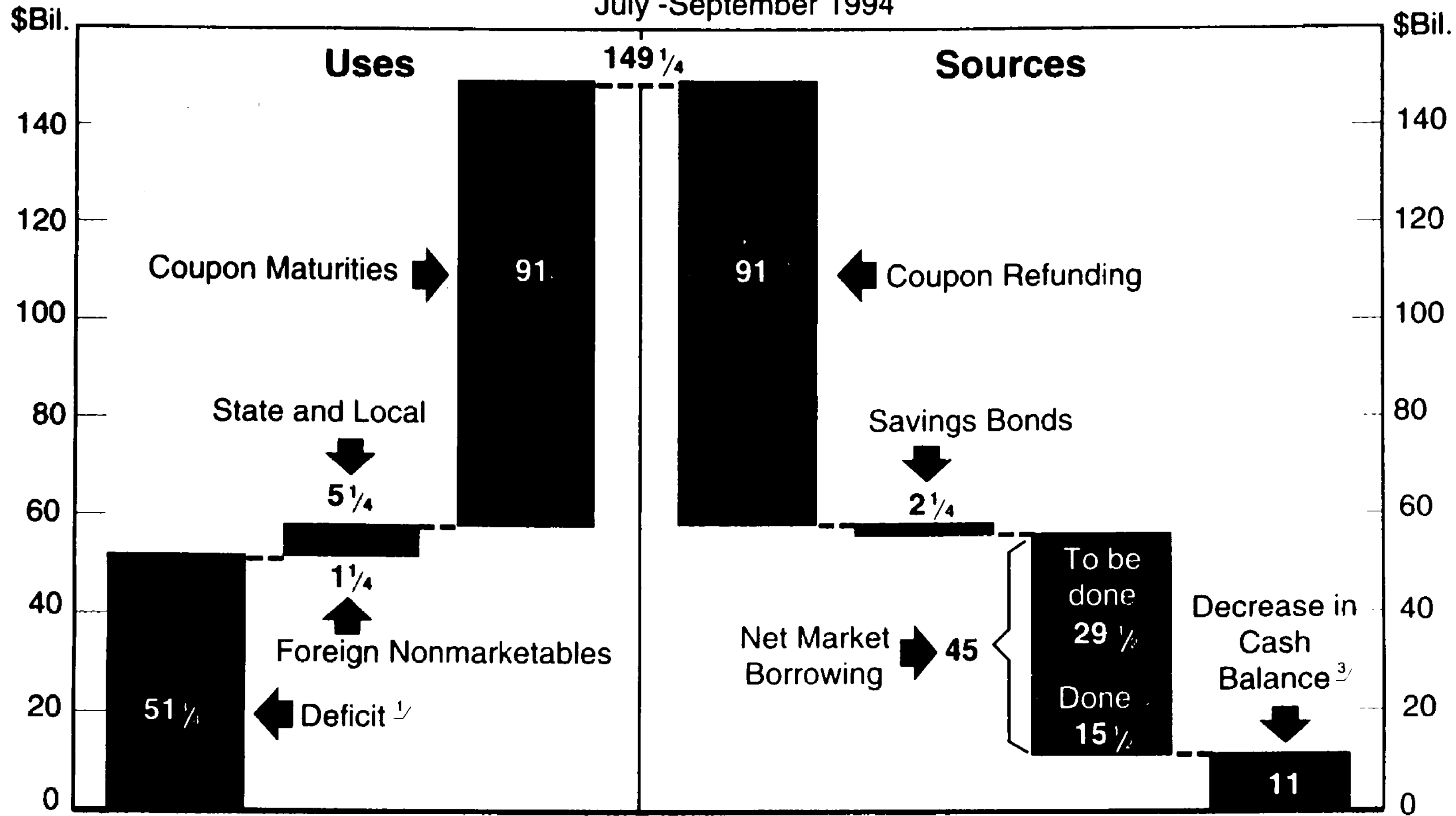
to release more information in the future for review by market participants and other interested parties.

8. We will accept noncompetitive tenders up to $5 million for each of the notes and the bonds. The 10-year note and 30-year bond being announced today are eligible for conversion to STRIPS (Separate Trading of Registered Interest and Principal of Securities) and, accordingly, may be divided into separate interest and principal components.

9. The November midquarter refunding press conference will be held Wednesday, November 2, 1994.



1/ Includes budget deficit, changes in accrued interest and checks outstanding and minor miscellaneous debt transactions.



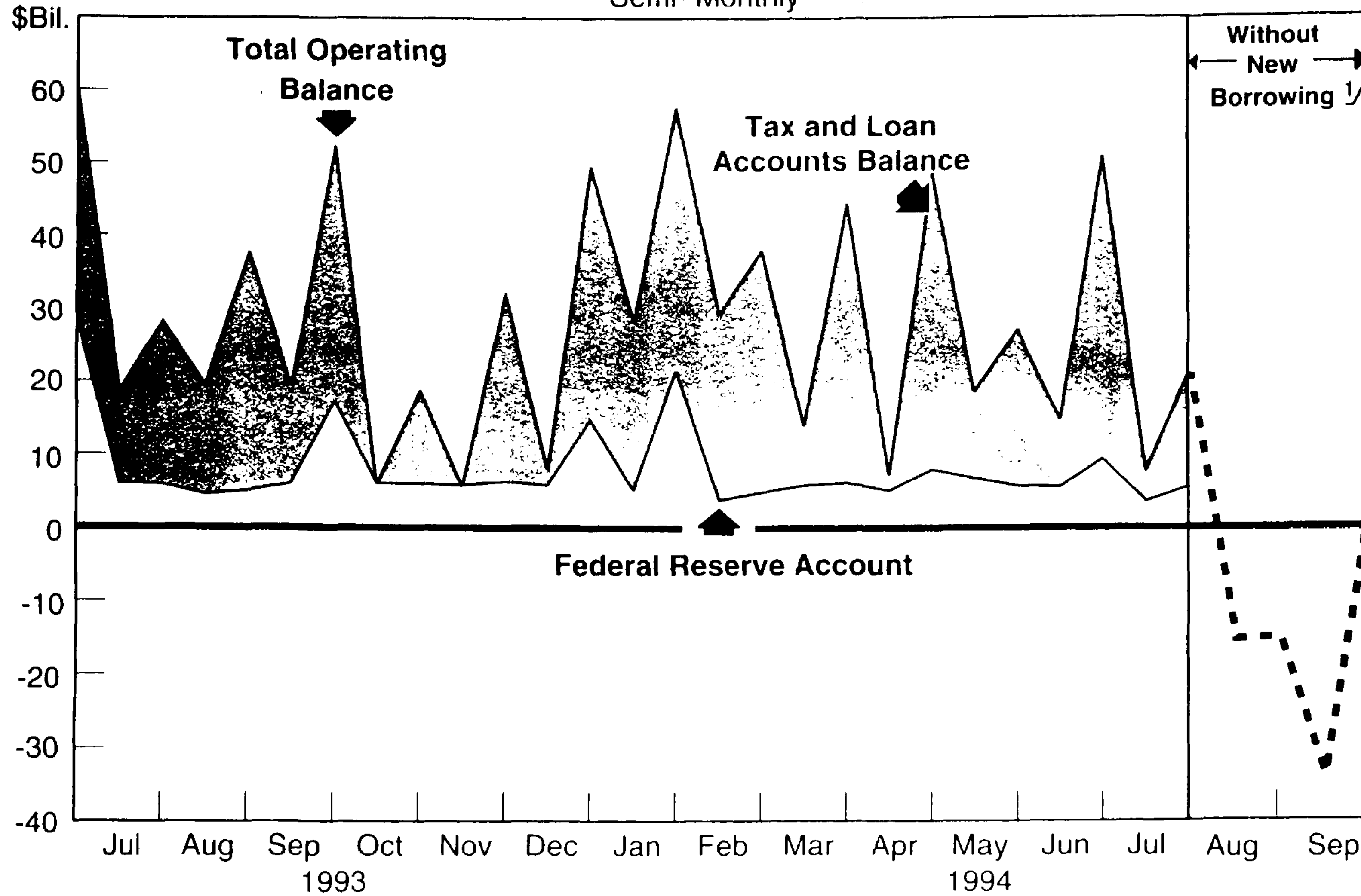
1/ Includes budget deficit, changes in accrued interest and checks outstanding and minor miscellaneous debt transactions.

2/ Issued or announced through July 29, 1994.

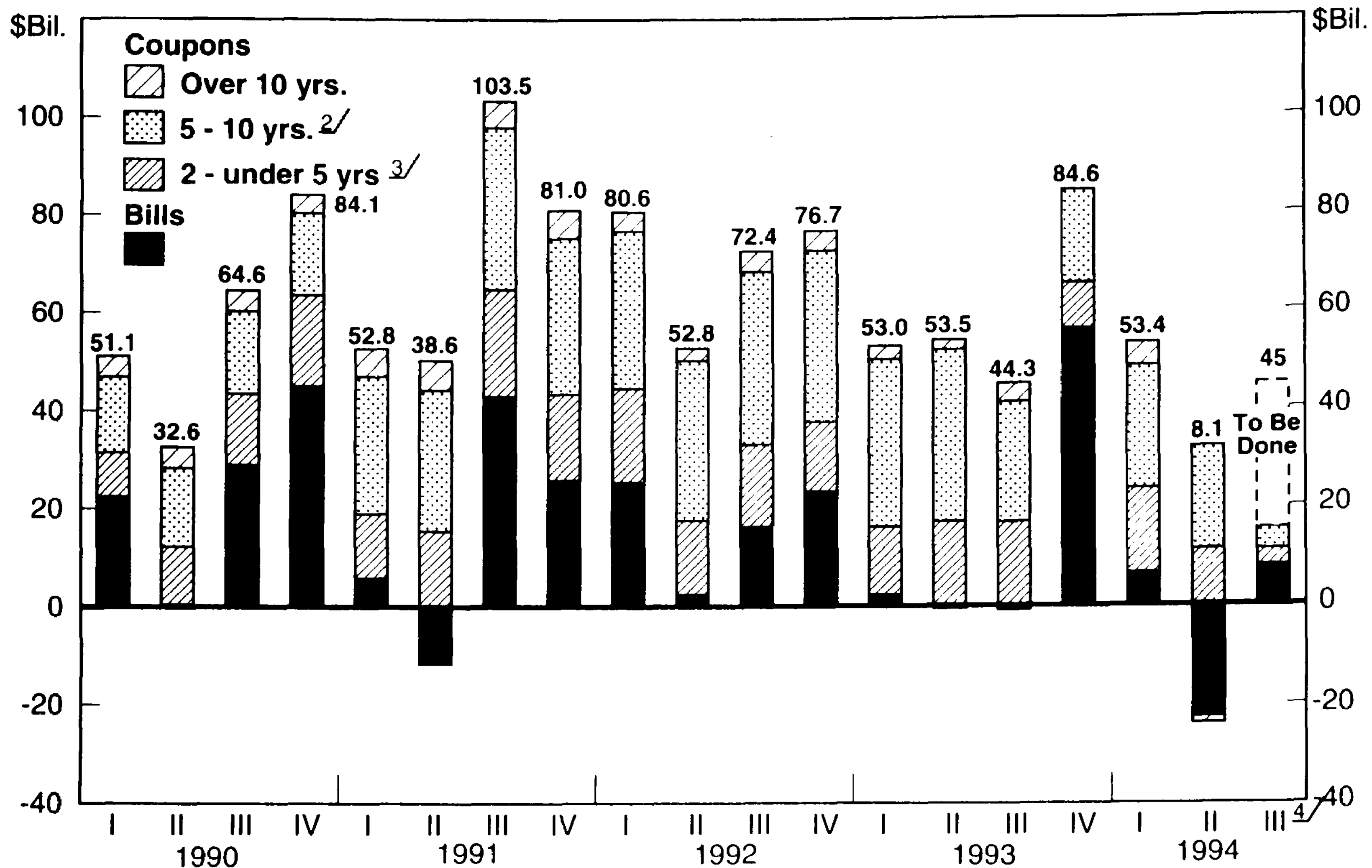
3/ Assumes a $40 billion cash balance September 30, 1994.

Department of the Treasury
Office of Market Finance

August 1, 1994-23



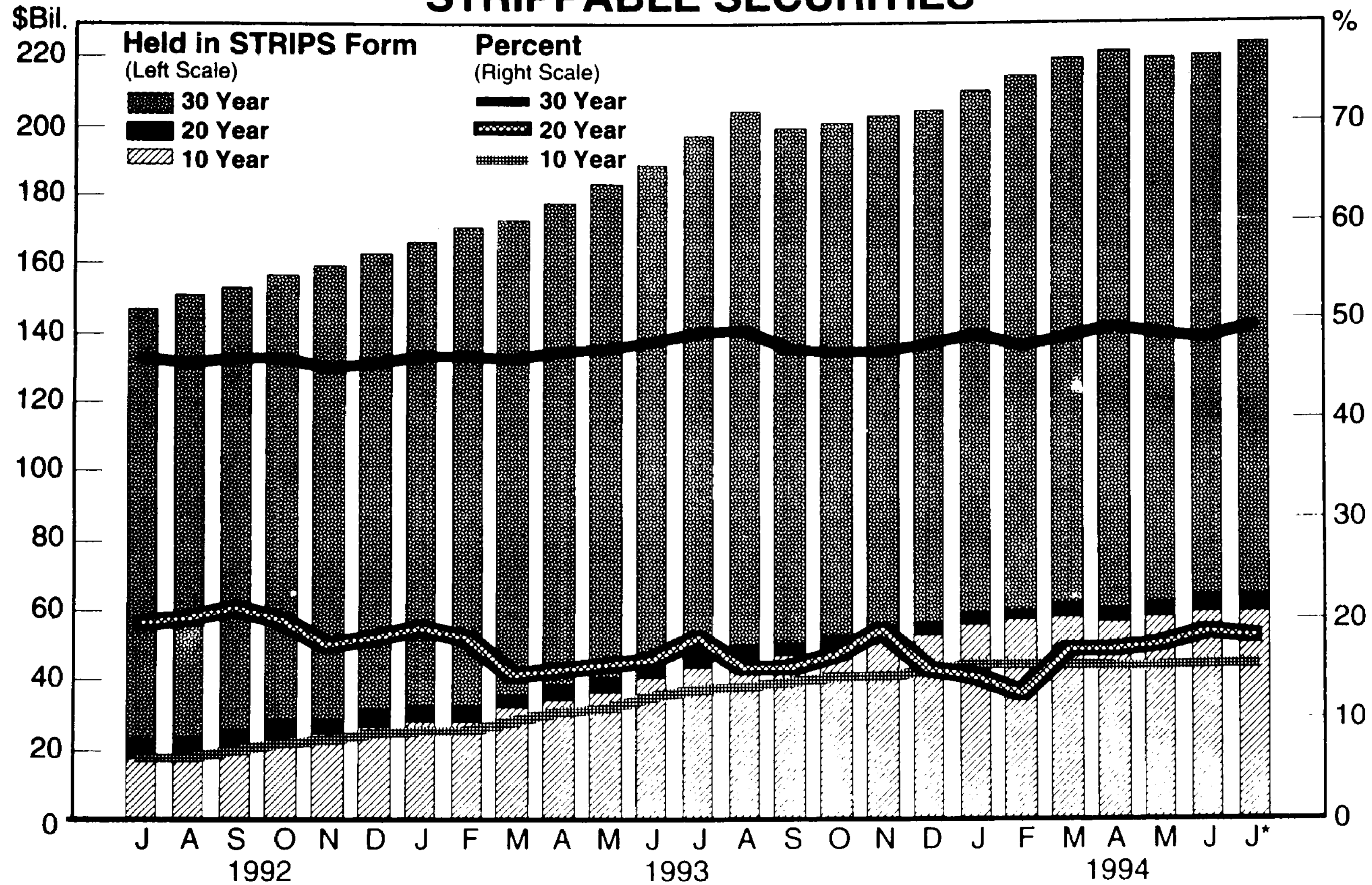
1/ Assumes refunding of maturing issues.



1/ Excludes Federal Reserve and Government Account Transactions.
2/ 7 year note discontinued after April 1993.
3/ 4 year note discontinued after December 1990.
4/ Issued or announced through July 29, 1994.

Department of the Treasury
Office of Market Finance

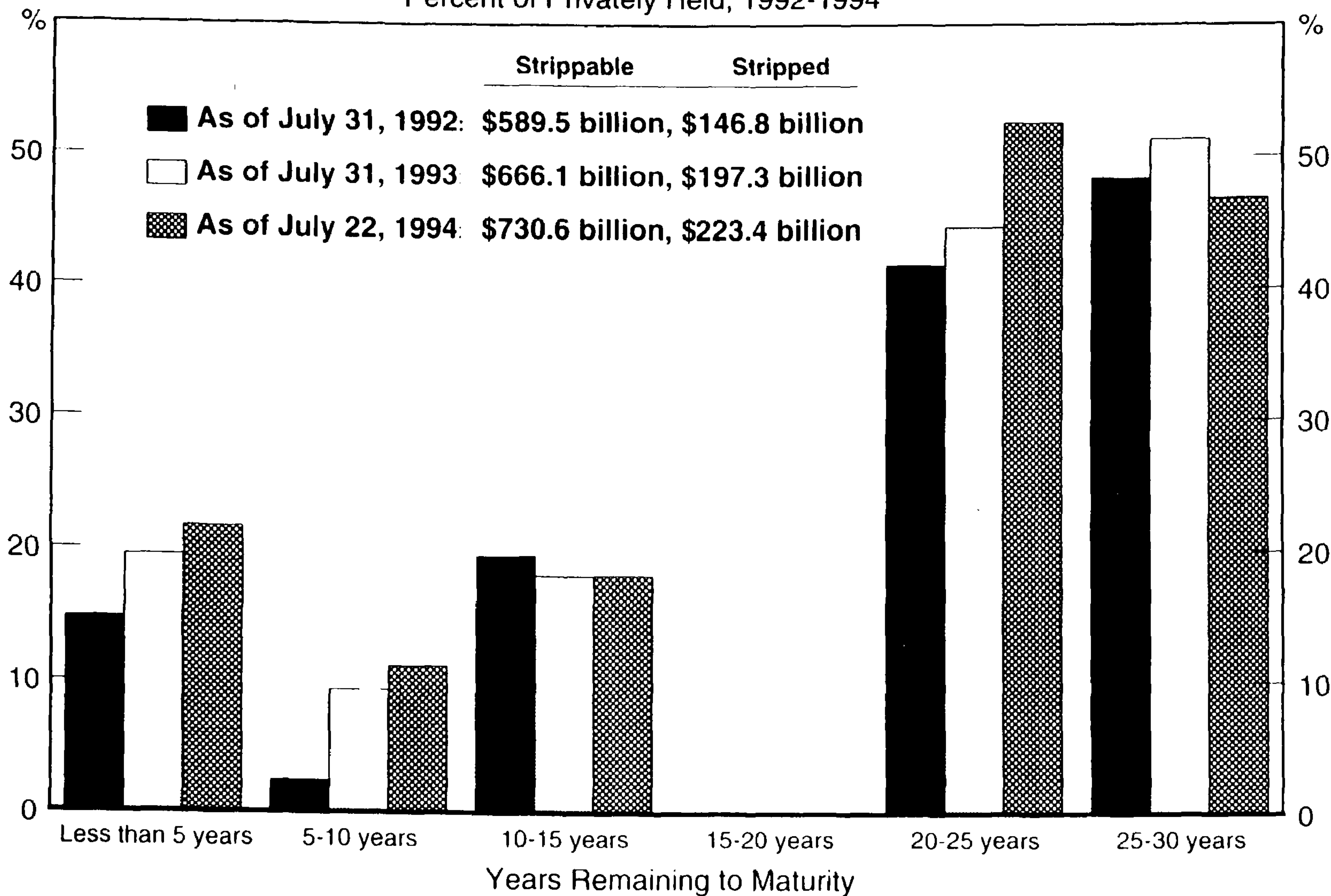
August 1, 1994-4



*Through July 22, 1994
By period to maturity on original issue.

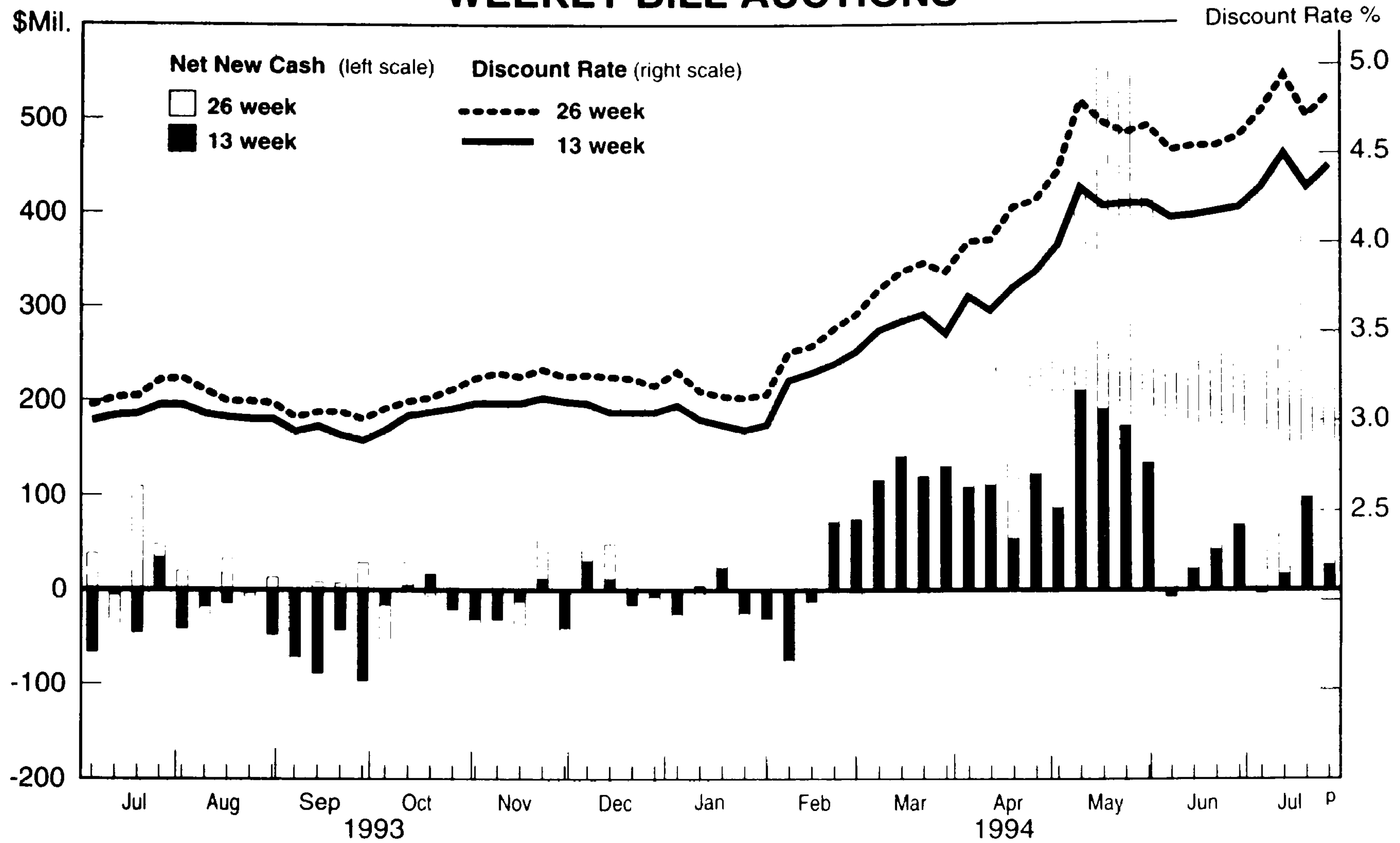
Department of the Treasury
Office of Market Finance

August 1, 1994-18



Note: The STRIPS program was announced January 15, 1985.

NET NEW CASH FROM NONCOMPETITIVE TENDERS IN WEEKLY BILL AUCTIONS 1/



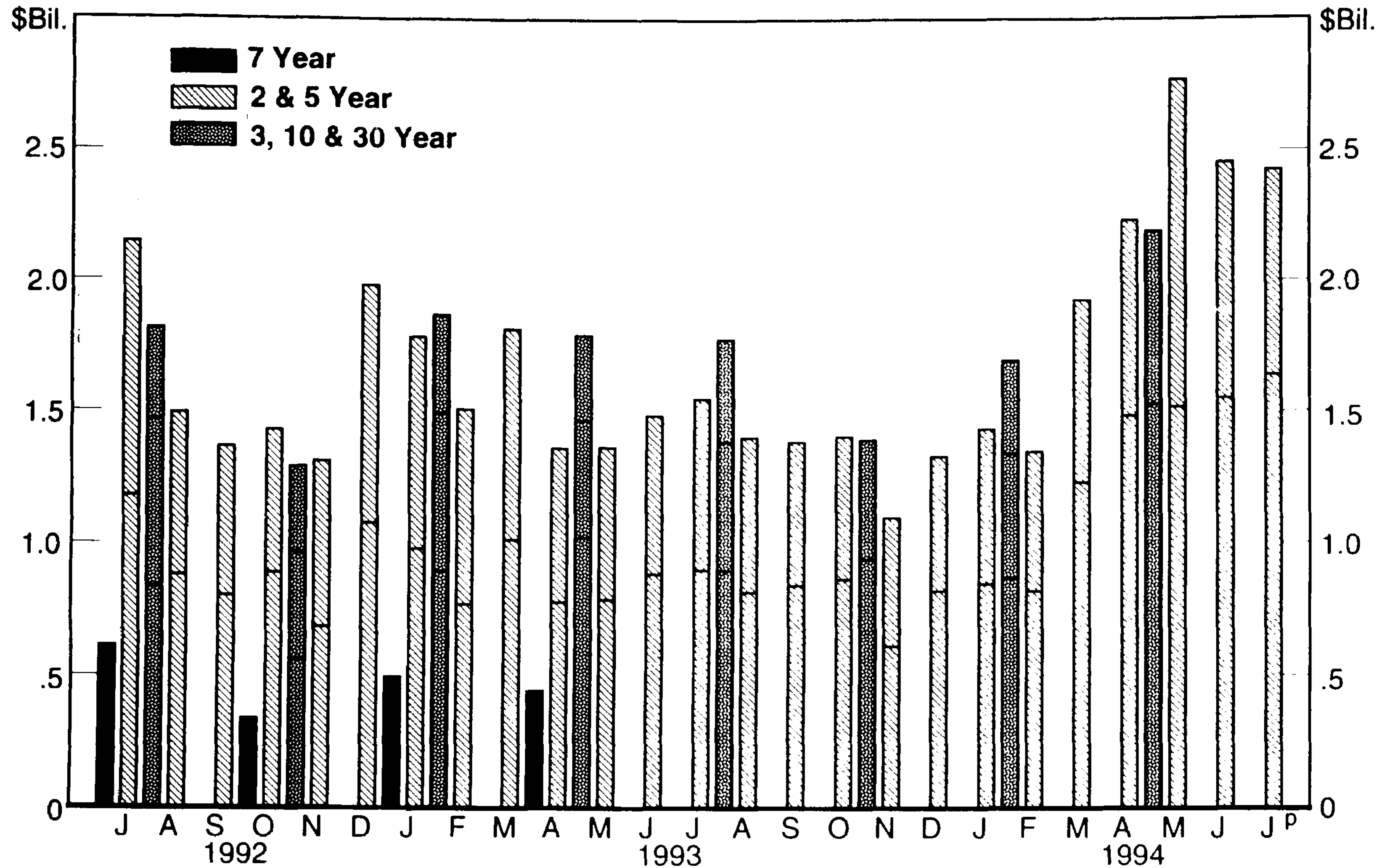
1/ Excludes noncompetitive tenders from foreign official accounts and the Federal Reserve account.

p Preliminary

Department of the Treasury
Office of Market Finance

August 1, 1994-14

NONCOMPETITIVE TENDERS IN TREASURY NOTES AND BONDS [1]

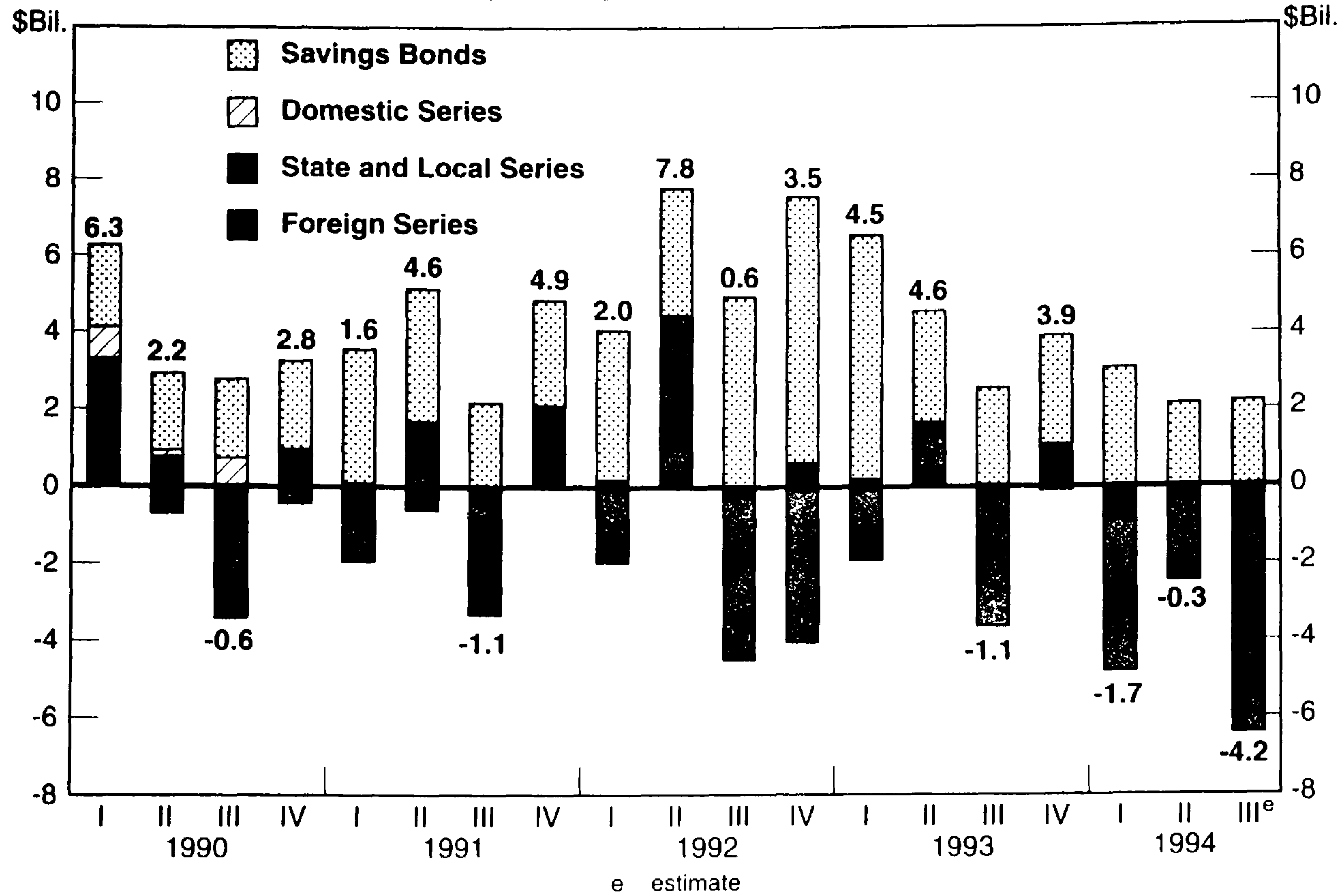


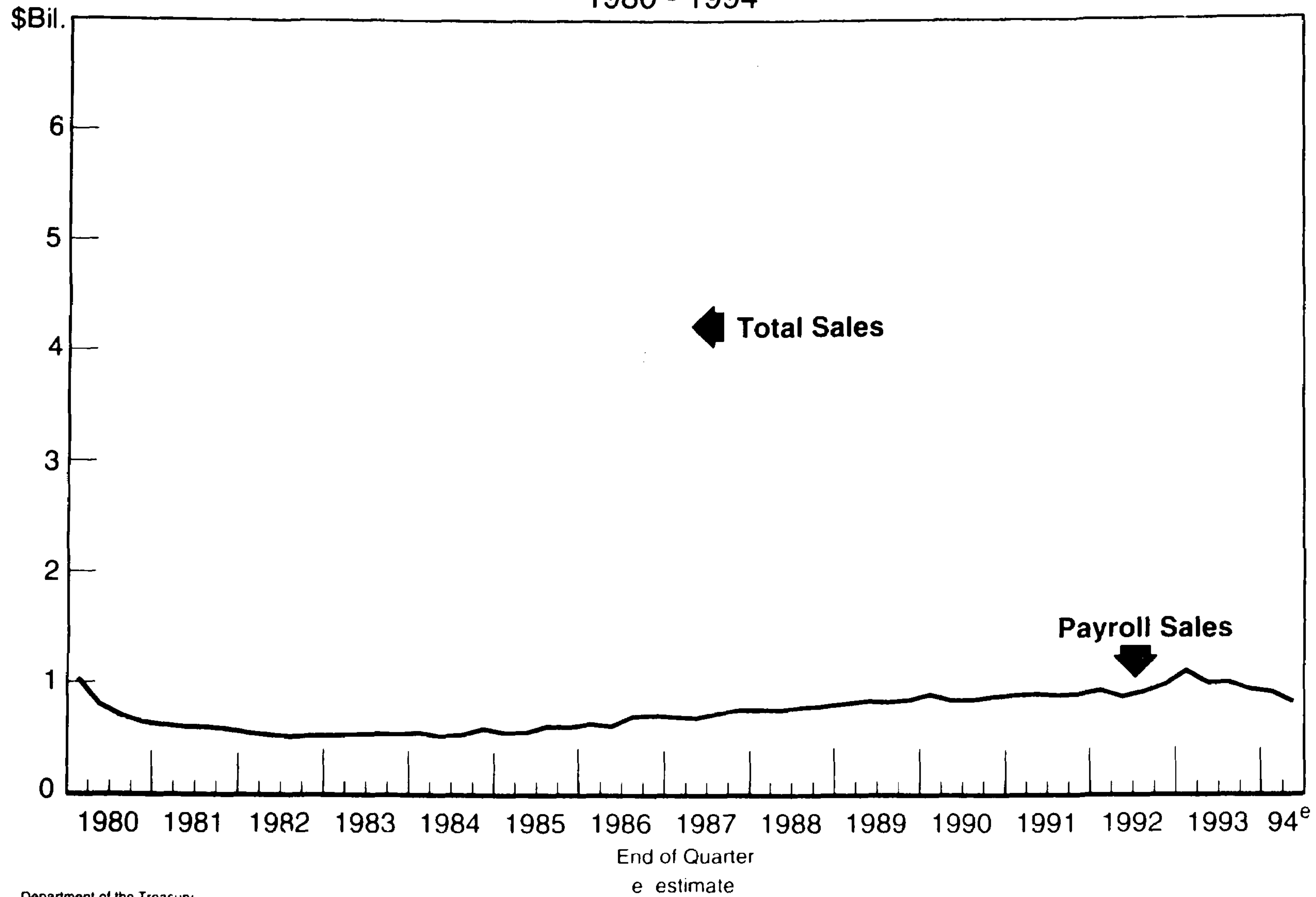
1/ Excludes foreign add-ons from noncompetitive tenders.

p Preliminary

Treasury increased the maximum noncompetitive award to any noncompetitive bidder to $5 million effective November 5, 1991

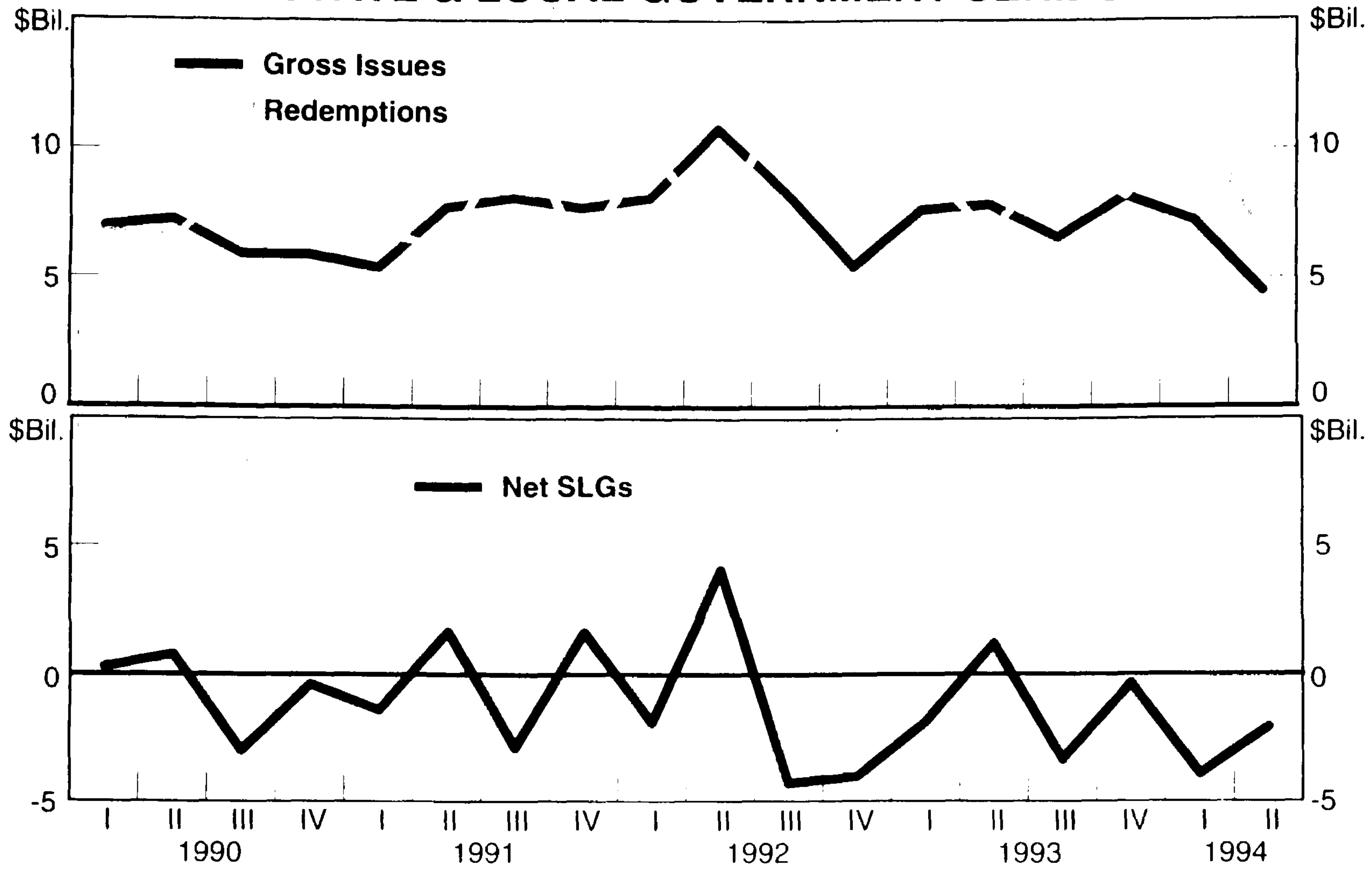
Effective February 11, 1992 a noncompetitive bidder may not hold a position in WI trading, futures, or forward contracts, nor submit both competitive and noncompetitive bids for its own account


TREASURY NET BORROWING FROM NONMARKETABLE ISSUES
$Bil.
$Bil.
Savings Bonds
Domestic Series
State and Local Series
Foreign Series
10
8
6
4
2
0
-2
-4
-6
-8
6.3
2.2
-0.6
2.8
1.6
4.6
-1.1
4.9
2.0
7.8
0.6
3.5
4.5
4.6
-1.1
3.9
-1.7
-0.3
-4.2
I II III IV I II III IV I II III IV I II III IV I II IIIe
1990
1991
1992
1993
1994
e estimate



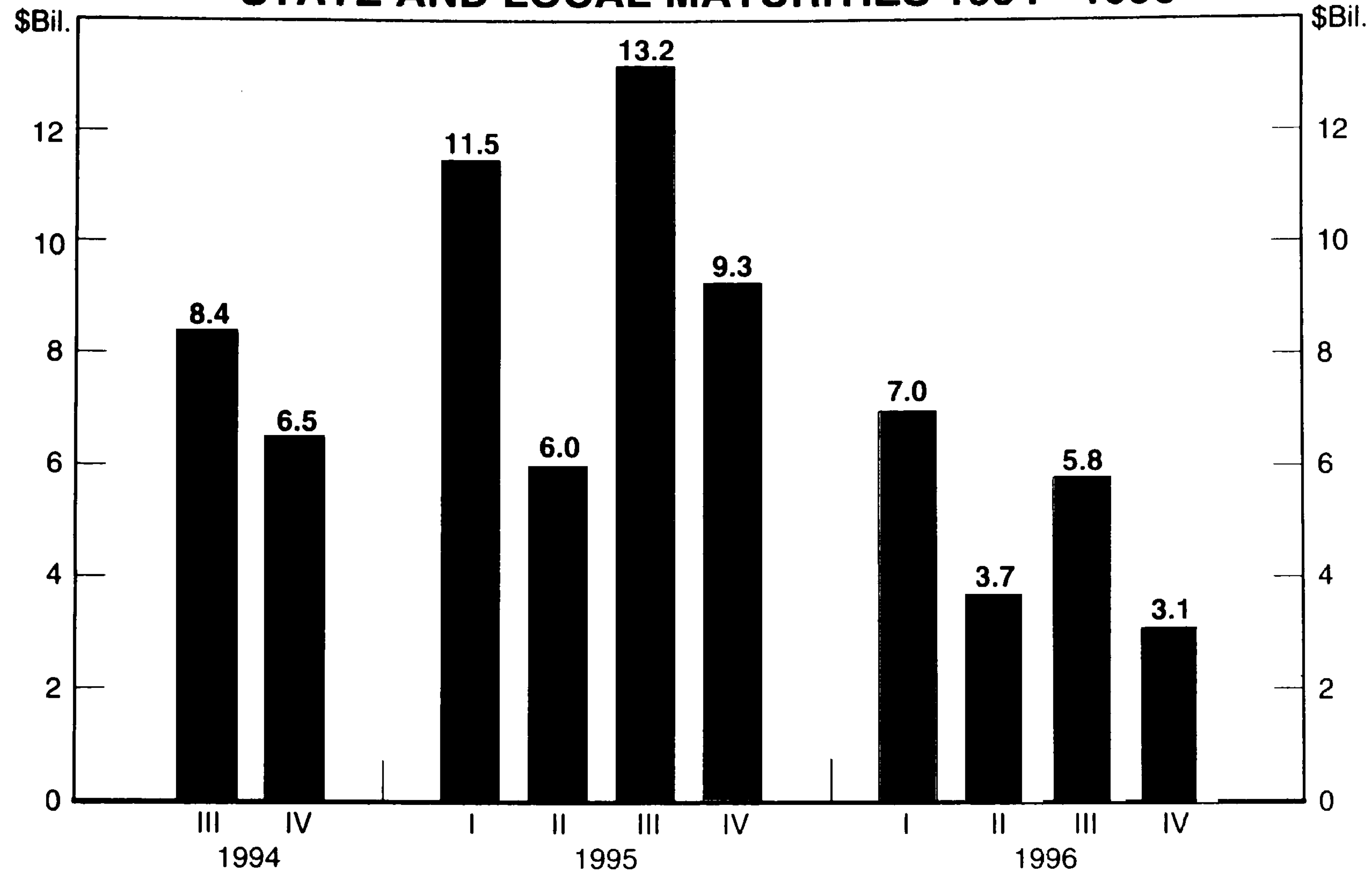
Department of the Treasury
Office of Market Finance

August 1, 1994-8

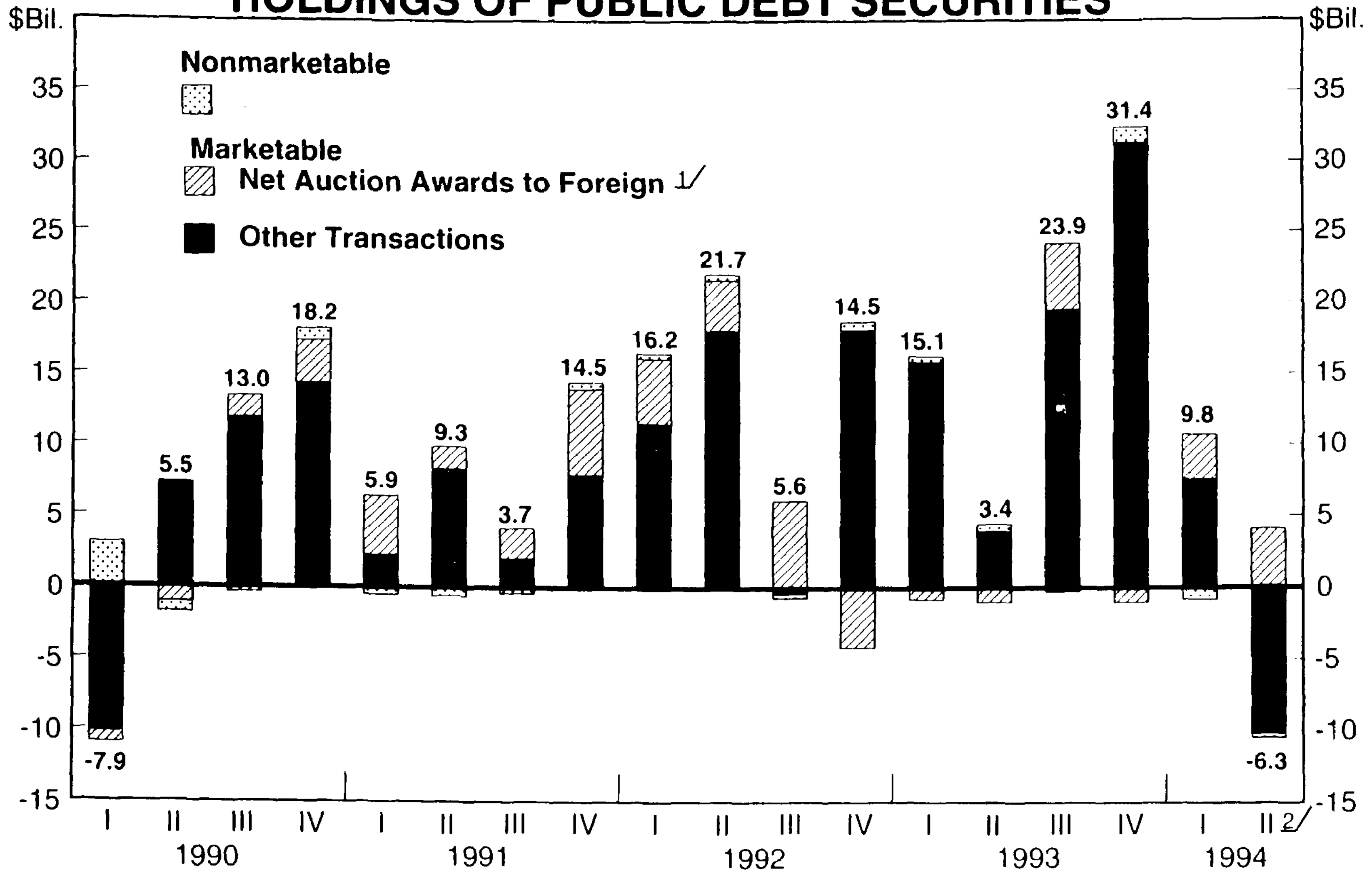


Department of the Treasury
Office of Market Finance

STATE AND LOCAL MATURITIES 1994 - 1996



Department of the Treasury
Office of Market Finance



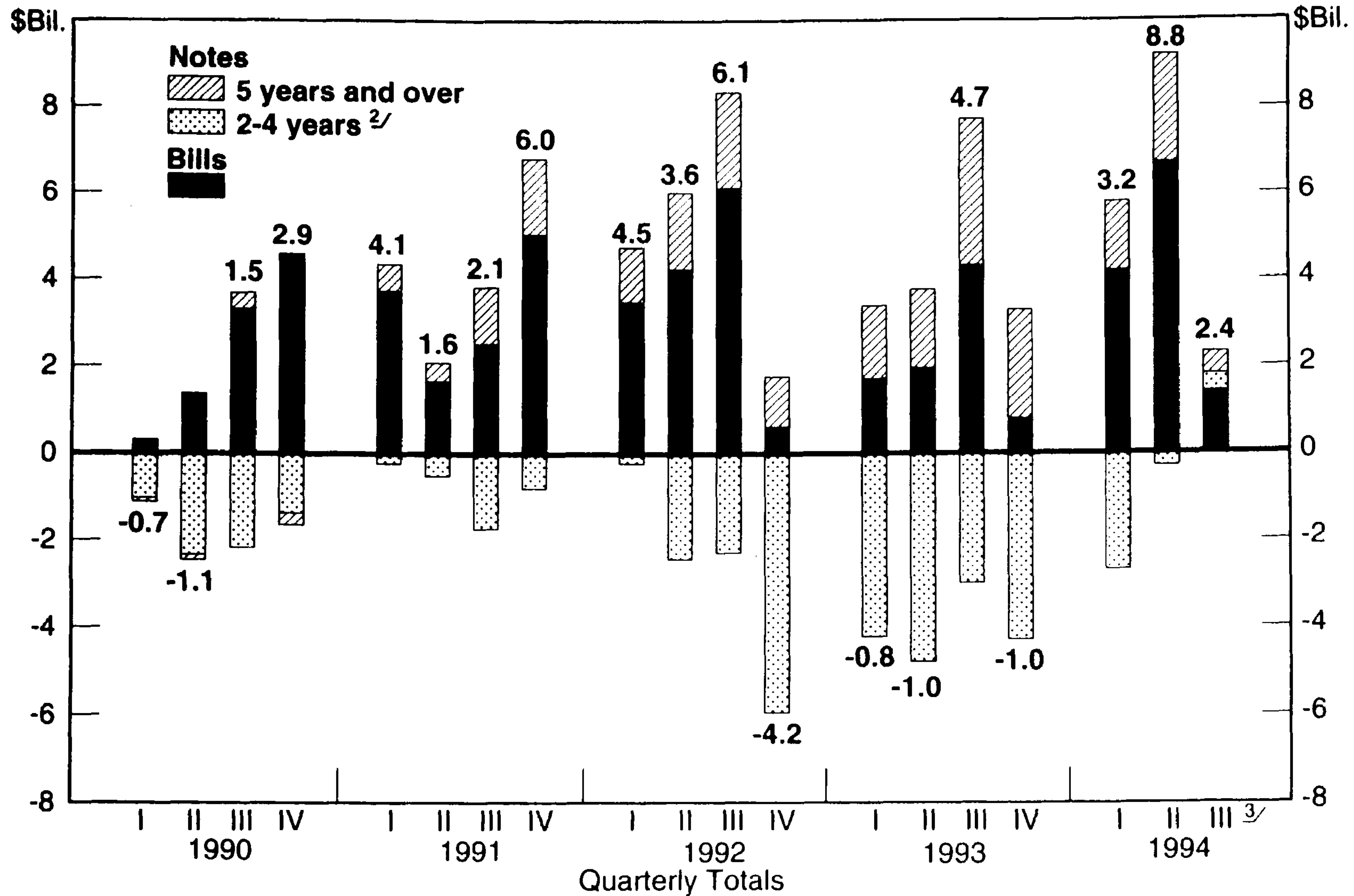
1/ Auction awards to foreign official purchasers netted against holdings of maturing securities.

2/ Data through May 31, 1994.

Department of the Treasury
Office of Market Finance

August 1, 1994-21

NET AWARDS TO FOREIGN OFFICIAL ACCOUNTS [1]

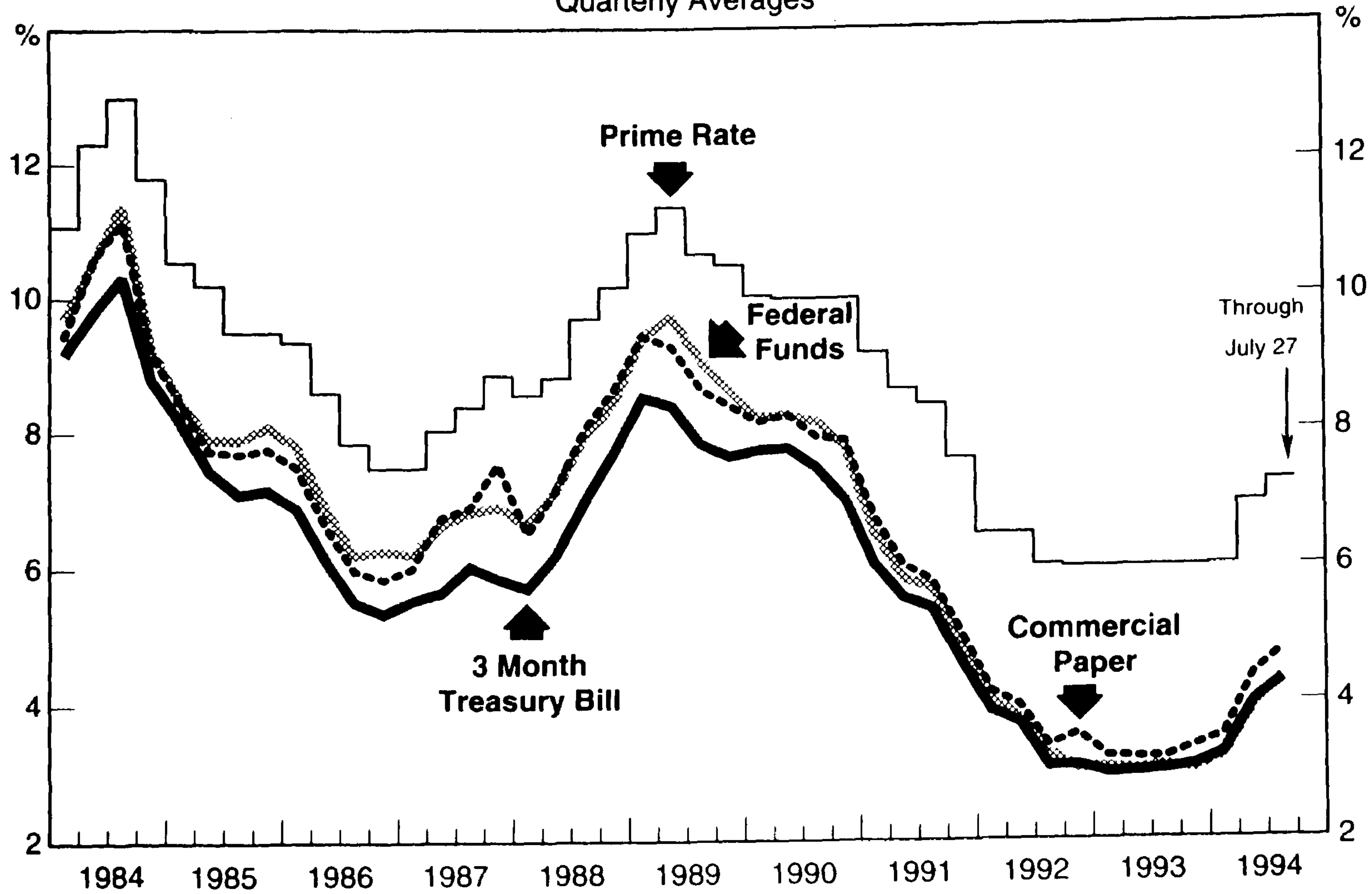


1/ Noncompetitive awards to foreign official accounts held in custody at the Federal Reserve in excess of foreign custody account holdings of maturing securities.

2/ 4 year notes not issued after December 31, 1990.

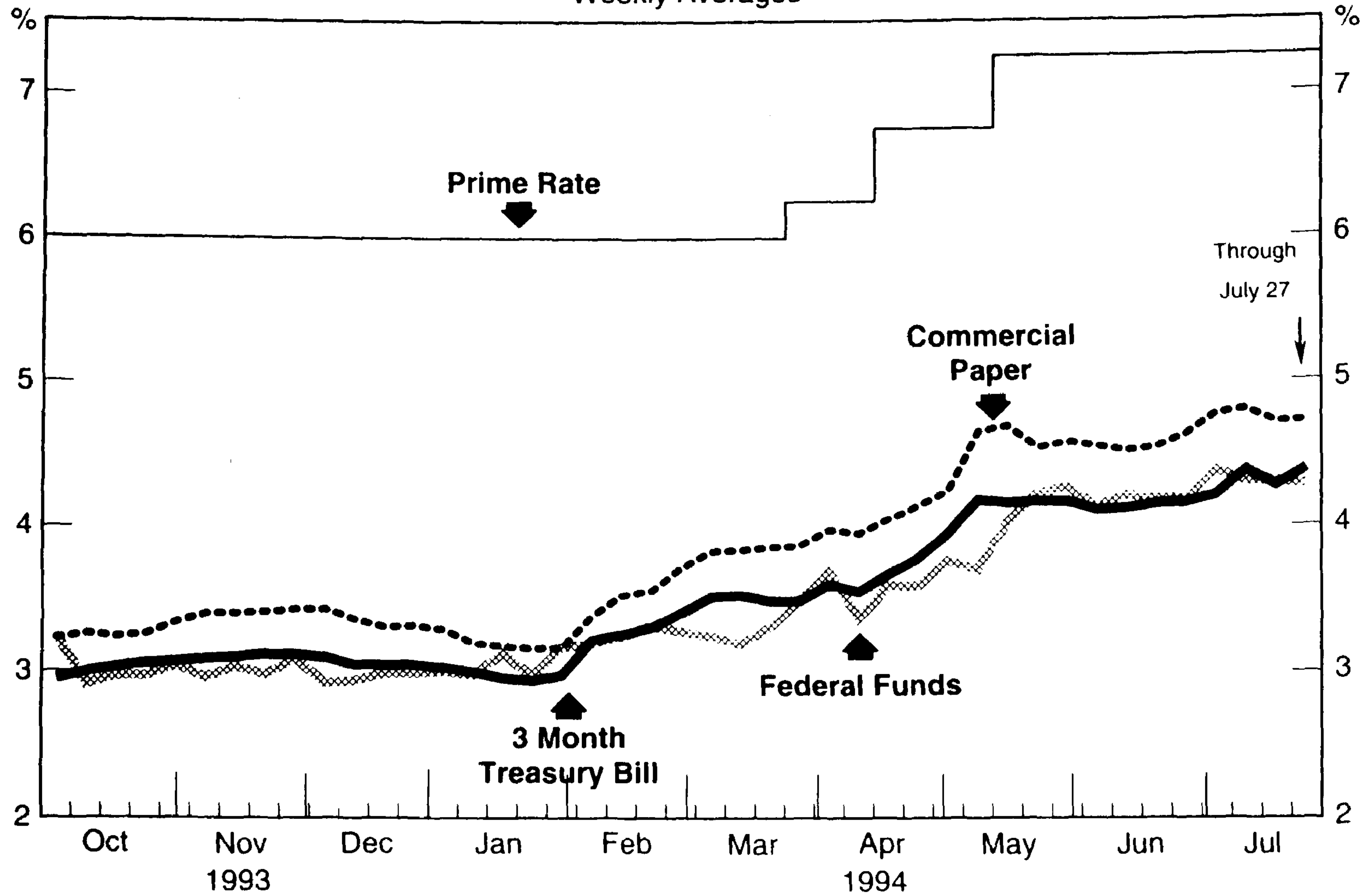
3/ Through July 29, 1994.

Department of the Treasury
Office of Market Finance



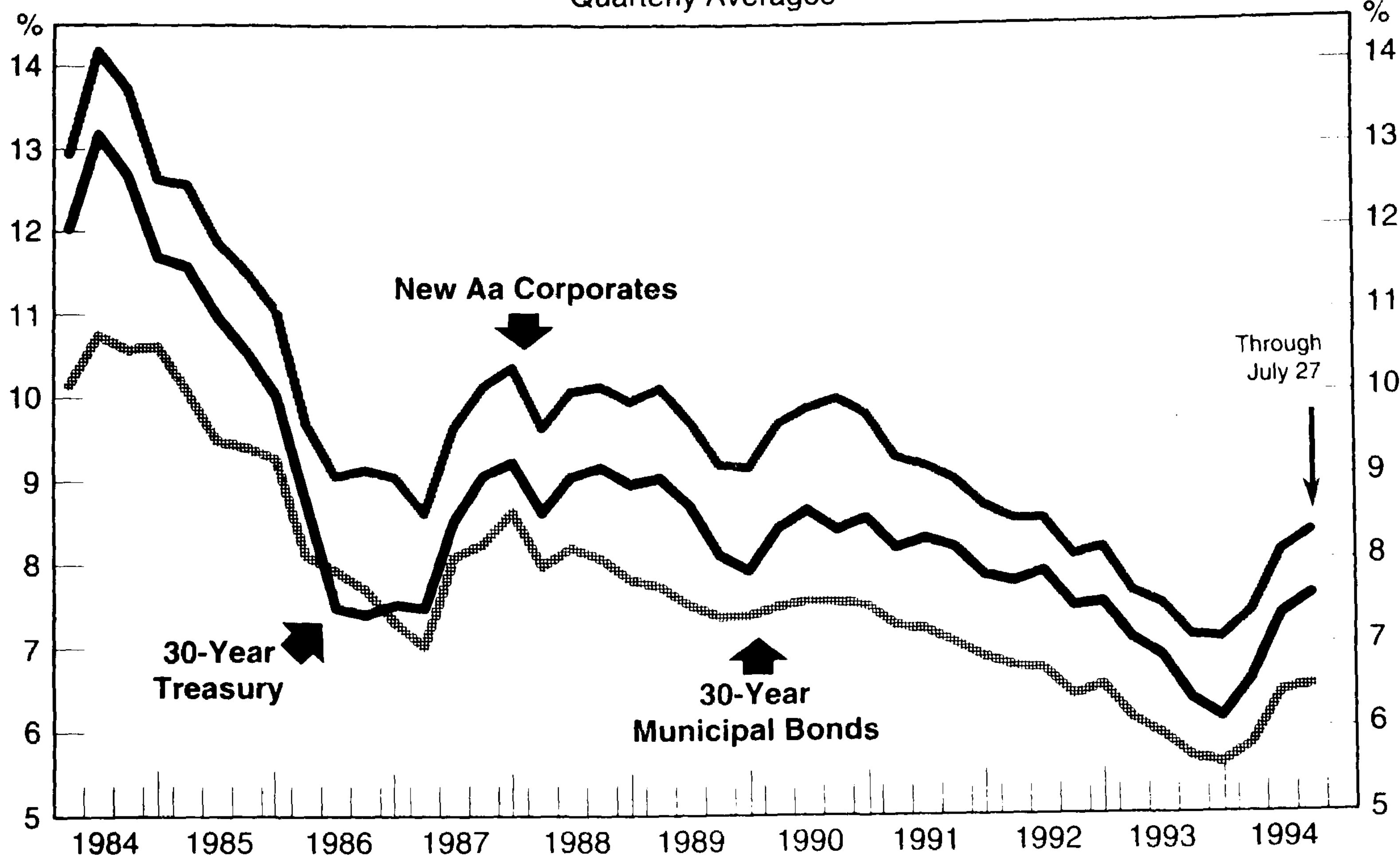
Department of the Treasury
Office of Market Finance

August 1, 1994-24



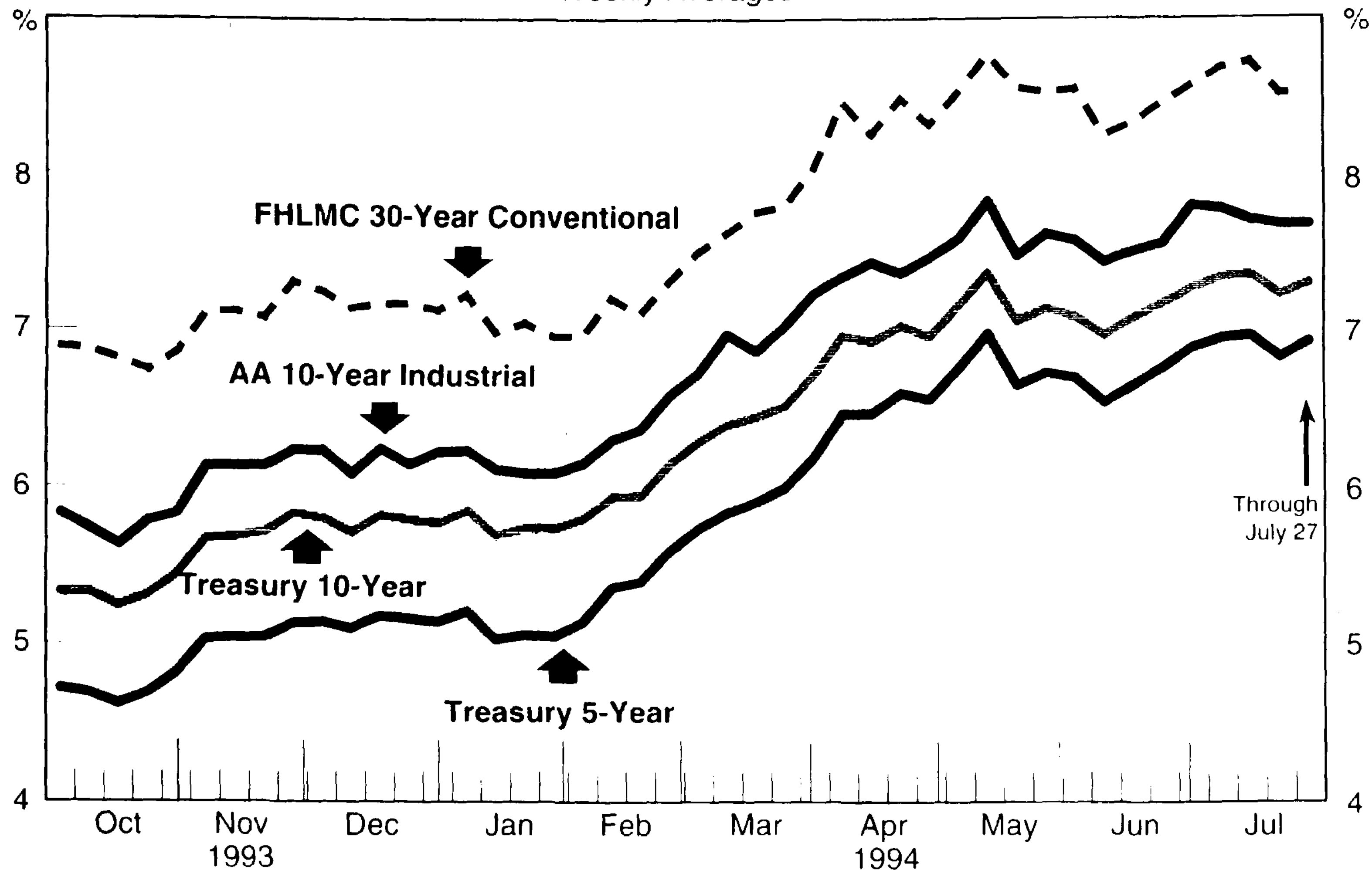
Department of the Treasury
Office of Market Finance

August 1, 1994-25



Department of the Treasury
Office of Market Finance

August 1, 1994-26

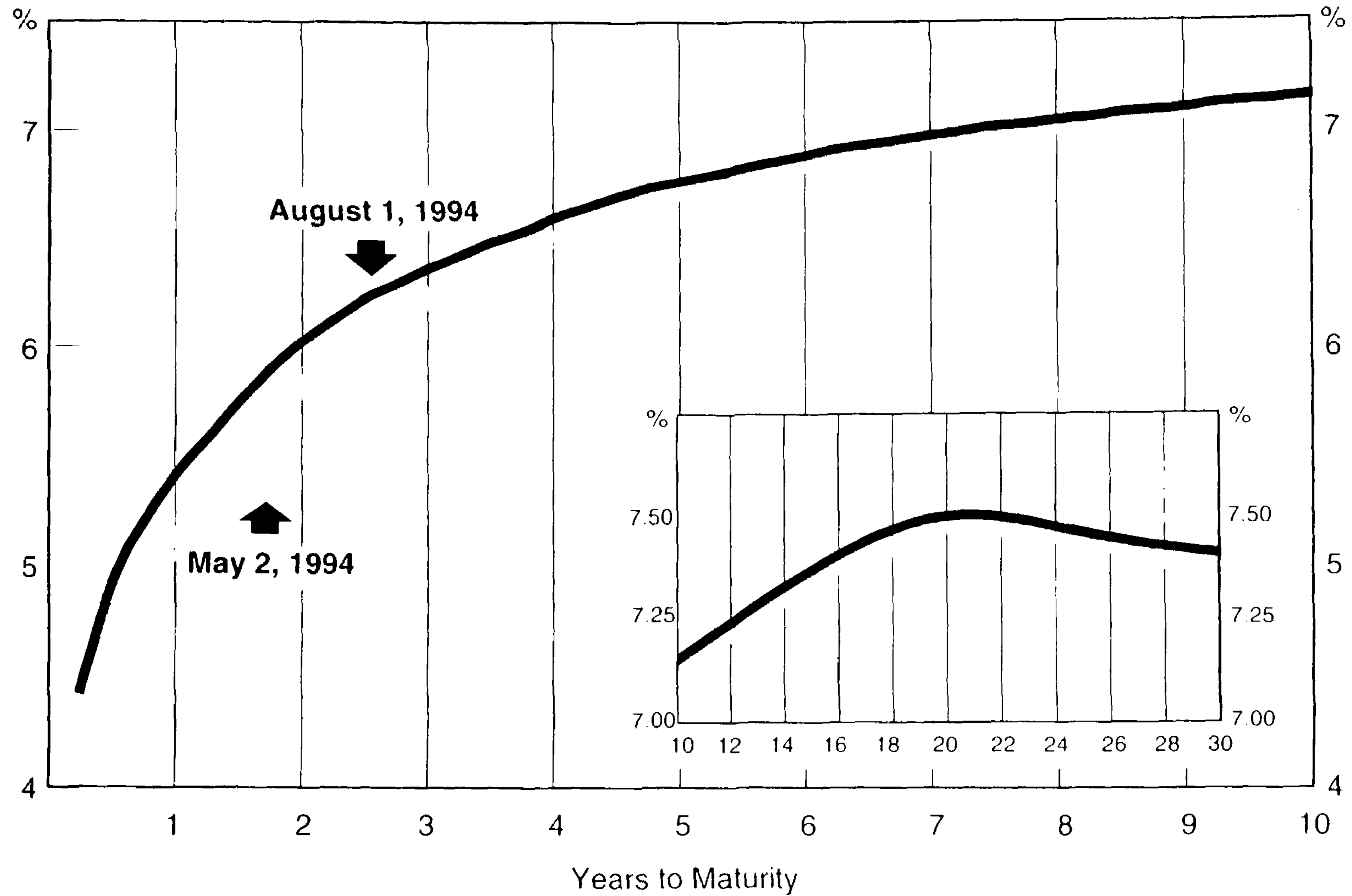


* Salomon 10-yr. AA Industrial is a Thursday rate.

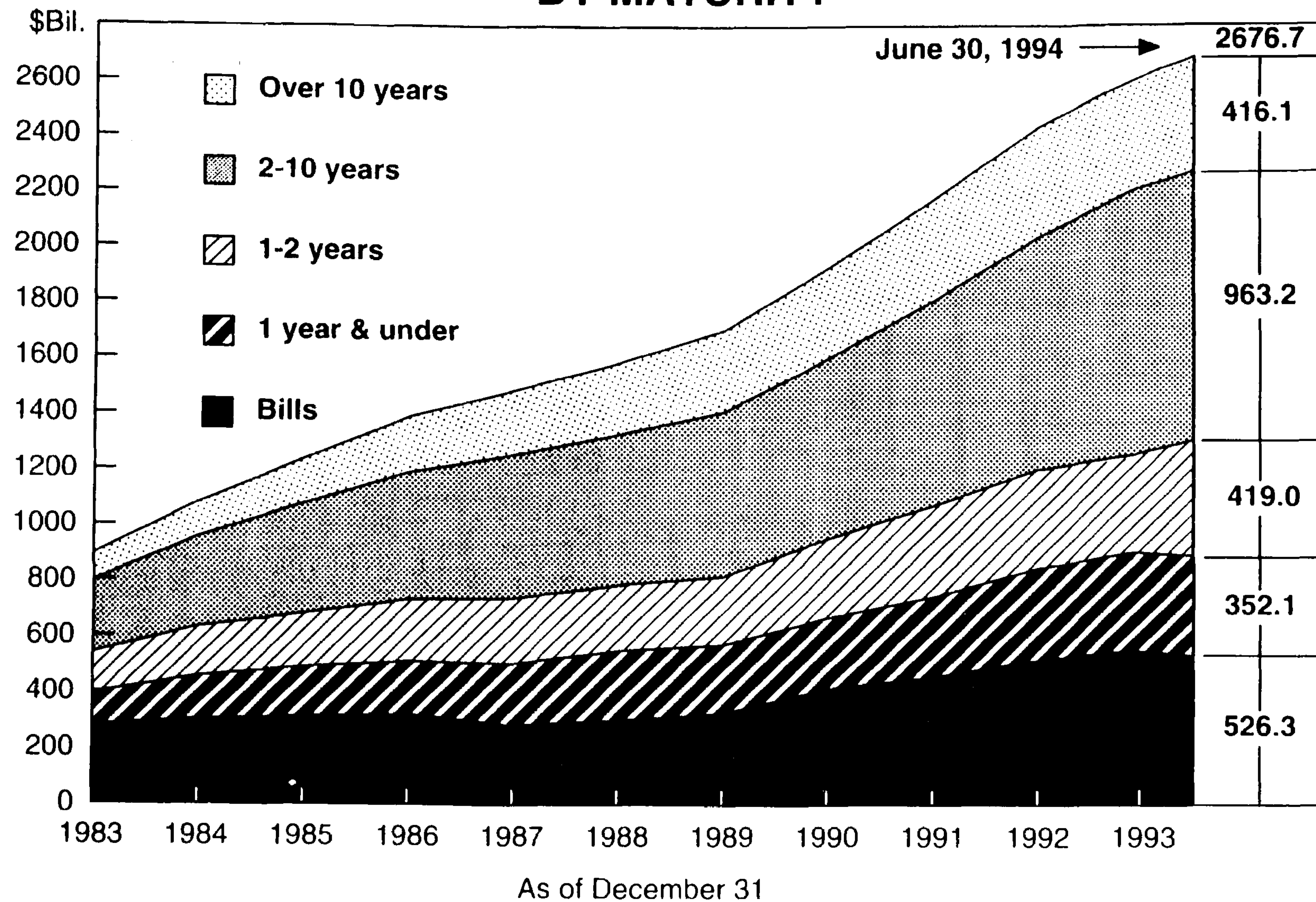
Department of the Treasury
Office of Market Finance

August 1, 1994 27

MARKET YIELDS ON GOVERNMENTS



Department of the Treasury
Office of Market Finance

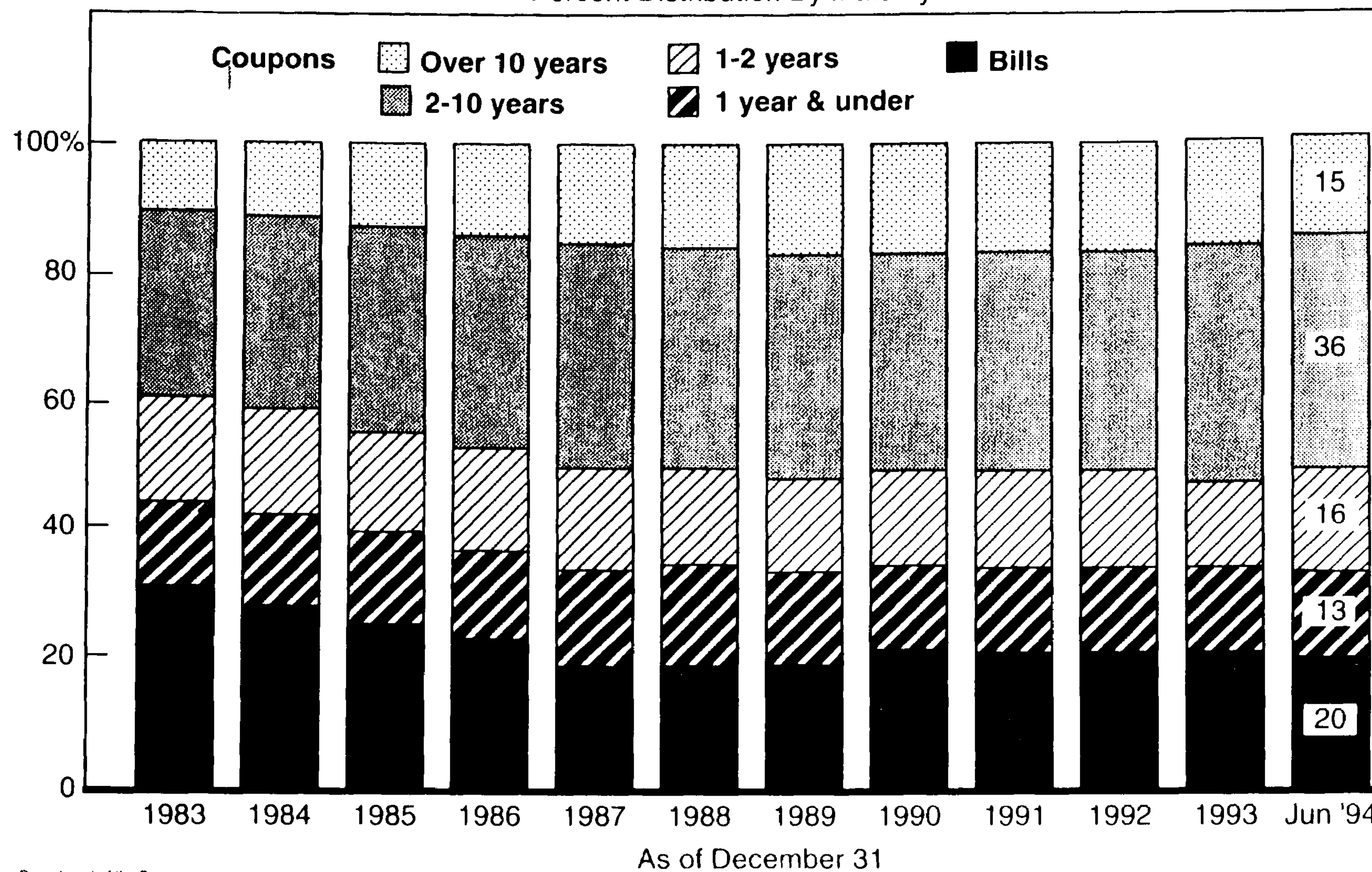


Department of the Treasury
Office of Market Finance

August 1, 1994 1

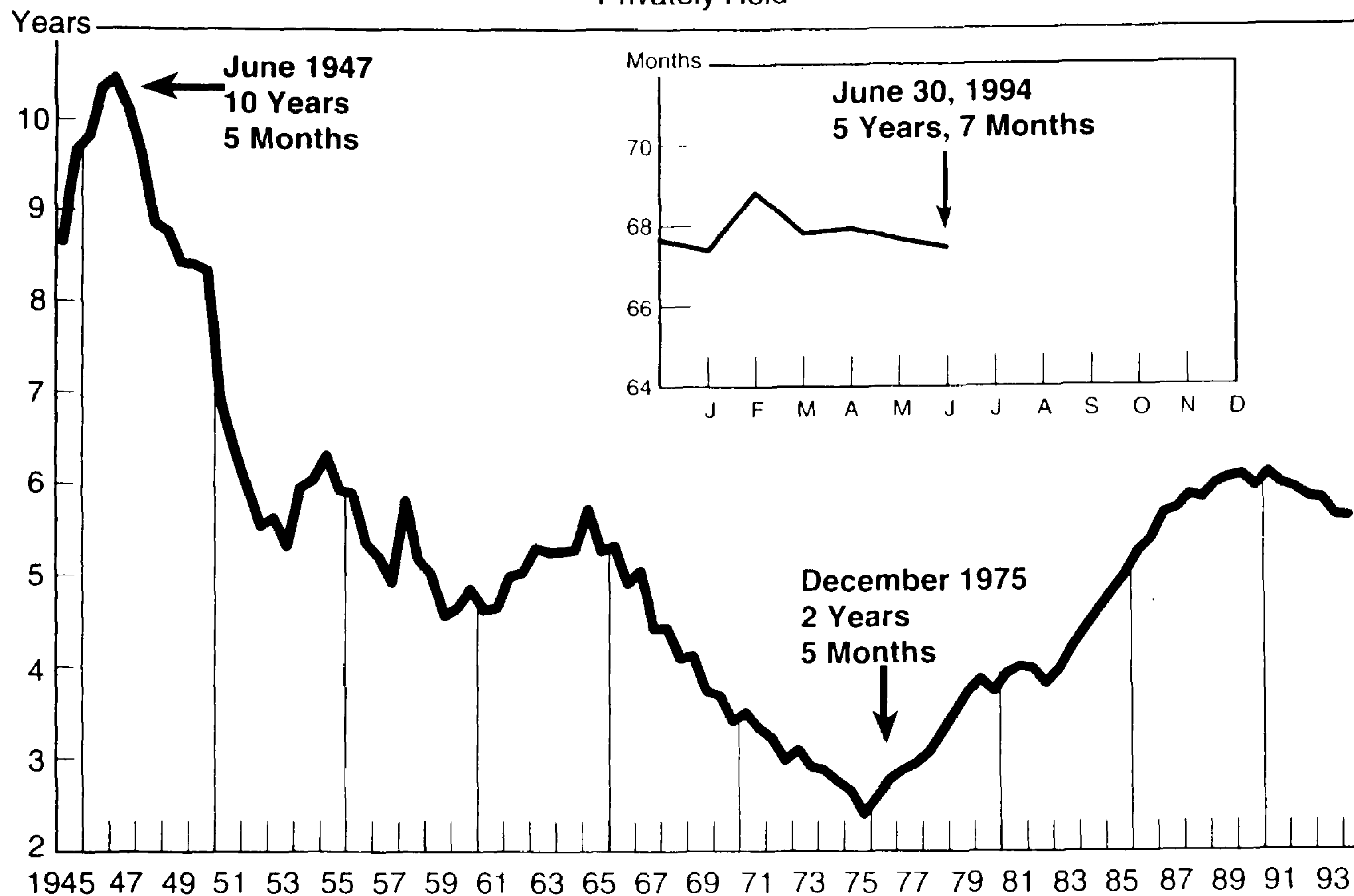
PRIVATE HOLDINGS OF TREASURY MARKETABLE DEBT

Percent Distribution By Maturity



Department of the Treasury
Office of Market Finance

August 1, 1994 2


AVERAGE LENGTH OF THE MARKETABLE DEBT
Privately Held
Years
June 1947
10 Years
5 Months
Months
June 30, 1994
5 Years, 7 Months
70
68
66
64
J F M A M J J A S O N D
December 1975
2 Years
5 Months
10
9
8
7
6
5
4
3
2
1945 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93

MATURING COUPON ISSUES

August - December 1994

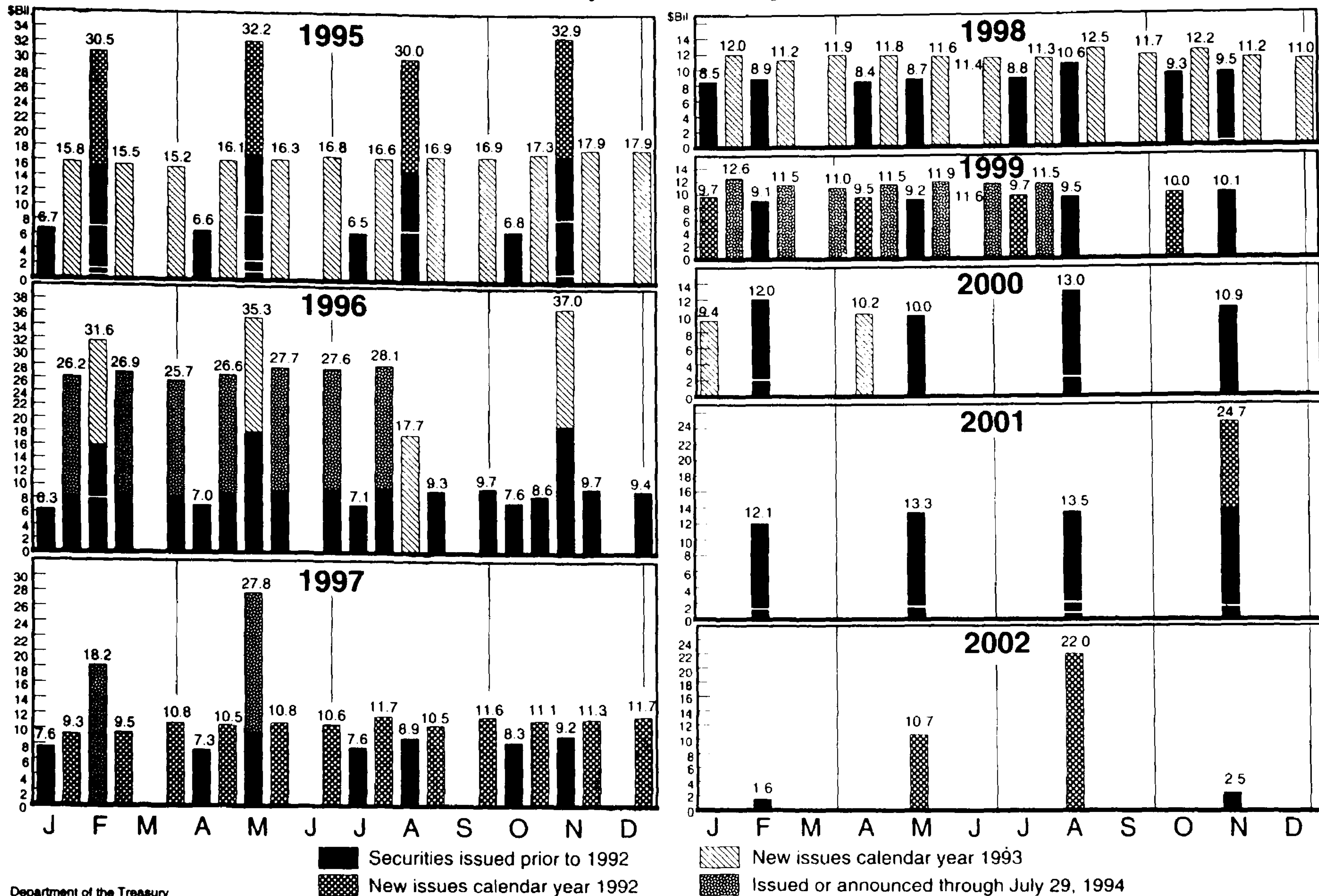
(in millions of dollars)

Maturing Coupons			June 30, 1994			
				Held by		
			Total	Federal Reserve & Government Accounts	Private Investors	Foreign Investors[1]
12 5/8%	Note	8/15/94	6,300	949	5,351	125
8 5/8%	Note	8/15/94	7,842	112	7,730	580
6 7/8%	Note	8/15/94	17,165	2,080	15,085	2,217
8 3/4%	Bond	8/15/94	1,506	72	1,435	40
4 1/4%	Note	8/31/94	16,605	876	15,728	1,023
8 1/2%	Note	9/30/94	8,914	602	8,312	689
4 %	Note	9/30/94	16,755	1,602	15,153	877
9 1/2%	Note	10/15/94	7,074	979	6,095	877
4 1/4%	Note	10/31/94	16,293	863	15,430	1,422
11 5/8%	Note	11/15/94	6,659	1,255	5,404	594
8 1/4%	Note	11/15/94	8,272	66	8,206	842
6 %	Note	11/15/94	16,808	2,992	13,816	1,959
10 1/8%	Bond	11/15/94	1,502	90	1,412	369
4 5/8%	Note	11/30/94	15,911	530	15,381	1,378
7 5/8%	Note	12/31/94	9,681	1,205	8,476	1,302
4 5/8%	Note	12/31/94	17,136	1,225	15,911	1,135
Totals			174,423	15,498	158,925	15,429

1/ F.R.B. custody accounts for foreign official institutions, included in Private Investors.

TREASURY MARKETABLE MATURITIES

Privately held, Excluding Bills

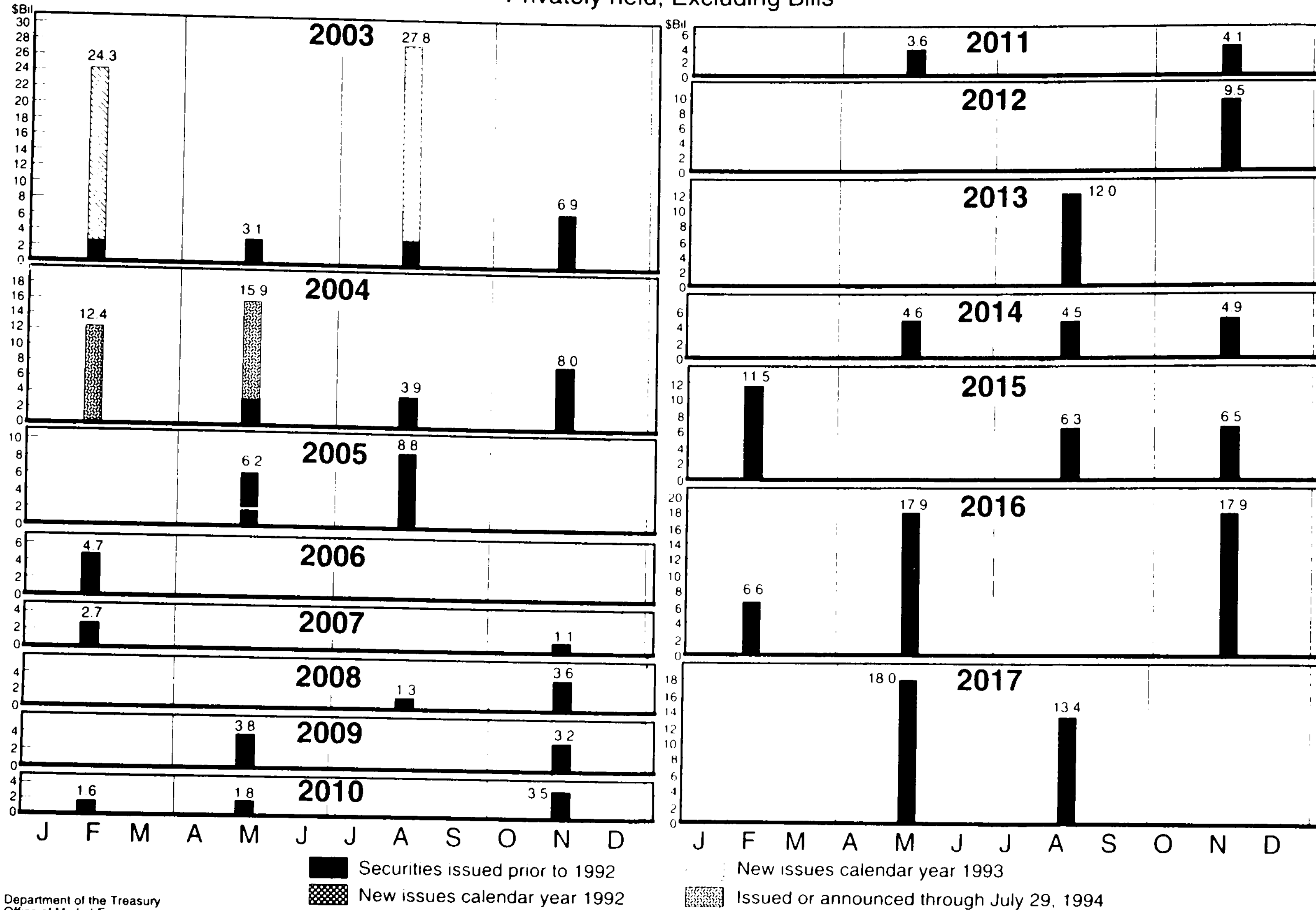


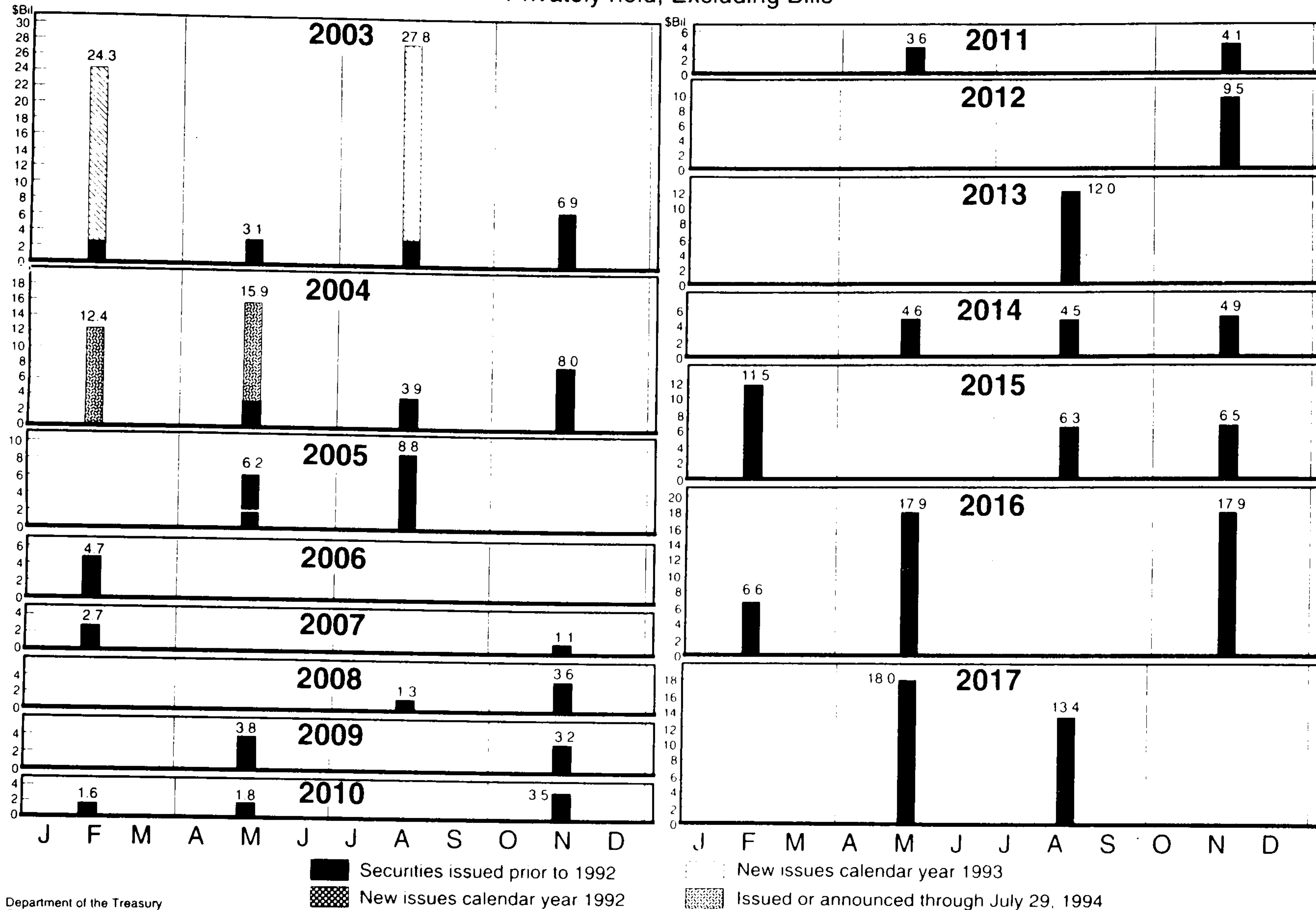
Department of the Treasury
Office of Market Finance

August 1, 1994-10

TREASURY MARKETABLE MATURITIES

Privately held, Excluding Bills

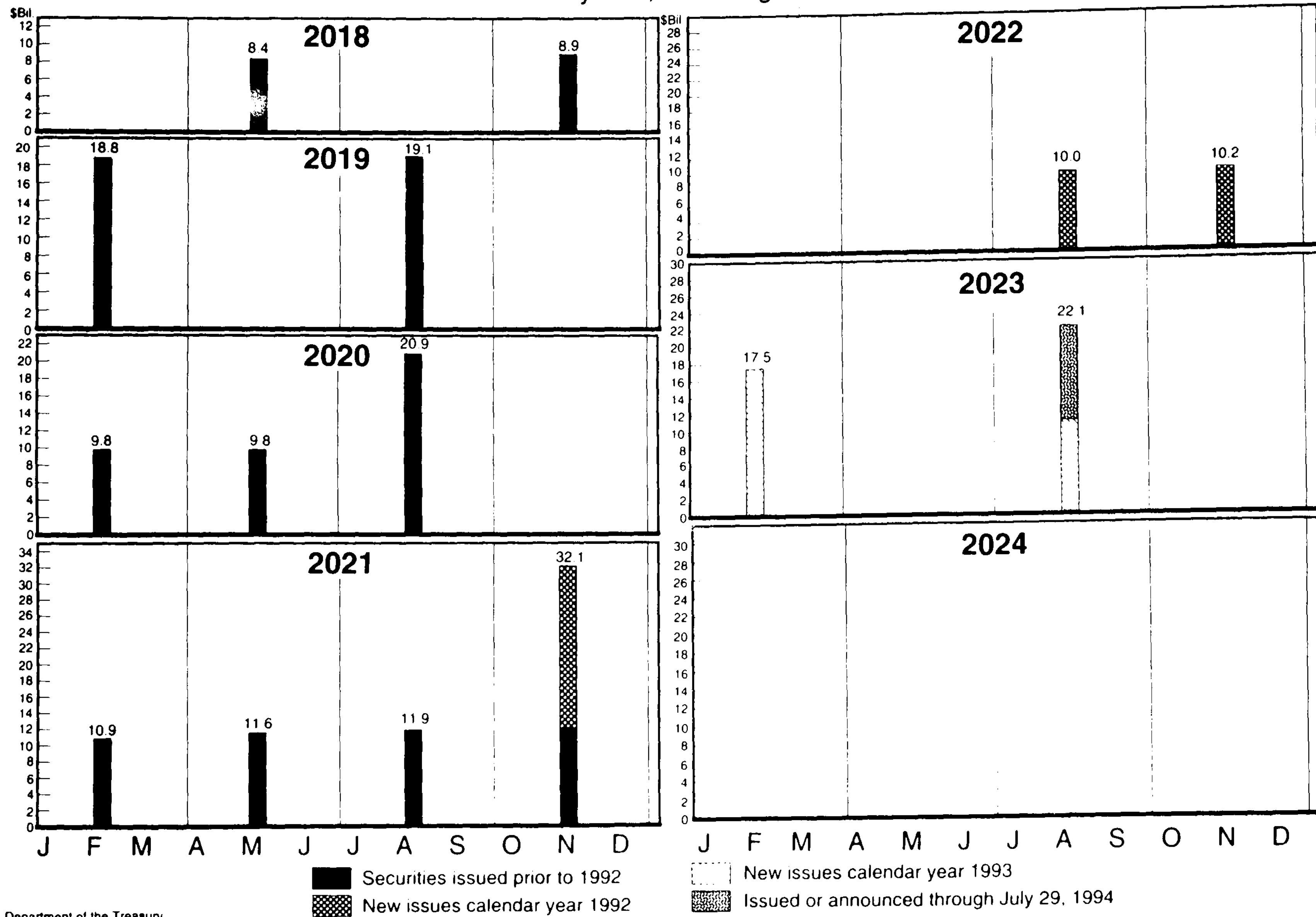




Department of the Treasury
Office of Market Finance

TREASURY MARKETABLE MATURITIES

Privately held, Excluding Bills



SCHEDULE OF ISSUES TO BE ANNOUNCED AND AUCTIONED IN AUGUST 1994 1/

Monday	Tuesday	Wednesday	Thursday	Friday
1	2	3	4	5
8	9 Auction 3 year 2/	10 Auction 10 year 2/	11 Auction 30 year 2/	12 Announce 52 week
15	16	17 Announce 2 year 5 year	18 Auction 52 week 3/	19
22	23 Auction 2 year 4/	24 Auction 5 year 4/	25	26
29	30	31		

1/ Does not include weekly bills
2/ For settlement August 15
3/ For settlement August 25
4/ For settlement August 31

Department of the Treasury
Office of Market Finance

August 2, 1994-15

SCHEDULE OF ISSUES TO BE ANNOUNCED AND AUCTIONED IN SEPTEMBER 1994 1/

Monday	Tuesday	Wednesday	Thursday	Friday
			1	2
5 Holiday	6	7	8	9 Announce 52 week
12	13	14	15 Auction 52 week 2/	16
19	20	21 Announce 2 year 5 year	22	23
26	27 Auction 2 year 3/	28 Auction 5 year 3/	29	30

1/ Does not include weekly bills
2/ For settlement September 22
3/ For settlement September 30

Department of the Treasury
Office of Market Finance

August 2 1994-16

SCHEDULE OF ISSUES TO BE ANNOUNCED AND AUCTIONED IN OCTOBER 1994 1/

Monday	Tuesday	Wednesday	Thursday	Friday
3	4	5	6	7 Announce 52 week
10 Holiday	11	12	13 Auction 52 week 2/	14
17	18	19 Announce 2 year 5 year	20	21
24	25 Auction 2 year 3/	26 Auction 5 year 3/	27	28
31				

1/ Does not include weekly bills
2/ For settlement October 20
3/ For settlement October 31

Department of the Treasury
Office of Market Finance

August 2, 1994-17

REPORT TO THE SECRETARY OF THE TREASURY
FROM THE
TREASURY BORROWING ADVISORY COMMITTEE
OF THE
PUBLIC SECURITIES ASSOCIATION

AUGUST 3, 1994

Dear Mr. Secretary:

During the three months since the Committee's last meeting with the Treasury in May 1994, the economy has continued to expand at a solid pace. Though faint so far, evidence of some cyclical acceleration of inflation is growing. Monetary policy has continued to become less simulative, and the Federal funds rate was raised a further 0.50% during the period to the present level of 4.25%.

Over the three-month interval, yields on Treasury securities have increased by approximately 5 to 35 basis points. The largest increases have been for maturities under one year, and as a consequence the yield curve has flattened. Along with forward prices for various fixed-income instruments, the present shape of the yield curve indicates that market participants expect additional increases in interest rates in the coming months.

Within this context, to refund the $29.6 billion of securities maturing on August 15, 1994 that are privately held and to raise additional cash of $10.9 billion, the Committee recommends that the Treasury auction $40.5 billion of the following securities:

- $17.0 billion 3-year notes due August 15, 1997;

- $12.0 billion 7 1/4% notes due May 15, 2004; and,

- $11.5 billion of 30 1/4 year bonds due November 15, 2024.

Fourteen of the 20 Committee members present for the meeting favored this recommendation. Five members favored a composition of $17.0, $12.0, and $11.0 billion for the respective three offerings, and one member favored a composition of $17.5, $12.0, and $11.0 billion.

Given the composition favored by the majority, the Committee unanimously recommends the reopening of the 10-year note issued in the last refunding. The recommendation is based on the premium the current 10-year issue commands in both the secondary market and the repurchase agreement market.

With respect to the bond, the Committee by a vote of 16 to 4 recommends that the Treasury auction an issue that matures either in May or in November because of the relatively greater demand currently for the components of stripped securities maturing in these two months. In considering the consequent choice between a 29 3/4 year and 30 1/4 year issue, a majority of the Committee believes that, on the margin, there may be somewhat greater

demand for the longer alternative that would mature in November 2024. The principal reason for this view is the prospect that when stripped the lower dollar price would make the longer issue more attractive to defeasance programs, thereby maximizing its premium in comparison to surrounding issues. In addition, looking ahead to February 1995 when the next 30-year bond is scheduled to be auctioned, the Treasury would be able to assess the relative attractiveness of reopening and thus enlarging the issue.

With the aim of achieving a cash balance of $40 billion on September 30, the Committee unanimously recommends that for the remainder of the quarter, the Treasury meet its borrowing requirements in the following manner:

- Two 5-year notes of $11.0 billion each, to raise $22 billion of new cash;
- Two 2-year notes of $17.25 billion each, to raise $3.6 billion of new cash;
- Two 1-year bills of $17.0 billion and $17.25 billion respectively, to raise $3.7 billion of new cash;
- Weekly 3- and 6-month bills totaling $25.2 billion for each week during the remainder of the quarter, to reduce cash by $1.2 billion;
- Redemption of the outstanding cash management bills maturing September 22, to reduce cash by $6.0 billion; and,
- Redemption of the outstanding 4-year note maturing September 30, to reduce cash by $8.3 billion.

Including the $10.9 billion raised in the mid-quarter refunding as well as anticipated foreign add-ons of $5.2 billion, the proposed financing schedule will raise a total of $29.9 billion. When added to the $15.1 billion of net borrowing already raised or announced during quarter, this amount will accomplish the total net borrowing requirement of $45.0 billion. The Committee also recommends that additional intra-quarter cash management bills totaling approximately $16.0 billion be issued to cover the cash low points in mid-August and early September.

For the October-December quarter, the Treasury estimates its net market borrowing in the range of $45 to $50 billion with a cash balance of $30 billion at the end of December. The Committee notes that this borrowing estimate is significantly below most private forecasts. To accomplish the Treasury's anticipated market borrowing requirement, the Committee recommends the following provisional financing schedule:

Auctions		Size (billions)	Raising (billions)
Refunding:	3-year note	$ 17.0	
	10-year note	12.5	
		$ 29.5	$ 0.6

5-year notes	2 x $11.0	22.0
2-year notes	2 x $17.5	4.2
1-year bills	3 x $17.5	4.2
3- and 6-month bills	13 x $25.2	3.3
Cash management bills (January maturity)		15.0
Estimated foreign add-ons		5.3
Subtotal		$ 54.6
Less: 7-year note maturity		(7.1)
Total Net Market Borrowing		$ 47.5

The Committee also notes the likely need for the issuance of intra-quarter cash management bills to cover cash low points during the quarter.

In response to the request for its further views on whether to continue the single-price auction technique for 2- and 5-year notes after August 1994, the Committee reviewed the analysis presented to it by the Treasury staff which materially augmented the preliminary data presented at the Committee's previous meeting in May.

The Committee is mindful that conclusions drawn from the analysis need to be tempered by the comparatively brief period covered by the data and the variability, and thus reduced statistical significance, of much of the data within this period. Of particular concern is that throughout most of the period interest rates were stable or falling and therefore little experience has been gained during episodes when interest rates are rising. Despite the limitations on potential significance of the available data, the analysis seemed fully in concert with the comments offered in the Committee's last report (an excerpt of the pertinent section is appended for reference). Certain points from the analysis are worth highlighting:

- Consistent with theory, the single-price auctions seemed to have reduced the concentration of awards among dealers and increased awards to customers. Though in absolute terms the shift can be seen as small, in proportionate terms the shifts are reasonably substantial. Moreover, growing familiarity with single-price auctions could lead to additional growth in the participation by customers in future auctions.

- While the data do not yet provide a compelling case that single-price auctions have lowered the cost of borrowing to the Treasury compared to multiple-price auctions, there is no evidence in the data that single-price auctions have raised the cost.

- Transaction volumes on days of single-price auctions have increased notably, suggesting that the technique has contributed to improved liquidity, which in turn should lower the cost of borrowing.

- The dispersion pattern of bids in single-price auctions, as compared to those in of multiple-price auctions, suggests that dealers, and perhaps others, perceive a potential for underwriting profit in single-price auctions. Over

time as bidding techniques evolve, this perceived opportunity for profit may provide greater confidence in the robustness of the single-price auction technique during periods of rising interest rates and associated market stress.

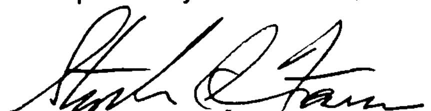
On the basis of its review of the analysis and the judgments expressed in its May report, the Committee recommends by a vote of 17 to 3 that the Treasury continue the single-price auction for 2- and 5-year notes and, furthermore, that it extend the experiment with technique to the auction of 10-year notes. The choice of the 10-year note for extension of the technique was made on the basis that there is now sufficient evidence of success with the technique to warrant a trial with a longer maturity. The 10-year was preferred because of its status as a global benchmark security and because the 30-year bond is now auctioned just twice a year and therefore would afford an inadequate number of observations to provide sufficient data for analysis. The Committee recommends that, in addition to the 30-year issue, the 3-year note continue to be auctioned on the existing multiple-price basis in order to provide a useful standard of comparison for continued evaluation of the single-price auction technique.

The three Committee members who voted against this recommendation favored a continuation of single-price auctions for 2- and 5-year notes but opposed at this time extension of the technique to 10-year notes. In their reasoning, the members cited the inconclusiveness of the existing data on single-price auctions and the desire for an opportunity to evaluate the data more rigorously. Further, although they concurred with the majority's view that there was no evidence that single-price auctions raised the cost of borrowing in the 2- and 5-year notes, these three Committee members were concerned that extension of the technique to the longer maturity could have a less successful outcome and perhaps be costly to the Treasury.

The Committee's view on 3-decimal yield bidding was unanimous in favor of the change. Consistent with the view expressed in its report of August 1, 1990, all Committee members thought that smaller yield increments would, on the margin, induce some market participants to bid more aggressively in coupon auctions, thus potentially lowering slightly the Treasury's financing costs. Also, 3-decimal yield bidding would bring auction price increments into line with those in the secondary market. The Committee could identify no disadvantages to the change.

Mr. Secretary, that concludes the Committee's report. We welcome any questions or comments.

Respectfully submitted,



Stephen C. Francis
Chairman

Attachment

EXCERPT

REPORT TO THE SECRETARY OF THE TREASURY FROM THE TREASURY BORROWING ADVISORY COMMITTEE OF THE PUBLIC SECURITIES ASSOCIATION

MAY 4, 1994

In response to the request for its views on the experiment to date with single-price auctions for two- and five-year notes, the Committee offers the following comments:

- Anecdotal evidence suggests that compared to the multiple-price auctions for three- and ten-year notes, the single-price auctions for two- and five-year notes has broadened the base of distribution and reduced the concentration of winning awards. If this impression is confirmed by further analysis of the data available to the Treasury, two important measures of success will have been met.

- Examination of the data presented to the Committee, combined with the observations of members from their own experience, suggests that while on occasion single-price auctions may have led to higher costs to the Treasury than might have occurred in multiple-price auctions, these occasions are balanced by others where there were apparent savings. The data to date reveal no consistent pattern. It is important to note, however, that most of the period covered by the data was, until recently, comparatively benign. Results for periods of high volatility are not yet available.

- In the instances where single-price auctions seemed to have resulted in yields materially above the levels prevailing in the when-issued market at the time of the auction, the difference appears related to the market environment at the time rather than to the auction technique. There is no clear basis for believing multiple-price auctions would produce systematic savings to the Treasury in these same environments.

- It would be useful to expand the analysis of when-issued trading to include not only the period immediately subsequent to the auctions but also the period immediately prior. Despite the difficulties of comparing auctions of securities of different maturities, an analysis of price patterns in the hour or two prior to single-price auctions with those in the comparable periods for multiple-price auctions may reveal whether there exist any significant differences.

- Market liquidity prior to single-price auctions may be greater than for multiple-price auctions because sellers have greater confidence that their sales can be successfully covered in the auctions at market levels prevailing at the time of the auctions. In addition, as noted in an earlier report by the Committee, there seems to be some evidence that post-auction trading in single-price auctions is less volatile.

On the basis of this assessment, which given the comparatively brief period is necessarily substantially subjective, the Committee recommends that the Treasury:

- Extend the experiment with single-price auctions for another year from August 31, 1994.

- Consider expanding the experiment to one or more additional maturities. There was no consensus among Committee members which maturity or maturities might be most suitable. Some members favored the three-note as being a natural extension from the present two- and five-year notes. Others expressed the view that since no major negatives with multiple-price auctions have been revealed so far, more might be learned from longer maturities, such as the ten-year or the thirty-year.

- Because it is the principal objective of single-price auctions, focus further analysis of the auction data on the extent to which single-price auctions encourage broader participation and less concentration among bidders.

MINUTES OF THE MEETING OF THE TREASURY BORROWING ADVISORY COMMITTEE OF THE PUBLIC SECURITIES ASSOCIATION AUGUST 2 AND 3, 1994

August 2

The Committee convened at 11:40 a.m. at the Treasury Department for the portion of the meeting that was open to the public. All 20 members were present. The Federal Register announcement of the meeting and a list of Committee members are attached.

Deputy Assistant Secretary for Federal Finance Darcy Bradbury welcomed the Committee and the public to the meeting. Assistant Secretary for Economic Policy Alicia Munnell gave a summary of the current state of the U.S. economy. Jill Ouseley, Director, Office of Market Finance, presented an informational briefing updating Treasury borrowing estimates and statistical information on recent Treasury borrowing and market interest rates. The borrowing estimates and other information in chart form had been released to the public on August 1, 1994.

The public meeting ended at 12:18 p.m.

August refunding

The Committee reconvened in closed session at the Madison Hotel at 2:00 p.m. All members were present. Deputy Assistant Secretary Bradbury gave the Committee its Charge, which is also attached. The Committee first discussed the size of the August midquarter refunding within the context of the Treasury's estimate of a $45 billion net market borrowing requirement during the July-September 1994 quarter.

The Committee discussed recommending that the August refunding consist of $17 to $17-1/2 billion of 3-year notes, $12 billion of 10-year notes, and $11 to $11-1/2 billion of 30-year bonds. A majority of 14 members voted to recommend a $40-1/2 billion August refunding consisting of $17 billion of 3-year notes, $12 billion of 10-year notes, and $11-1/2 billion of 30-year bonds. An increase in the bond was preferred to an increase in the 3-year note.

The Committee voted unanimously to reopen the 7-1/4% Treasury notes of May 15, 2004. Members believed that reopening would enhance market liquidity in the 10-year maturity area.

The Committee then considered the maturity date for the long-term bond. By a majority of 16 to 4, the Committee voted to recommend a bond that would have interest payments in May and November, as opposed to February and August. The Committee then

voted by 12 ayes, 2 noes, and 6 abstentions, to recommend issuing a 30-1/4 bond, maturing on November 15, 2024. The other option presented was a 29-3/4 year bond maturing on May 15, 2024. The majority believed that the Treasury would benefit from issuing the 30-1/4 year bond, because it would be more attractive for stripping and potentially it could be reopened in the February refunding.

By consensus, the Committee agreed to adopt the draft financing plan for the rest of the July-September quarter and for October-December period displayed in a draft proforma, as modified. One of the modifications would be to split the estimated cash management bill need in the rest of the July-September period between bills issued on August 15 and on September 2, both to mature on September 22. The draft proforma is also attached. Also by consensus, the Committee agreed to recommend cash balances of $40 billion on September 30 and $30 billion on December 31.

Single-price auction

Paul Malvey, Senior Economist, Office of Market Finance, U.S. Treasury, explained the charts that were attached to the Committee's Charge. The charts display different aspects of the results to date of single-price auctions of 2- and 5-year notes.

The Committee's sense was that the 2- and 5-year notes appear to be more widely distributed in the single-price auction than securities that the Treasury is selling in the multiple-price auctions. This belief is based on experience, as well as the Treasury data, which show a high degree of variability in auction results. The single-price auction appears to the members to be neutral with respect to Treasury borrowing costs. Members observed, however, that the single-price auction has not been tested in a rising yield environment. The Committee voted by 17 to 3 to recommend extending the time period for the single-price auction experiment and expanding it to include 10-year notes.

Three-decimal yield bidding

The final item in the Charge was to consider whether the Treasury should adopt 3-decimal bidding in auctions of notes and bonds. The Committee's recommendation to proceed with 3-decimal yield bidding was unanimous. The members believed that bidding in tenth of basis point, rather than full basis point, yield increments would bring more participants into auctions, particularly of longer term securities. Also, 3-decimal yield bidding would conform Treasury auctions with market practice in which securities are traded in 3-decimal yield increments.

The meeting adjourned at 4:30 p.m.

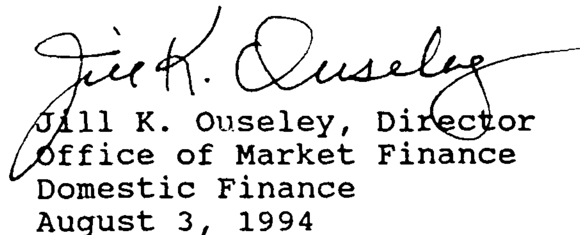
August 3

The Committee reconvened at 8:30 a.m. at the Treasury in closed session. All members were present, except Mr. Kessenich and Mr. McKnew. The Chairman presented the Committee report (copy attached) to Under Secretary for Domestic Finance Frank N. Newman and Deputy Assistant Secretary Bradbury.

In response to a question, the Committee expanded upon the recommendation of a 30-1/4 year bond. Members believed that it is appropriate for the Treasury to increase the long-term bond in the August refunding, after having left the size unchanged at $11 billion since August 1993. Also, the Treasury issues a large volume of securities in the short intermediate maturity area. Banks, which are the natural constituency for short-term notes, have been increasing commercial lending activity recently and decreasing their purchases of Government securities.

Committee members also responded to questions regarding extending the single-price auction experiment. Expanding upon the discussion at the meeting on August 2, members suggested that experimenting with 10-year note auctions would be beneficial, because the types of bidders that participate in 10-year auctions are somewhat different from bidders in 2- and 5-year note auctions. Members did not believe that a similar benefit would be gained from experimenting with bill auctions.

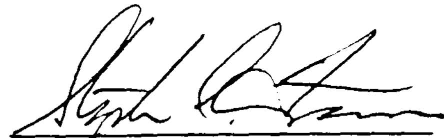
The meeting adjourned at 9:30 a.m.



Jill K. Ouseley, Director
Office of Market Finance
Domestic Finance
August 3, 1994

Attachments

Certified by:



Stephen C. Francis, Chairman
Treasury Borrowing Advisory Committee
of the Public Securities Association
August 3, 1994

For the C 'on, by the Division of Market Regu tion, ꜟnt to delegated authority, 17 CFR 200.30-...

Jonathan G. atz,

Secretary.

[FR Doc. 94- 3187 Filed 7-1-94; 8:45 am]

BILLING CODE 10-01-M

Self-Regul ry Organization; Applicatio for Unlisted Trading Privileges; otice and Opportunity for Hearing; C go Stock Exchange, Inc.

June 27, 199

The above named national securities exchange h filed applications with the Securities d Exchange Commission ("Commiss n") pursuant to Section 12(f)(1)(B) the Securities Exchange Act of 1934 nd Rule 12f-1 thereunder for unlisted ading privileges in the following securities

Jalate, Ltd.
Common S ck, No Par Value (File No. 7-12589)
Alliances Ent tainment Corp.
Warrants A /13/95 (File No. 7-12590)
Alliances Ent tainment Corp.
Warrants B /13/95 (File No. 7-12591)
Energy Ventu s, Inc.
Common S ck, $1.00 Par Value (File No. 7-12592)
Highwoods P operties, Inc.
Common S ck, $.01 Par Value (File No. 7-12593)
International ottery, Inc.
Common St ck, $.01 Par Value (File No. 7-12594)
Liberty Prope y Trust
Shares of B neficial Interest, $.001 Par Value (Fi No. 7-12595)
Watsco, Inc.
Common St k, $.50 Par Value (File No. 7-12596)

These secu nties are listed and registered or one or more other national securities ex hanges and are reported in the consolid ted transaction reporting system.

Interested ersons are invited to submit on or before July 19, 1994, written data, views and arguments concerning the above-referenced application. ersons desiring to make written comr ents should file three copies therec with the Secretary of the Securities an Exchange Commission, 450 Fifth Str et, NW., Washington, DC 20549. Follo ing this opportunity for hearing, the ommission will approve the applicati n if it finds, based upon all the inform ation available to it, that the extensior of unlisted trading privileges pu suant to such application is consistent with the maintenance of fair and orderly markets and the protection of investors.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.

J... n G. Katz,

Secretary.

[FR Doc. 94-161.. Filed 7-1-94; 8:45 am]

BILLING CODE 8010-01-M

DEPARTMENT OF THE TREASURY

Debt Management Advisory Committee; Meeting

Notice is hereby given, pursuant to 5 U.S.C. App. 10(a)(2), that a meeting will be held at the U.S. Treasury Department, 15th and Pennsylvania Avenue, NW., Washington, DC, on August 2 and 3, 1994, of the following debt management advisory committee:

Public Securities Association, Treasury Borrowing Advisory Committee

The agenda for the meeting provides for a technical background briefing by Treasury staff on August 2, followed by a charge by the Secretary of the Treasury or his designate that the committee discuss particular issues, and a working session. On August 3, the committee will present a written report of its recommendations.

The background briefing by Treasury staff will be held at 11:30 a.m. Eastern time on August 2 and will be open to the public. The remaining sessions on August 2 and the committee's reporting session on August 3 will be closed to the public, pursuant to 5 U.S.C. App. 10(d).

This notice shall constitute my determination, pursuant to the authority placed in heads of departments by 5 U.S.C. App. 10(d) and vested in me by Treasury Department Order No. 101-05, that the closed portions of the meeting are concerned with information that is exempt from disclosure under 5 U.S.C. 552b(c)(9)(A). The public interest requires that such meetings be closed to the public because the Treasury Department requires frank and full advice from representatives of the financial community prior to making its final decision on major financing operations. Historically, this advice has been offered by debt management advisory committees established by the several major segments of the financial community. When so utilized, such a committee is recognized to be an advisory committee under 5 U.S.C. App. 3.

Although the Treasury's final announcement of financing plans may not reflect the recommendations provided in reports of the advisory committee, premature disclosure of the committee's deliberations and reports would be likely to lead to significant financial speculation in the securities market. Thus, these meetings fall within the exemption covered by U.S.C. 552b(c)(9)(A).

The Office of the Under Secretary for Domestic Finance is responsible for maintaining records of debt management advisory committee meetings and for providing annual reports setting forth a summary of committee activities and such other matters as may be informative to the public consistent with the policy of 5 U.S.C. 552b.

Dated: June 28, 1994.

Frank N. Newman,

Under Secretary of the Treasury, Domestic Finance.

[FR Doc. 94-16154 Filed 7-1-94; 8:45 am

BILLING CODE 4810-25-M

Fiscal Service

Renegotiation Board Interest Rate, Prompt Payme t Interest Rate, Contracts Dis tes Act

Although the Renegotiation Board is no longer in ex stence, other Federal Agencies are re uired to use interest rates computer under the criteria established by e Renegotiation Act of 1971 (P.L. 92-41). For example, the Contracts Disp tes Act of 1978 (P.L. 95-563) and the Pr ompt Payment Act (P.L. 97-177) are rec uired to calculate interest due on claims at a rate established by the Secretary of the Treasury pursu ant to Public Law 92-41 (85 Stat. 97) fo the Renegotiation Board (31 U.S.C. 3901).

Therefore, nc ice is hereby given that, pursuant to the above mentioned sections, the Se cretary of the Treasury has determined that the rate of interest applicable for the purpose of said sections, for the period beginning July 1, 1994 and endi g on December 31, 1994, is 7% per centu m per annum.

Dated: June 28 1994.

Marcus W. Page

Acting Fiscal Assistant Secretary.

[FR Doc. 94-161 6 Filed 7-1-94; 8:45 am]

BILLING CODE 4810 35-M

1994
TREASURY BORROWING ADVISORY COMMITTEE OF THE PUBLIC SECURITIES ASSOCIATION

CHAIRMAN

Stephen C. Francis
General Manager
Fischer, Francis, Trees & Watts
Royal Court, Royal Exchange
London EC3V 3RA, England

VICE CHAIRMAN

Richard Kelly
Chairman of the Board
Aubrey G. Lanston & Co., Inc.
One Chase Manhattan Plaza, 53rd Fl.
New York, NY 10005

Daniel S. Ahearn
President
Capital Markets Strategies Co.
c/o Wellington Management Company
75 State Street
Boston MA 02109

Thomas Bennett
Partner
Miller Anderson & Sherrerd
One Tower Bridge
West Conshohocken, PA 19428

James R. Capra
Principal
Moore Capital Management
1251 Avenue of the Americas
New York, NY 10020

Jon S. Corzine
Partner
Goldman, Sachs & Company
85 Broad Street
New York, NY 10004

Kenneth de Regt
Managing Director, Fixed Income
Morgan Stanley & Company
1221 Avenue of the Americas - 6th Floor
New York, NY 10020

Barbara Kenworthy
Senior Portfolio Manager
The Dreyfus Corporation
200 Park Avenue
New York, NY 10166

Mark F. Kessenich, Jr.
President
Eastbridge Capital, Inc.
135 East 56th Street
New York, NY 10022

Bruce R. Lakefield
Managing Director
Lehman Brothers
200 Vesey Street, 9th Fl.
New York, NY 10285

Richard D. Lodge
Senior Vice President
Banc One Corporation
100 East Broad Street, 3rd Fl.
Columbus, OH 43215 (Fed Exp Mail)
43217 (Ground Mail)

Robert D. McKnew
Executive Vice President
Bank of America
555 California Street, 10th Fl.
San Francisco, CA 94104

Daniel T. Napoli
Senior V. President
Merrill Lynch & Company
250 Vesey Street, N. Tower
World Financial Ctr., 8th Fl.
New York, NY 10281

William H. Pike
Managing Director
Chemical Bank
277 Park Avenue
New York, NY 10172

Marcy Recktenwald
Managing Director
BT Securities, Inc.
130 Liberty Street
New York, NY 10006

Richard B. Roberts
Executive Vice President
Wachovia Bank & Trust Co., NA
P.O. Box 3099
Winston-Salem, NC 27150

Joseph Rosenberg
President
Lawton General Corporation
667 Madison Avenue
New York, NY 10021-8087

Morgan B. Stark
Managing Director
Granite International Capital Group
666 - 5th Avenue, 33rd Fl.
New York, NY 10103

Stephen Thieke
Chairman, Market Risk Committee
J.P. Morgan & Company, Inc.
60 Wall Street, 20th Fl.
New York, NY 10260

Craig M. Wardlaw
Executive Vice President
NationsBank Corporation
NationsBank Corporate Center
Mail Code NCI 007-0606
Charlotte, NC 28255-0001

August 2, 1994

COMMITTEE CHARGE

The Treasury would like the Committee's specific advice on the following:

Treasury financing

-- the composition of a financing to refund $29.6 billion of privately held notes and bonds maturing on August 15 and to raise cash in 3- and 10-year notes, 30-year bonds, and cash management bills;

-- the maturity of the long-term bond to be issued in the refunding;

-- reopening the 7-1/4% note of May 15, 2004;

-- the composition of Treasury marketable financing for the remainder of the July-September quarter and the October-December quarter; and

-- the appropriate levels of Treasury cash balances on September 30 and December 31.

Other topics

We would like the Committee's further views on whether to continue the single-price auction technique for 2- and 5-year notes after August 1994. The information displayed in the attached charts is provided to assist the Committee in its consideration of this matter.

We are considering establishing 3-decimal competitive yield bidding for auctions of Treasury notes and bonds, possibly beginning in the spring. We would like the Committee's thoughts on advantages and disadvantages of 3-decimal yield bidding, including any operational complications that might arise from the dealer/investor point of view.

The Treasury would welcome any comments that the Committee might wish to make on related matters.

Attachment

Charts on the Uniform-Price Experiment

Charts 1 and 2: Impacts on the Distribution of Awards

Charts 1 and 2 contain data on large competitive awards (based on bids of $1 million or greater) to primary dealers and their customers through the New York, Chicago, and San Francisco Federal Reserve banks and branches. The data are broken out into two periods: from June 1991 to August 1992 and from September 1992 to May 1994(latest available data).

Chart 1 shows that the change in the composition of large competitive awards to primary dealers and their large customers is consistent with auction theory. The average share of awards to customers increased under the uniform-price format, from 21 percent to 25-26 percent, and the share to dealers decreased.[1] By contrast, the share of competitive awards to large customers remained unchanged for the 3-year notes and decreased by 13 percentage points for the 10-year notes.

Chart 2 shows the shares of competitive awards to the top primary dealers for their own accounts and also for the top dealers plus their customers as a percent of total private awards. The concentrations of awards to the top ten dealers for their own accounts for the 2-year and 5-year notes declined by 9 to 10 percentage points during the uniform-price experiment. By contrast, the concentration of awards for the top ten dealers' own accounts increased by 10 to 13 percentage points for the 3-year and 10-year auctions.

Similarly, the concentration of competitive awards to the top ten dealers plus their customers was reduced by 4 to 9 percentage points for the 2-year and 5-year uniform-price auctions. Meanwhile, the share to the top ten dealers plus customers increased by 11 percentage points for the 3-year notes, and remained unchanged for 10-year notes.

Charts 3 and 4: Trading Activity in the When-Issued market

Charts 3 and 4 show average transactions volume in the when-issued (WI) market on auction days in 30-minute intervals for the multiple-price and uniform-price periods. Transactions volume on mornings of uniform-price auctions was 35 percent higher for 2-

---

[1] While the pattern of changes in shares between the 2s and 5s and the 3s and 10s is consistent for all of the data, given the auction-to-auction variability in the shares, the differences in shares are not statistically significant.

year notes and 24 percent higher for 5-year notes.[2] Although not shown, transactions volume for 3-year notes was virtually unchanged over the two periods, while 10-year volume was 16 percent higher. For the whole day, transactions volume increased by 39 percent and 14 percent, respectively, for the 2-year and 5-year notes. Volume was up by only 6 to 7 percent for the 3-year and 10-year notes.

Charts 5 and 6: Comparison of Auction Results to the WI Market

Charts 5 and 6 show the spreads between the auction yield results and the 1:00 p.m. WI bid yields for each auction and also the average spreads between the 1:00 p.m. WI bid yields and the auction results for the two auction techniques. Under the multiple-price format, the average spreads between auction average yields and 1:00 p.m. WI bid yields are statistically significant from zero. Or, there is a statistically significant premium to dealers for bidding in the auctions. By contrast, although the size of the average spreads for the uniform-price 2-year and 5-year auctions are comparable, they are not statistically different from zero. That is, there is no statistically significant markup thus far in the uniform-price auctions.

One reason is that, while the average auction spreads are comparable for the two techniques, the volatility of the auction spreads for the uniform-price auctions is greater. As shown, for the thirty multiple-price 2-year and 5-year auctions from June 1991 to August 1992 in only one instance (September 1991) did the auction average come in below the 1:00 p.m. WI yield. Otherwise, there was a relatively stable average premium under the multiple-price auction technique to successful competitive bidders. By contrast, in about 50 percent (24 out of 46) of the uniform-price auctions the auction yield has been below the 1:00 p.m. WI yield, but the auction-to-auction volatility of results has been greater.

Charts 7 and 8: Dispersion of Auction Yield Bids: Multiple- and Uniform-Price Auctions

One reason for greater variability in auction-to-auction results is that the average dispersion of auction bid yields under the uniform-price format is broader than that for multiple-price auctions and somewhat less stable from auction to auction. Another reason is that average yield is used to express the

---

[2] The charts are not adjusted for changes in auction sizes. With adjustment, volume for 2-year and 5-year notes was still up, by 20 percent and 9 percent, respectively, on auction mornings.

result in multiple-price auctions and stop-out yield is used in single-price auctions.

Charts 7 and 8 show the average distributions of yield bids for the 2-year and 5-year notes under the alternate auction techniques. The distributions of bids around the auction average yield for multiple-price auctions is asymmetric, as one would expect. The bids trailing off further to the right can for the most part can be viewed as underwriting bids.[3] In contrast, there is a greater frequency of bids to the left of the auction stop in uniform-price auctions, which is also consistent with auction theory.

However, with greater uncertainty with respect to auction outcomes, the bids to the right may take on added meaning. It has been suggested that dealers may be more likely to split bids in a uniform-price auction. That is, they may place one or more bids at aggressive yields to ensure supply, and place other bids 2 to 5 basis points off the market. If awarded, experience has shown that the securities will all usually result in profits to the bidder in post-auction WI trading.

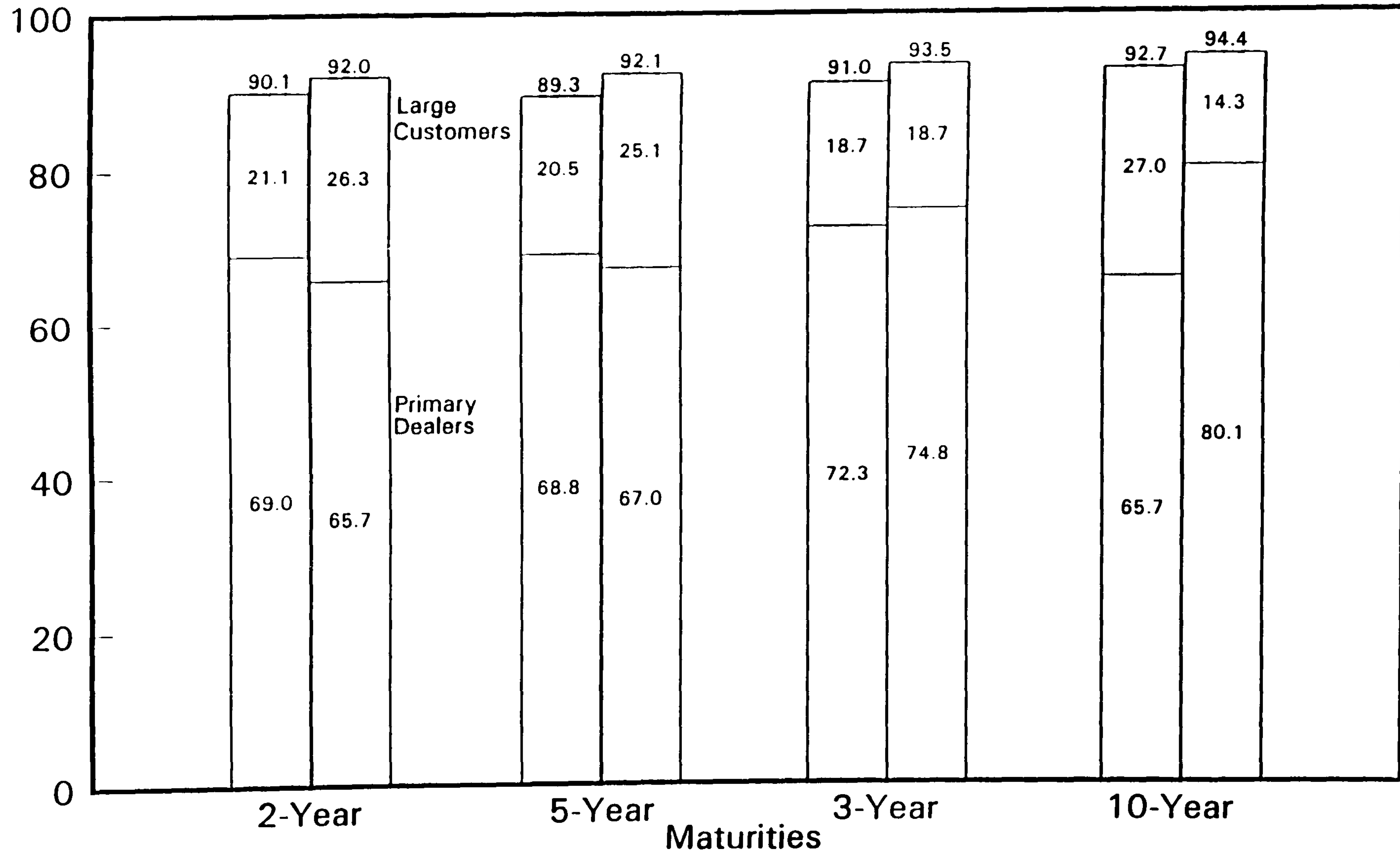
The second factor contributing to the volatility of uniform-price auction results relative to 1:00 p.m. WI yields is the different yield concepts employed to report auction yield results under the two formats. In multiple-price auctions, the auction average yield is used, whereas for uniform-price auctions a stop-out yield concept is employed. In and of itself, a single number is expected to have more volatility than an average of a relatively stable set of numbers.

---

[3] The auction tail, or the difference between average yield and highest accepted yield, for monthly multiple-price 5-year auctions had never exceeded 1 basis point, while that for 2-year auction had exceeded 1 basis point only once (May 1991) since 1989.

LARGE COMPETITIVE AWARDS TO PRIMARY DEALERS AND CUSTOMERS AS A PERCENT OF TOTAL PRIVATE AWARDS*

(Jun '91 - Aug '92; Sep '92 - May '94)



*Large competitive awards (based on bids greater than or equal to $1 million) to primary dealers and customers through the New York, Chicago, and San Francisco Federal Reserve Banks and branches.

Department of the Treasury
Office of Market Finance

Chart 1

Large Competitive Awards to Primary Dealers And Awards to Primary Dealers Plus Their Large Customers as a Percentage of Total Private Awards*

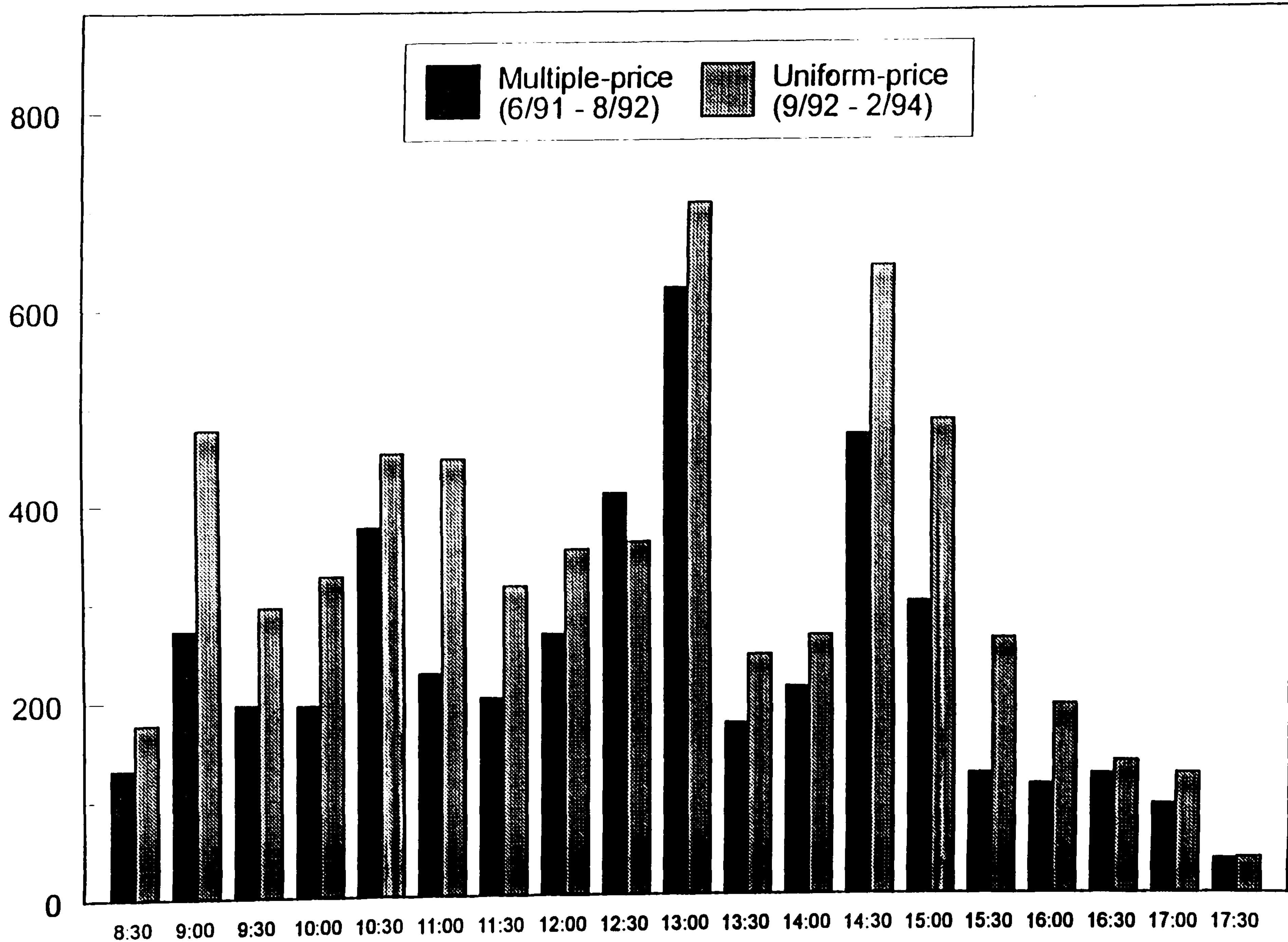
		Dealer Own Accounts		Dealers Plus Their Large Customers	
	Top	Jun '91- Aug '92	Sept '92- May '94	Jun '91- Aug '92	Sept '92- May '94
Two-Year	5	32.1	24.0	43.8	40.4
	10	47.0	38.0	62.3	58.1
	All Dealers	69.0	65.7	90.1	92.0
Five-Year	5	40.2	25.7	50.2	37.6
	10	51.3	41.6	67.4	58.5
	All Dealers	68.8	67.0	89.3	92.1
Three-Year	5	34.6	44.2	42.9	54.5
	10	47.0	57.2	60.3	71.7
	All Dealers	72.3	74.8	91.0	93.5
Ten-Year	5	39.3	52.1	60.2	60.1
	10	50.7	63.9	74.3	74.9
	All Dealers	65.7	80.1	92.7	94.4

*Large competitive awards (based on bids greater than or equal to $1 million) to primary dealers for their own accounts and awards to their customers through the New York, Chicago, and San Franciso Federal Reserve Banks and branches.

Department of the Treasury
Office of Market Finance

2-YR AUCTIONS
AVERAGE CHANGE IN ACCUMULATED VOLUME ON AUCTION DAYS
(30-minute intervals ending at time indicated)

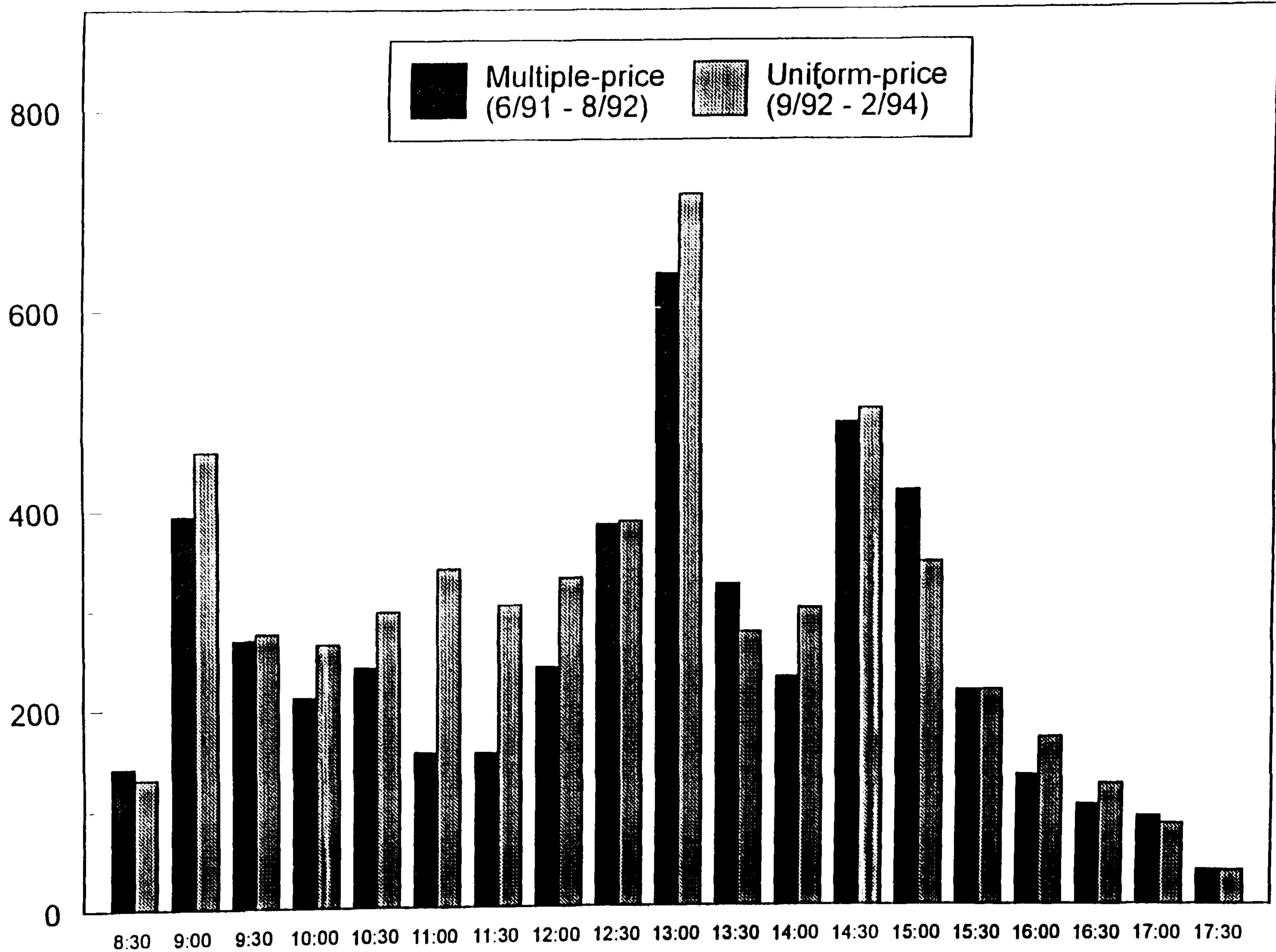
$ MILLIONS



Source: GOVPX, Inc.

Department of the Treasury
Office of Market Finance

Chart 3


AVERAGE CHANGE IN ACCUMULATED VOLUME ON AUCTION DAYS
(30-minute intervals ending at time indicated)
$ MILLIONS
Multiple-price (6/91 - 8/92)
Uniform-price (9/92 - 2/94)
800
600
400
200
0
8:30
9:00
9:30
10:00
10:30
11:00
11:30
12:00
12:30
13:00
13:30
14:00
14:30
15:00
15:30
16:00
16:30
17:00
17:30
Chart 4
Department of the Treasury
Office of Market Finance

AUCTION SPREADS
AUCTION AVERAGE YIELDS - 1 PM WI BID YIELDS
2-YEAR NOTES
(June '91 through July '94)

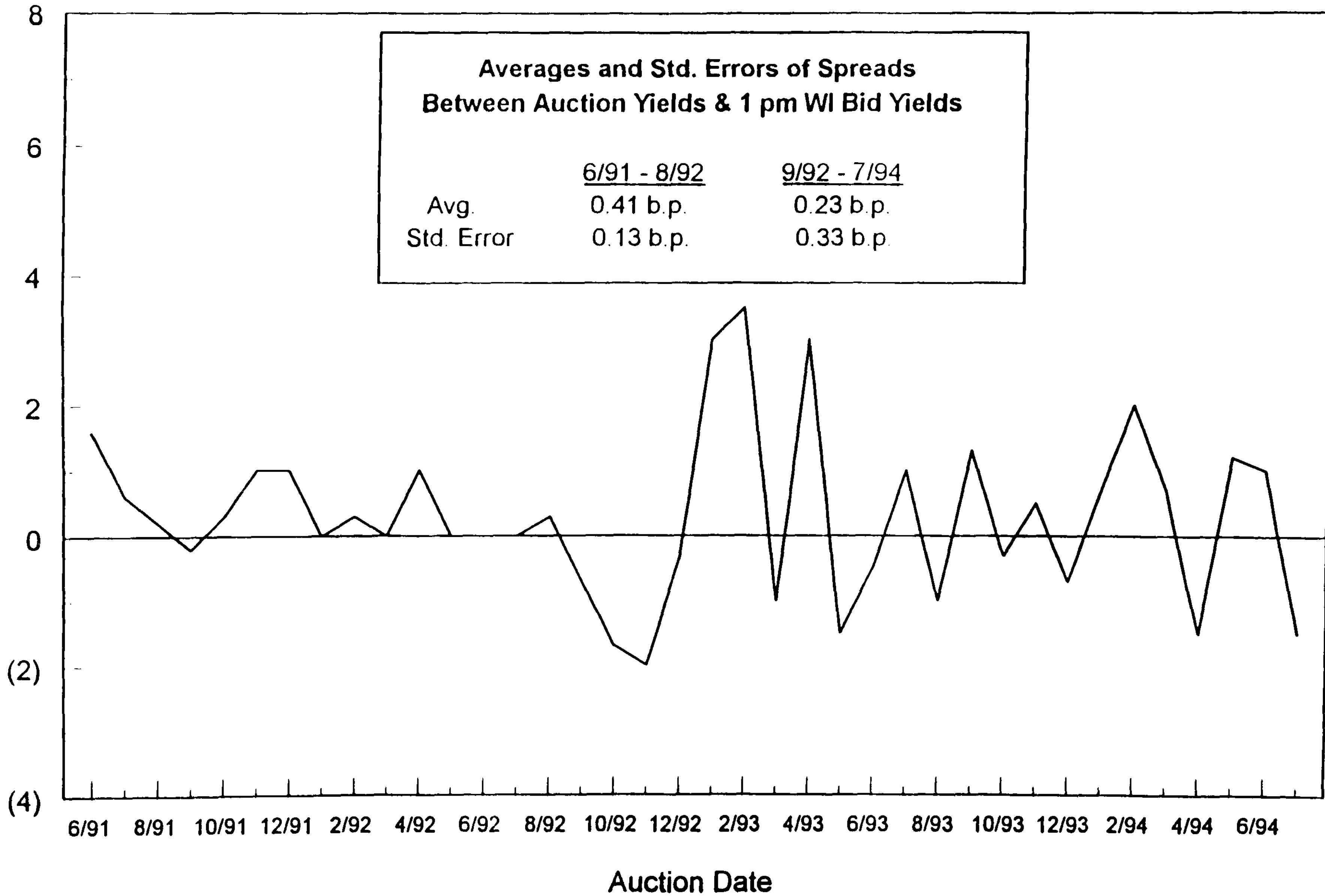


Chart 5

Source: GOVPX, Inc.

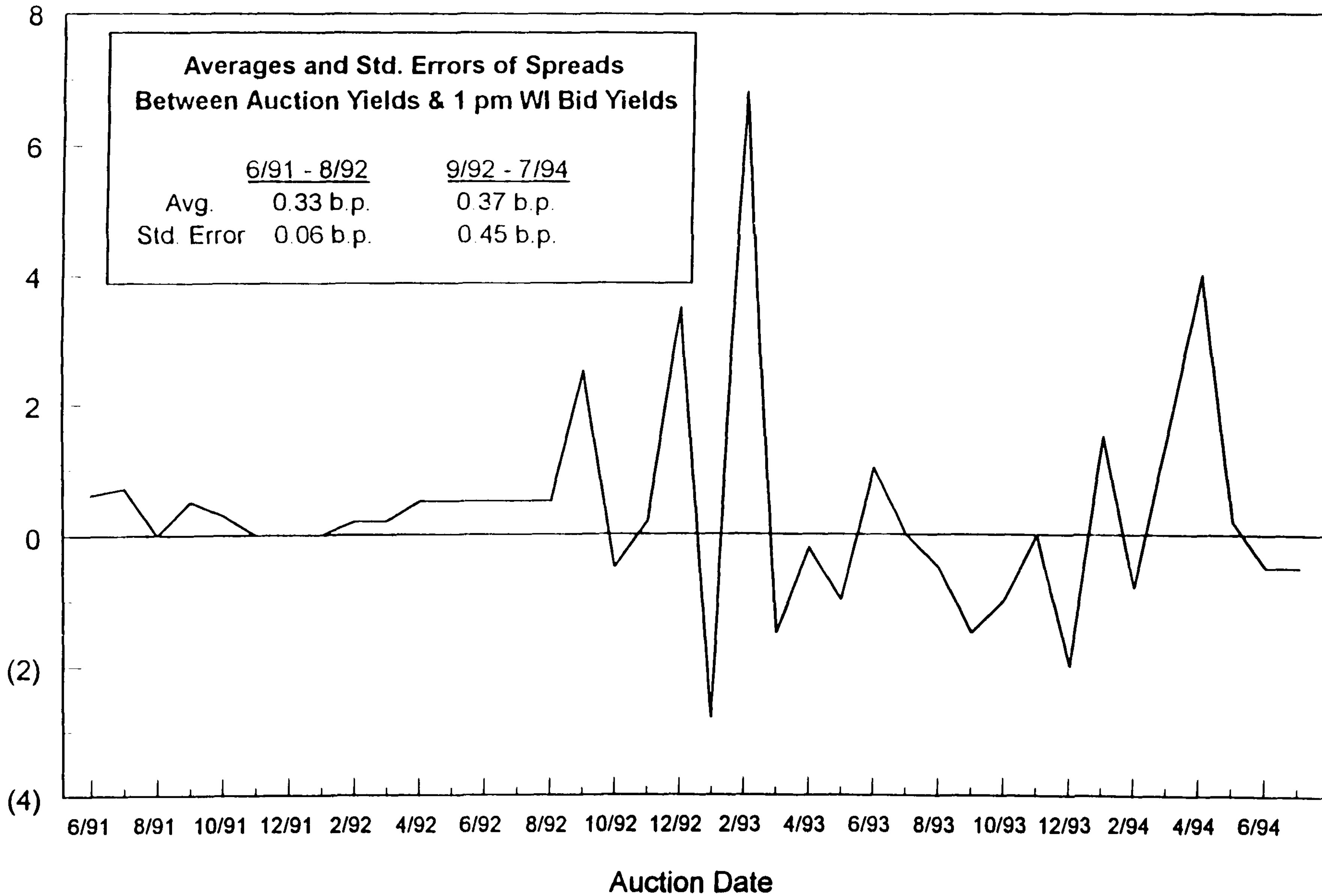
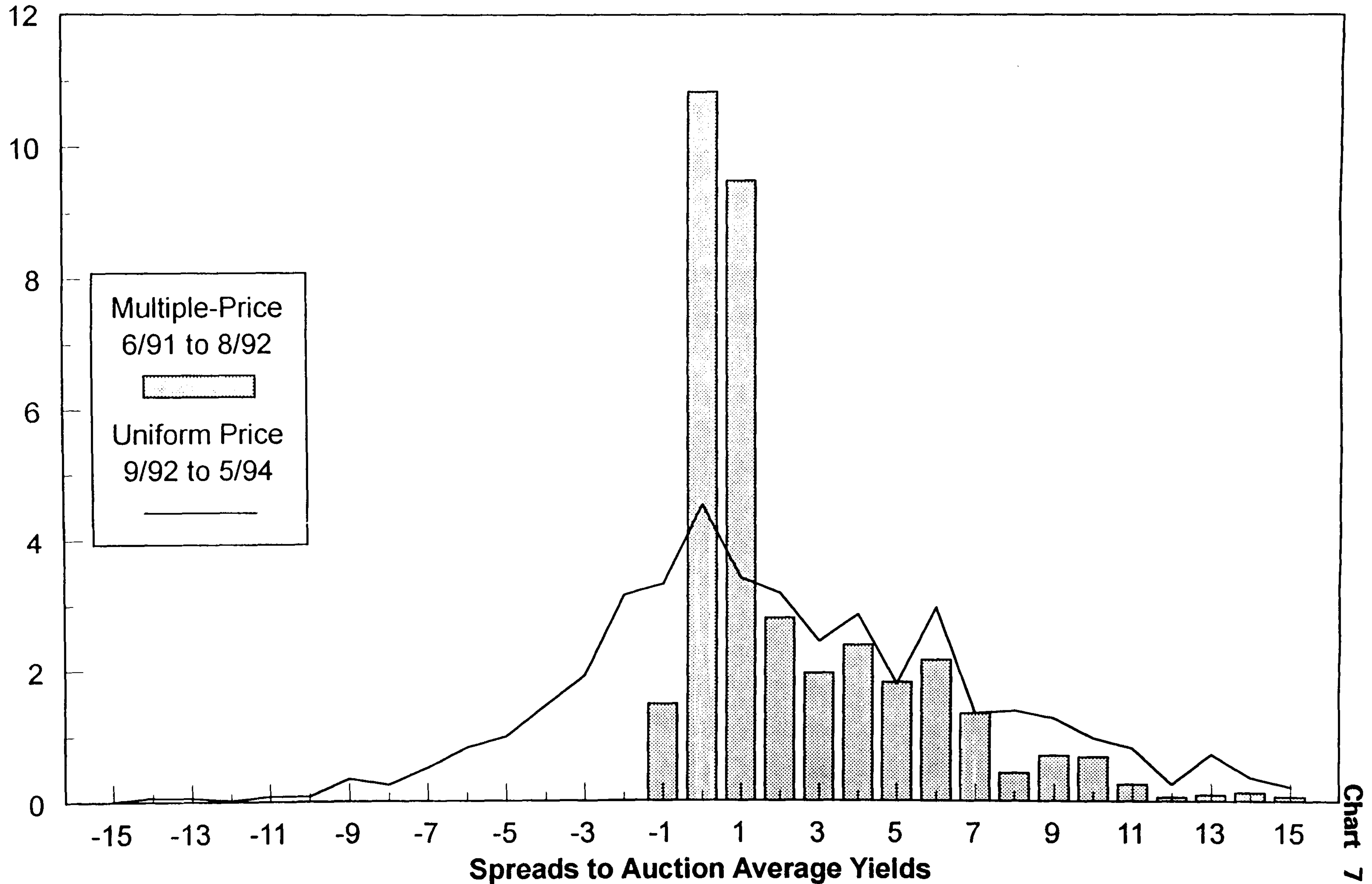


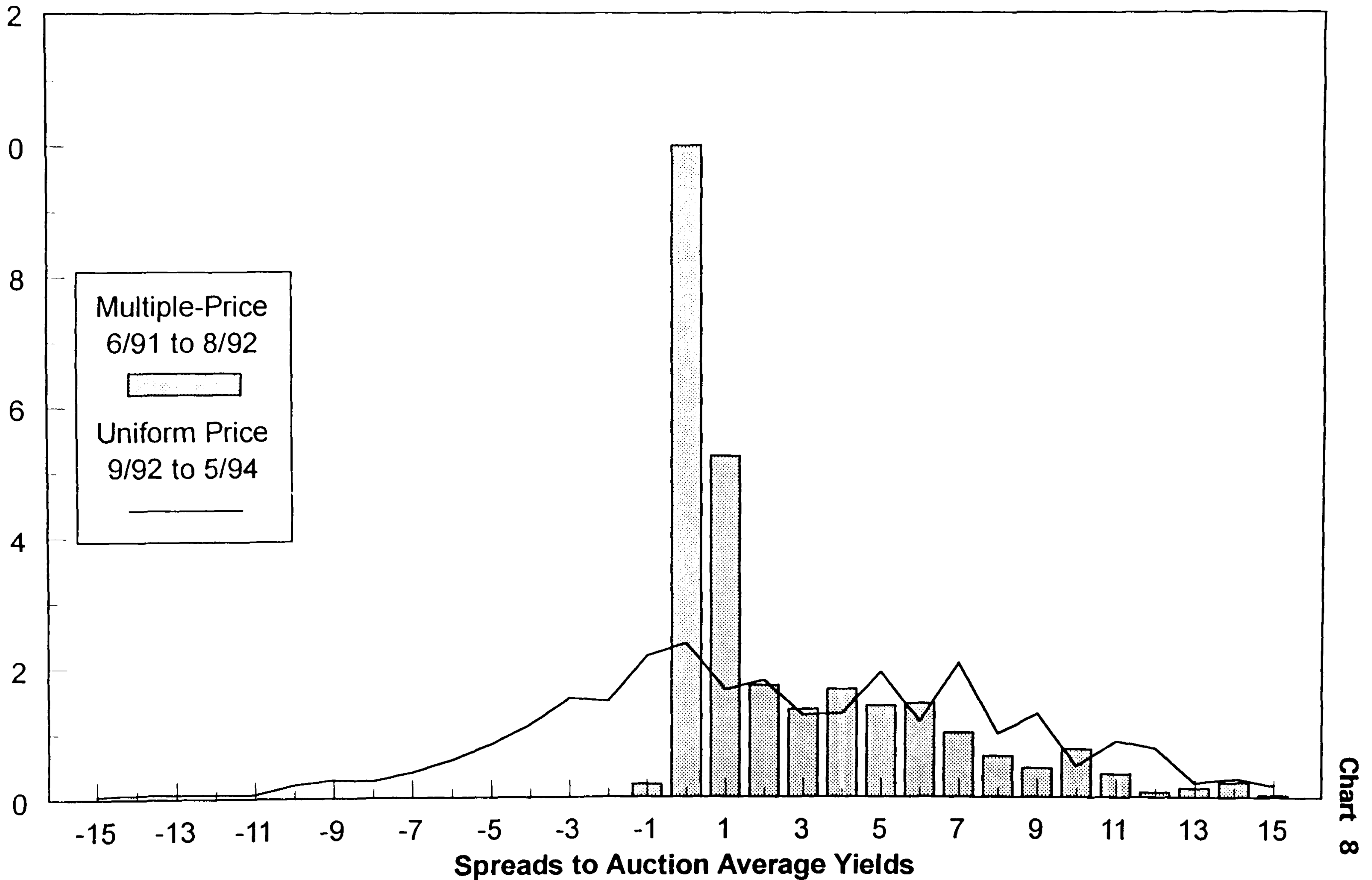
Chart 6



Note: Bid yields truncated at + or - 15 basis points

Department of the Treasury

Average Bids at Various Yields Relative to Auction Yield Results
Five-Year Notes
(June '91 through May '94)



Note: Bid yields are truncated at + or - 15 basis points

Department of the Treasury

Summary of July - September 1994
Estimated Net Marketable Borrowing
(billions of dollars)

let new money raised or announced (as of 8/1/94):

Regular Treasury bills ($1.71 billion of foreign add-ons)	0.6
52-week bills (no foreign add-ons)	1.7
Cash management bills redemption (no foreign add-ons)	6.0
2-year notes (includes $1.15 billion of foreign add-ons)	3.2
5-year notes (includes $0.53 billion of foreign add-ons)	11.5
7-year notes redemption	-7.2
	15.8

et new money to be raised

Regular Treasury bills ($0.32 billion of foreign add-ons)	-1.0
52-week bills (includes $0.00 billion of foreign add-ons)	3.6
Cash management bills (no foreign add-ons anticipated)	-6.0
2- & 5-year notes (incl. $8.914 billion mat. 4-year notes & $3.08 billion add-on	20.4
Refunding (includes $1.58 billion of foreign add-ons)	12.2
	29.2

otal net marketable borrowing	45.0

'ote: Assumes an end of quarter cash balance of $40 billion

Summary of October - December 1994
Estimated Net Marketable Borrowing
(billions of dollars)

'et new money to be raised

Regular Treasury bills ($0.00 billion of foreign add-ons)	11.1
52-week bills (includes $0.00 billion of foreign add-ons)	4.2
Cash management bills redemption (no foreign add-ons anticipated)	10.0
2- & 5-year notes (excl. $9.68 billion mat. 4-year notes & $3.30 billion add-on	39.1
Refunding (includes anticipated $1 billion of foreign add-ons)	2.3
7-year notes redemption	-7.1
4-year notes redemption	-9.7

otal net marketable borrowing in quarter	50.0

ote: Assumes an end of quarter cash balance of $30 billion

Estimated Treasury Marketable Borrowing
(billions of dollars)

July - September 1994

otal estimated marketable borrowing	45.0
otal net marketable borrowing issued or announced through August 1, 1994	15.8
otal remaining net marketable borrowing	29.2
ash balance at end of quarter	$40 billion

		Amount Maturing	Amount Offered	Foreign Add-ons	Cash raised	Cumulative cash raised
& 6-month bills						
07-Jul		25.9	24.1	0.5	-1.4	
14-Jul		25.3	24.1	0.4	-0.8	
21-Jul		24.6	24.9	0.4	0.8	
28-Jul		24.2	25.1	0.0	0.9	
04-Aug		24.3	25.0	0.3	1.0	
11-Aug		25.5	25.2	0.0	-0.3	
18-Aug		25.3	25.2	0.0	-0.1	
25-Aug		25.2	25.2	0.0	0.0	
01-Sep		26.4	25.2	0.0	-1.2	
08-Sep		25.6	25.2	0.0	-0.4	
15-Sep		25.1	25.2	0.0	0.1	
22-Sep		25.5	25.2	0.0	-0.2	
29-Sep		24.3	25.2	0.0	0.9	-0.4
2-week bills						
28-Jul		15.3	16.9	0.0	1.7	
25-Aug		15.3	17.0	0.0	1.7	
22-Sep		15.3	17.3	0.0	1.9	5.3
ash Management Bills						
ettlement ate	Maturity date					
15-Jul	22-Sep	0.0	6.0		6.0	
02-Sep	15-Sep	0.0	15.0		15.0	
	15-Sep	15.0			-15.0	
	22-Sep	6.0			-6.0	0.0
oupons						
ly 7-year		7.2	0.0	0.0	-7.2	
ly 2-year		15.3	17.3	1.1	3.2	
ly 5-year		0.0	11.0	0.5	11.5	
ugust 3-year		0.0	17.3	1.0	18.3	
ugust 10-year		29.6	12.0	0.5	-17.1	
ugust 30-year		0.0	11.0	0.0	11.0	
efunding		29.6	40.3	1.6	12.2	
ugust 2-year		15.7	17.3	1.0	2.6	
ugust 5-year		0.0	11.0	0.5	11.5	
ptember 2-year		23.5	17.3	1.0	-5.2	
ptember 5-year		0.0	11.0	0.5	11.5	40.1
and total		485.4	522.0	8.4	45.0	45.0

Estimated Treasury Marketable Borrowing
(billions of dollars)

October - December 1994

otal estimated marketable borrowing	50.0
otal net marketable borrowing issued or announced through August 1, 1994	0.0
otal remaining net marketable borrowing	50.0
ash balance at end of quarter	$30 billion

		Amount Maturing	Amount Offered	Foreign Add-ons	Cash raised	Cumulative cash raised
& 6-month bills						
06-Oct		25.1	25.2	0.0	0.1	
13-Oct		24.9	25.2	0.0	0.3	
20-Oct		24.5	25.2	0.0	0.7	
27-Oct		24.1	26.0	0.0	1.9	
03-Nov		24.4	26.0	0.0	1.6	
10-Nov		25.1	26.0	0.0	0.9	
17-Nov		24.8	26.0	0.0	1.2	
24-Nov		25.3	26.0	0.0	0.7	
01-Dec		26.1	26.0	0.0	-0.1	
08-Dec		25.8	26.0	0.0	0.2	
15-Dec		24.9	26.0	0.0	1.1	
22-Dec		25.6	26.0	0.0	0.4	
29-Dec		23.7	26.0	0.0	2.3	11.1
-week bills						
20-Oct		15.9	17.5	0.0	1.6	
17-Nov		16.2	17.5	0.0	1.3	
15-Dec		16.2	17.5	0.0	1.3	4.2
ash management bills						
ttlement ite	Maturity date					
15-Nov	19-Jan	0	10	0	10.0	10.0
upons						
tober 7-year		7.1	0.0	0.0	-7.1	
tober 2-year		15.4	17.5	1.2	3.3	
tober 5-year		0.0	11.0	0.5	11.5	
vember 3-year		0.0	17.5	1.2	18.7	
vember 10-year		28.9	12.0	0.5	-16.4	
vember 30-year		0.0	0.0	0.0	0.0	
funding		28.9	29.5	1.7	2.3	
vember 2-year		15.4	17.5	1.2	3.3	
vember 5-year		0.0	11.0	0.5	11.5	24.6
and total		439.6	484.6	5.0	50.0	50.0

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE WHEN AUTHORIZED AT PRESS CONFERENCE
August 3, 1994

CONTACT: Office of Financing
202/219-3350

TREASURY TO AUCTION CASH MANAGEMENT BILL

The Treasury will auction approximately $7,000 million of 38-day Treasury cash management bills to be issued August 15, 1994.

Competitive and noncompetitive tenders will be received at all Federal Reserve Banks and Branches. Tenders will not be accepted for bills to be maintained on the book-entry records of the Department of the Treasury (TREASURY DIRECT). Tenders will not be received at the Bureau of the Public Debt, Washington, D.C.

Additional amounts of the bills may be issued to Federal Reserve Banks as agents for foreign and international monetary authorities at the average price of accepted competitive tenders.

This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR Part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about the new security are given in the attached offering highlights.

oOo

Attachment

LB-997

HIGHLIGHTS OF TREASURY OFFERING OF 38-DAY CASH MANAGEMENT BILL

August 3, 1994

Offering Amount . . . . . . $7,000 million

Description of Offering:

Term and type of security	38-day Cash Management Bill
CUSIP number	912794 L7 7
Auction date	August 11, 1994
Issue date	August 15, 1994
Maturity date	September 22, 1994
Original issue date	September 23, 1993
Currently outstanding	$40,810 million
Minimum bid amount	$10,000
Multiples	$1,000
Minimum to hold amount	$10,000
Multiples to hold	$1,000

Submission of Bids:

Noncompetitive bids . . . . Accepted in full up to $1,000,000 at the average discount rate of accepted competitive bids

Competitive bids . . .
(1) Must be expressed as a discount rate with two decimals, e.g., 7.10%.
(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is $2 billion or greater.
(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.

Maximum Recognized Bid at a Single Yield . . . 35% of public offering

Maximum Award . . . . 35% of public offering

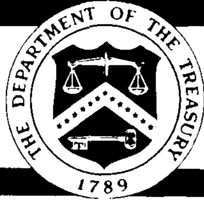
Receipt of Tenders:

Noncompetitive tenders . . Prior to 11:00 a.m. Eastern Daylight Saving time on auction day

Competitive tenders . . . . Prior to 11:30 a.m. Eastern Daylight Saving time on auction day

Payment Terms . . . . Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date

DEPARTMENT OF THE TREASURY

TREASURY  NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE WHEN AUTHORIZED AT PRESS CONFERENCE
August 3, 1994 CONTACT: Office of Financing
202/219-3350

TREASURY TO AUCTION CASH MANAGEMENT BILL

The Treasury will auction approximately $7,000 million of 38-day Treasury cash management bills to be issued August 15, 1994.

Competitive and noncompetitive tenders will be received at all Federal Reserve Banks and Branches. Tenders will not be accepted for bills to be maintained on the book-entry records of the Department of the Treasury (TREASURY DIRECT). Tenders will not be received at the Bureau of the Public Debt, Washington, D.C.

Additional amounts of the bills may be issued to Federal Reserve Banks as agents for foreign and international monetary authorities at the average price of accepted competitive tenders.

This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR Part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about the new security are given in the attached offering highlights.

oOo

Attachment

LB-997

HIGHLIGHTS OF TREASURY OFFERING OF 38-DAY CASH MANAGEMENT BILL

August 3, 1994

Offering Amount	$7,000 million
Description of Offering:	
Term and type of security	38-day Cash Management Bill
CUSIP number	912794 L7 7
Auction date	August 11, 1994
Issue date	August 15, 1994
Maturity date	September 22, 1994
Original issue date	September 23, 1993
Currently outstanding	$40,810 million
Minimum bid amount	$10,000
Multiples	$1,000
Minimum to hold amount	$10,000
Multiples to hold	$1,000
Submission of Bids:	
Noncompetitive bids	Accepted in full up to $1,000,000 at the average discount rate of accepted competitive bids
Competitive bids	(1) Must be expressed as a discount rate with two decimals, e.g., 7.10%. (2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is $2 billion or greater. (3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.
Maximum Recognized Bid at a Single Yield	35% of public offering
Maximum Award	35% of public offering
Receipt of Tenders:	
Noncompetitive tenders	Prior to 11:00 a.m. Eastern Daylight Saving time on auction day
Competitive tenders	Prior to 11:30 a.m. Eastern Daylight Saving time on auction day
Payment Terms	Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date

DEPARTMENT OF THE TREASURY

TREASURY NEWS

1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE UPON DELIVERY
Text as prepared for delivery
August 4, 1994

TESTIMONY OF TREASURY SECRETARY LLOYD BENTSEN
HOUSE COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS

Chairman Gonzalez, Congressman Leach, members of the committee:

There are a number of points I would like to cover this morning. For organization's sake, I want to present my testimony in four parts. First, I want to describe my relationship to the oversight of the Resolution Trust Corporation and how my office operates. I want next to address my recollection of events. I'd like also to discuss the steps I have taken over the past months. And finally, I want to cover the conclusions which have been reached and the actions I will take.

Knowing that the responsibilities of a Cabinet officer are different from those of a Member of Congress, I put two systems in place when I came to Treasury to help me make the transition.

First, as it regards the RTC, I serve as Chairman of the Oversight Board. By law I am prohibited from involving myself in any day-to-day matters. I can discuss policy in broad terms, but I cannot intervene in any case-specific matters.

I asked my legislative director, Mike Levy, to make it clear if members or staff inquired about specific cases, that they should be directed to the RTC, not to me.

Second, I have organized my office such that all the paperwork on matters of policy and Treasury's varied operations flows through my Executive Secretary, Ed Knight. Ed's the gatekeeper. It's his job to make certain that what crosses my desk as it regards the RTC -- or any issue for that matter -- contains only those materials which I should be seeing -- and nothing else.

We have a thick manual at the department about how information flows to my office. I insist on written briefings. It makes the best use of my time. It's the best way I've found to absorb information. When I'm asked for a decision, I expect a memo that gives me the background, lays out the options, tells me what the staff recommends. That way I can either make the decision, or let my staff know I want more information or want a meeting on the issue. That's how I deal with substantive issues, not in some bull session.

In short, I have a very organized office procedure. I have run my offices like that for years -- in business, in the Senate, and at the Treasury Department.

Mr. Chairman, if someone on my staff wanted to communicate with me in a meaningful way, this is how they would have done it. Through my in-box, with a memo, with a meeting on which I was briefed, in writing. That's not to say I don't have occasional impromptu visits from or conversations with my staff. That often happens if there's a developing crisis that must be dealt with. But for matters of any import, I prefer paper.

I asked my staff to go back and look at my office records to see what I was involved in over the period in which the committee is interested. From the 23rd of September last year until March 21 of this year, I had nearly 800 meetings on 560 topics. I attended 130 meetings at the White House, met with 51 members of Congress, and testified on the Hill 11 times. I received more than 500 written briefings to prepare for my meetings. I delivered 60 speeches, gave 80 interviews, had 25 press conferences. I received over 2,400 memos. And during that period I traveled to seven countries and nine states.

This entire issue revolves around meetings that I understand were on the issue of handling press inquiries about the Madison Guaranty referral, or on the procedures the RTC would follow in pursuing civil claims. There are differing recollections, but they are about actions that two independent investigations tell us broke no criminal law and violated no ethical standard.

I have turned the Treasury Department upside down. I've turned my memory inside out. We went through thousands and thousands of documents and can't find one written briefing to me on these White House meetings. It wasn't until March 3rd that I learned the extent of these meetings. I issued a statement about the meetings and said that I had not attended them and did not know about them.

I may be walled off from most RTC matters, but I am responsible for what happens at the Treasury Department, and I accept that responsibility. I immediately asked the Office of Government Ethics to examine these contacts. They're a nonpartisan agency. They're the experts.

In preparing for this hearing, I agreed to the committee request to avoid looking at materials regarding the case until I gave my deposition to the committee staff. I agreed to that request, although it frustrated me because I wanted to wade into this and find out all I could. I had to wait over four months to start looking at these papers.

After I gave my deposition last week, I sat down and began to read through the material. I saw nothing that changes my recollection.

Let me lay out for you what my basic recollection is about these matters.

First, I read in the press sometime in October about criminal referrals and Madison Guaranty. Second, on February 1, Roger Altman and Jean Hanson came to my office. Roger told me he was thinking of recusing himself, and the other subject that came up was the legislation on extending the statute of limitations. Later that month Roger told me he had decided not to recuse himself.

On February 23rd, I met with Roger and Jean Hanson briefly in advance of the RTC oversight hearing the 24th. I again told Roger the recusal issue was a personal issue for him. On the 25th of February, I learned that Roger had testified the day before as to one meeting with people from the White House, and that he had recused himself. On March 3rd, I read in the press about two additional meetings. It was then that I asked for the OGE examination of the contacts and issued my statement.

Now, I would like to review the subsequent events.

Our Treasury Department Inspector General's office was asked to support the OGE examination. Mr. Fiske, the Independent Counsel, was already looking at this from the standpoint of the criminal statutes.

After I asked the OGE to examine the ethics issues involved, Mr. Fiske asked the Treasury IG to suspend his work while Mr. Fiske's investigation was under way. And the OGE also independently decided it would hold off until Mr. Fiske's work was complete so as not to interfere.

I want to point out the lengths to which the Treasury Department, at my direction, went to cooperate with Mr. Fiske, with the IG and with the congressional committees.

Every scrap of paper that remotely looked like it might conceivably have some relation to the Madison Guaranty savings and loan, or to contacts with the White House, was turned over to various investigators -- something on the order of 6,500 pages. We went through hundreds of thousands of documents with investigators to find the ones they needed. We used extra warehouse space to hold back our trash.

I brought in professional investigators from the IRS to go through the top offices in Treasury -- mine included. We removed computers from the offices of those involved, including those used by the support staff, and had experts go through them to find anything that would be useful. We worked around the clock, quite literally. We searched offices nationwide to see what could be found. And my staff was always promptly available to Mr. Fiske, the IG, and congressional investigators to answer questions.

Now, when Mr. Fiske completed his report on this phase of his investigation and concluded that no criminal laws were broken, I asked the OGE to complete its examination of the contacts and report back to me.

Over the past weekend I received the OGE report. I released it to the public, and then I sent it to the President's counsel. I also sent it to every member of this committee and the House Banking Committee.

The Office of Government Ethics, after a careful analysis of the independently-gathered facts, says I can conclude that those working at the Treasury did not, repeat did not violate any of the standards of ethical conduct for employees of the executive branch of government.

I heard a senator say something the other day that stuck with me. He said that in this town, an allegation is synonymous with conviction, without benefit of a trial or hearing.

Clearly, in retrospect, it might have been better if some of these meetings or contacts had not taken place, or had occurred in a different context. But when you boil it down, no criminal law was broken, and the people who work at Treasury did not violate the ethical standards. And no one at Treasury intervened in any way or interfered in any RTC action.

The OGE report did say it was troubled by some of the contacts, and it raised important issues that I believe should be addressed.

The OGE said it appeared there were misconceptions by Treasury officials that may have contributed to the contacts. Those include a possible lack of appreciation of the difference between a Treasury function and one belonging to the Resolution Trust Corporation, and what rules apply. They also include a misconception about the standard on the use of nonpublic information, and a misconception about the function of a recusal.

Those are very good points. I would point out the unique situation in which these contacts occurred no longer exists. Mr. Altman is no longer acting CEO of the RTC. And there no longer are lines of responsibility here that could give rise to misconceptions about job functions and the rules that apply. So the possibility for a jumbling of roles and a confusion about the rules has been greatly lessened.

I've only had this report for a few days, and I'm not going to make any knee-jerk reaction to what clearly are complex issues involving management of Treasury functions. I want to reserve judgment on that. I'm not going to make my decisions in the heat of debate. I will study this information -- and any thoughts the committee might have -- and take whatever steps I consider appropriate.

Before I conclude my testimony, I want to remind the committee of one important point: The Treasury Department has a law enforcement role, as do a number of other government agencies. It is critical that the Department be able to communicate with other agencies, and the White House when necessary. Let me give you some examples: The White House may need to know that the Secret Service is investigating a crime in which a visiting dignitary is involved. Or ATF and Customs might have an arms export case involving high officials of this government, or of a foreign country.

Clearly, there is a legitimate need to discuss matters, in the proper forums, with the proper individuals. There must be a mechanism in which public officials can communicate with one another without fear they're stepping over the line.

We've seen how grey areas can be -- where there's one set of rules at the RTC, and another at Treasury. And we've seen how there sometimes is no bright white line that gives public officials the guidance they need.

I have written the Attorney General, our Inspector General, and the Office of Government Ethics. I want to work with them -- and the members of this committee -- to see what remedies might be available to offer our employees better guidance. And it should be clearer for our officials how to handle the issue of confidential information as it regards press inquiries.

Mr. Chairman, members of the committee, two quick points in closing. First, I've been in public service for nearly 30 years. I've seen everything from the McCarthy hearings to Watergate, Iran-Contra, the Church Committee, all of it. What you have here is a unique confluence of circumstances that, when you strip away all the rhetoric, resulted in actions that broke no criminal law, did not violate the ethics rules and did not in any way affect the Madison case. I think that when Congress concludes these hearings, Congress and Americans who have followed this matter, will conclude the same. And finally, I am proud that throughout it all the Treasury Department has continued to operate at 100 percent and done a good job.

-30-

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
AUGUST 4, 1994

Contact: Howard Schloss
202-622-2960

BENTSEN ASKS AGENCIES TO ASSIST ON CONTACT GUIDELINES

Treasury Secretary Lloyd Bentsen Thursday asked the Justice Department, the Office of Government Ethics and Treasury's senior investigator to help better define the rules under which law enforcement officials discuss sensitive information.

Acting on issues pointed out in an Office of Government Ethics report on contacts between senior Treasury officials and the White House, Bentsen wrote the agencies seeking assistance in helping to "develop guidance for senior officials and career employees."

The letter went to Attorney General Janet Reno, OGE Director Stephen Potts, and Robert Cesca, Deputy Inspector General of the Treasury Department.

"This issue cuts across agency lines," Bentsen said in releasing the letters. "It is not unique to the Treasury Department. Every law enforcement agency faces similar problems in contacts not only with the White House but with other agencies."

The OGE report, while it said Treasury officials violated no ethical guidelines in discussing the Madison Guaranty S&L case with White House officials, pointed up areas of concern it labeled "troubling." The report said it appeared there were misconceptions that might have contributed to the contacts. Those included a possible lack of appreciation of the difference between a Treasury function and a Resolution Trust Corp. function, and what rules applied to each role. It also noted a misconception about standards on the use of nonpublic information, on the function of a recusal, and on the handling of nonpublic information in responding to press inquiries.

Bentsen asked Under Secretary for Enforcement Ron Noble to work with the three agencies in examining ways to provide clearer guidelines for senior political and career officials.

-30-

LB-999

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

SECRETARY OF THE TREASURY

August 4, 1994

The Honorable Janet Reno
Attorney General of the United States
U.S. Department of Justice
10th & Constitution Avenue, N.W.
Washington, D.C. 20530

Dear Madam Attorney General:

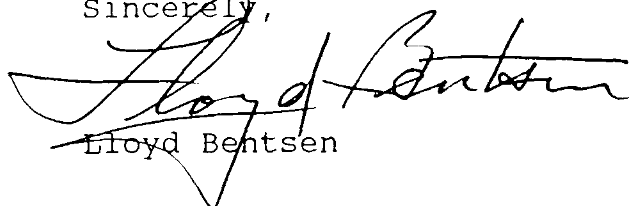
As you may have read, a number of meetings of White House and Treasury senior officials occurred over the past ten months. These meetings, and other contacts, have been the subject of investigations by the Independent Counsel, the Office of Government Ethics (OGE) and the House and Senate Banking Committees. The OGE review was done at my request.

Mr. Fiske determined in late June that there was insufficient evidence to bring any criminal prosecution, and the Office of Government Ethics recently issued a Report to me, a copy of which is enclosed, which stated that I might "reasonably conclude that the conduct detailed in the report of officials presently employed by the Department of the Treasury did not violate the Standards of Ethical Conduct for Employees of the Executive Branch."

The Report noted, however, that many of the contacts were troubling. One aspect the OGE found troubling was in the area of the disclosure of non-public information to the White House, especially that which deals with a law enforcement matter. In that regard, I informed the Senate Committee yesterday and intend to inform the House Committee this morning that I will be conferring with your Department, the Office of the Inspector General and the OGE to develop guidance for senior officials and career employees.

Mr. Edward S. Knight, my Executive Secretary and Senior Advisor, spoke with Deputy Attorney General Gorelick Tuesday evening in order to initiate this process. I look to you for counsel and assistance in this area because the issue cuts across all Departments and agencies which have law enforcement functions. Under Secretary Noble will be assisting me in this effort, and I hope you will provide advice and leadership in this matter.

Sincerely,



Lloyd Bentsen

Enclosure

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

ECRETARY OF THE TREASURY

August 4, 1994

The Honorable Stephen D. Potts
Director
Office of Government Ethics
1201 New York Avenue, N.W. #500
Washington, D.C. 20005

Dear Director Potts:

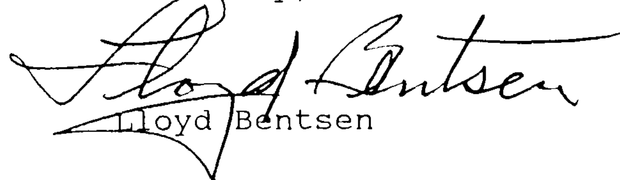
Let me thank you again for the outstanding work the men and women of your Office did in the review of the White House-Treasury contacts relating to Madison Guaranty Savings & Loan. As usual, the work was performed in a manner that was thorough, objective and professional.

As you know last Sunday I released the Report prepared by your Office to the public and to Congress. The Report stated that I might "reasonably conclude that the conduct detailed in the report of officials presently employed in the Department of the Treasury did not violate the Standards of Ethical Conduct for Employees of the Executive Branch." We, of course, were very happy to receive this information.

However, the Report noted that many of the contacts were troubling. One aspect the OGE found troubling was in the area of the disclosure of non-public information to the White House, especially that which deals with a law enforcement matter. In that regard, I informed the Senate Banking Committee yesterday and intend to inform the House Banking Committee this morning that I will be conferring with your Office, the Department of Justice and Treasury's Office of Inspector General to develop guidance for senior officials and career employees.

Given the experience and expertise of your Office, I look to you for advice and assistance in this area. Under Secretary Ronald K. Noble will be assisting me in this effort, and I hope that you will assist us in this matter.

Sincerely,



Lloyd Bentsen

Enclosure

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

SECRETARY OF THE TREASURY

August 4, 1994

Mr. Robert P. Cesca
Deputy Inspector General
Office of the Inspector General
U.S. Department of the Treasury
1500 Pennsylvania Ave., N.W.
Washington, D.C. 20220

Dear Mr. Cesca:

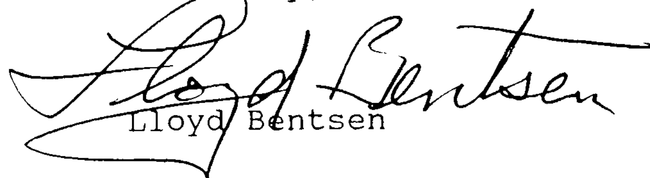
Let me thank you again for the outstanding work the men and women of your Office did in support of the work of review by the Office of Government Ethics of the White House-Treasury contacts relating to Madison Guaranty Savings & Loan. As usual, the work was performed in a manner that was thorough, objective and professional.

As you know last Sunday I released the OGE Report to the public and to Congress. I have enclosed a copy for your information. The Report stated that I might "reasonably conclude that the conduct detailed in the report of officials presently employed in the Department of the Treasury did not violate the Standards of Ethical Conduct for Employees of the Executive Branch."

However, the Report noted that many of the contacts were troubling. One aspect the OGE found troubling was in the area of the disclosure of non-public information to the White House, especially that which deals with a law enforcement matter. In that regard, I informed the Senate Banking Committee yesterday and intend to inform the House Banking Committee this morning that I will be conferring with your Office, the Department of Justice and the OGE to develop guidance for senior officials and career employees.

Given the experience and expertise of your Office, I look to you for advice and assistance in this area. Under Secretary Ronald K. Noble will be assisting me in this effort, and I hope that you will assist us in this matter.

Sincerely,



Lloyd Bentsen

Enclosure

DEPARTMENT OF THE TREASURY

TREASURY NEWS

1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 4, 1994

CONTACT: Office of Financing
202/219-3350

AMENDED CASH MANAGEMENT BILL ANNOUNCEMENT

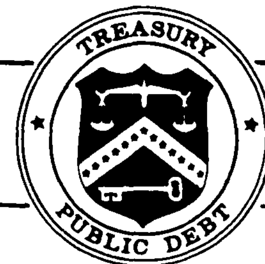
The cash management bill offering which was announced yesterday, August 3, 1994, understated the amount currently outstanding. The total amount maturing September 22, 1994, should have been shown as $46,845 million (so as to include the 69-day cash management bill issued July 15, 1994, in the amount of $6,035 million), rather than the $40,810 million stated in the press release.

All other particulars in the announcement remain the same.

oOo

LB-1000

PUBLIC DEBT NEWS



'epartment of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR RELEASE AT 3:00 PM
August 4, 1994

Contact: Peter Hollenbach
(202) 219-3302

PUBLIC DEBT ANNOUNCES ACTIVITY FOR SECURITIES IN THE STRIPS PROGRAM FOR JULY 1994

Treasury's Bureau of the Public Debt announced activity figures for the month of July 1994, of securities within the Separate Trading of Registered Interest and Principal of Securities program (STRIPS).

Dollar Amounts in Thousands

Principal Outstanding (Eligible Securities)	$778,599,149
Held in Unstripped Form	$556,069,297
Held in Stripped Form	$222,529,852
Reconstituted in July	$7,794,918

The accompanying table gives a breakdown of STRIPS activity by individual loan description. The balances in this table are subject to audit and subsequent revision. These monthly figures are included in Table VI of the Monthly Statement of the Public Debt, entitled "Holdings of Treasury Securities in Stripped Form."

Information about "Holdings of Treasury Securities in Stripped Form" is now available on the Department of Commerce's Economic Bulletin Board (EBB). The EBB, which can be accessed using personal computers, is an inexpensive service provided by the Department of Commerce. For more information concerning this service call 202-482-1986.

oOo

PA-153

(LB-1001)

TABLE VI--HOLDINGS OF TREASURY SECURITIES IN STRIPPED FORM, JULY 31, 1994
(In thousands)

an Description	Maturity Date	Principal Amount Outstanding			Reconstituted This Month#1
		Total	Portion Held in Unstripped Form	Portion Held in Stripped Form	
% Note C-1994.....	.....11/15/94.....	$6,658,554	$4,468,154	$2,190,400	$32,000
% Note A-1995.....	.....2/15/95......	6,933,861	5,697,701	1,236,160	108,800
% Note B-1995.....	.....5/15/95......	7,127,086	4,536,846	2,590,240	24,800
% Note C-1995.....	.....8/15/95......	7,955,901	5,255,101	2,700,800	35,600
Note D-1995......	.....11/15/95.....	7,318,550	3,778,150	3,540,400	45,200
Note A-1996......	.....2/15/96......	8,446,008	6,975,608	1,470,400	-0-
Note C-1996......	.....5/15/96......	20,085,643	18,823,243	1,262,400	96,000
Note D-1996......	.....11/15/96.....	20,258,810	17,973,210	2,285,600	38,400
Note A-1997......	.....5/15/97......	9,921,237	8,734,837	1,186,400	16,800
Note B-1997......	.....8/15/97......	9,362,836	7,914,836	1,448,000	28,800
Note C-1997......	.....11/15/97.....	9,808,329	7,779,529	2,028,800	38,400
Note A-1998......	.....2/15/98......	9,159,068	8,286,108	872,960	90,880
e B-1998..........	.....5/15/98......	9,165,387	6,784,187	2,381,200	52,000
Note C-1998......	.....8/15/98......	11,342,646	9,301,846	2,040,800	105,600
Note D-1998......	.....11/15/98.....	9,902,875	7,142,875	2,760,000	120,000
Note A-1999......	.....2/15/99......	9,719,623	8,153,223	1,566,400	38,400
Note B-1999......	.....5/15/99......	10,047,103	6,717,503	3,329,600	52,800
e C-1999..........	.....8/15/99......	10,163,644	8,004,369	2,159,275	34,100
Note D-1999......	.....11/15/99.....	10,773,960	8,068,360	2,705,600	-0-
Note A-2000......	.....2/15/00......	10,673,033	9,359,833	1,313,200	29,600
Note B-2000......	.....5/15/00......	10,496,230	6,197,030	4,299,200	-0-
Note C-2000......	.....8/15/00......	11,080,646	8,066,086	3,014,560	24,800
Note D-2000......	.....11/15/00.....	11,519,682	9,025,282	2,494,400	24,800
Note A-2001......	.....2/15/01......	11,312,802	9,412,802	1,900,000	75,200
e B-2001..........	.....5/15/01......	12,398,083	10,020,358	2,377,725	-0-
Note C-2001......	.....8/15/01......	12,339,185	10,497,585	1,841,600	72,000
Note D-2001......	.....11/15/01.....	24,226,102	22,857,142	1,368,960	163,680
Note A-2002......	.....5/15/02......	11,714,397	10,970,637	743,760	85,040
Note B-2002......	.....8/15/02......	23,859,015	23,446,215	412,800	-0-
Note A-2003......	.....2/15/03......	23,562,691	23,534,339	28,352	-0-
Note B-2003......	.....8/15/03......	28,011,028	27,867,828	143,200	-0-
Note A-2004......	.....2/15/04......	12,955,077	12,955,077	-0-	-0-
Note B-2004......	.....5/15/04......	14,440,372	14,440,372	-0-	-0-
% Bond 2004.......	.....11/15/04.....	8,301,806	5,559,406	2,742,400	64,000
nd 2005...........	.....5/15/05......	4,260,758	3,238,258	1,022,500	230,000
% Bond 2005.......	.....8/15/05......	9,269,713	8,474,513	795,200	90,400
Bond 2006........	.....2/15/06......	4,755,916	4,755,276	640	-0-
% Bond 2009-14....	.....11/15/14.....	6,005,584	2,007,184	3,998,400	319,200
% Bond 2015.......	.....2/15/15......	12,667,799	4,936,279	7,731,520	402,080
% Bond 2015.......	.....8/15/15......	7,149,916	2,197,596	4,952,320	133,120
Bond 2015........	.....11/15/15.....	6,899,859	2,352,659	4,547,200	36,800
Bond 2016........	.....2/15/16......	7,266,854	6,316,454	950,400	-0-
Bond 2016........	.....5/15/16......	18,823,551	18,406,751	416,800	4,800
Bond 2016........	.....11/15/16.....	18,864,448	17,959,888	904,560	6,240

TABLE VI--HOLDINGS OF TREASURY SECURITIES IN STRIPPED FORM, JULY 31, 1994
(In thousands)

Loan Description	Maturity Date	Principal Amount Outstanding: Total	Principal Amount Outstanding: Portion Held in Unstripped Form	Principal Amount Outstanding: Portion Held in Stripped Form	Reconstituted This Month#1
8-3/4% Bond 2017........	.....5/15/17......	18,194,169	6,044,889	12,149,280	694,400
8-7/8% Bond 2017........	.....8/15/17......	14,016,858	6,485,658	7,531,200	867,200
9-1/8% Bond 2018........	.....5/15/18......	8,708,639	2,243,039	6,465,600	446,400
9% Bond 2018............	.....11/15/18.....	9,032,870	1,291,470	7,741,400	89,400
8-7/8% Bond 2019........	.....2/15/19......	19,250,798	4,509,998	14,740,800	488,000
8-1/8% Bond 2019........	.....8/15/19......	20,213,832	17,515,592	2,698,240	174,720
8-1/2% Bond 2020........	.....2/15/20......	10,228,868	4,377,668	5,851,200	224,800
8-3/4% Bond 2020........	.....5/15/20......	10,158,883	3,525,443	6,633,440	152,640
8-3/4% Bond 2020........	.....8/15/20......	21,418,606	4,101,326	17,317,280	481,760
7-7/8% Bond 2021........	.....2/15/21......	11,113,373	9,340,573	1,772,800	105,600
8-1/8% Bond 2021........	.....5/15/21......	11,958,888	4,325,608	7,633,280	127,680
8-1/8% Bond 2021........	.....8/15/21......	12,163,482	4,872,922	7,290,560	283,200
8% Bond 2021............	.....11/15/21.....	32,798,394	7,724,594	25,073,800	533,050
7-1/4% Bond 2022........	.....8/15/22......	10,352,790	8,551,990	1,800,800	142,400
7-5/8% Bond 2022........	.....11/15/22.....	10,699,626	3,986,026	6,713,600	177,600
7-1/8% Bond 2023........	.....2/15/23......	18,374,361	15,067,161	3,307,200	81,600
6-1/4% Bond 2023........	.....8/15/23......	22,909,044	22,854,804	54,240	4,128
Total.................	....	778,599,149	556,069,297	222,529,852	7,794,918

#1Effective May 1, 1987, securities held in stripped form were eligible for reconstitution to their unstripped form.

Note: On the 4th workday of each month Table VI will be available after 3:00 pm eastern time on the Commerce Department's Economic Bulletin Board (EBB). The telephone number for more information about EBB is (202) 482-1986. The balances in this table are subject to audit and subsequent adjustments.

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

STATEMENT BY DENNIS I. FOREMAN, DEPUTY GENERAL COUNSEL,

DEPARTMENT OF THE TREASURY,

BEFORE THE SENATE COMMITTEE ON BANKING, HOUSING

AND URBAN AFFAIRS

AUGUST 2, 1994

LB-1002

STATEMENT BY DENNIS I. FOREMAN,
DEPUTY GENERAL COUNSEL, DEPARTMENT OF THE TREASURY,
BEFORE THE
SENATE COMMITTEE ON BANKING, HOUSING AND URBAN AFFAIRS.
August 2, 1994

Good morning, Mr. Chairman, Members of the Committee.

My name is Dennis Foreman and I am the Deputy General Counsel of the Treasury Department. I have been in the public service for nearly 24 years. I am a Vietnam veteran, having served in the U.S. Army's Airborne Special Forces. I was with the U.S. Foreign Service for five years, including postings to Beirut, Tunis, and the U.S. Mission to the United Nations in New York. I have worked in four executive branch legal offices. In 1989, I was selected to be the Assistant Legal Advisor for Ethics and Personnel at the Department of State, which was my first position with ethics responsibilities. In January, 1991, I was appointed to the Treasury Deputy General Counsel position, which carries with it the responsibilities of the Designated Agency Ethics Official.

I am appearing here today at the committee's request to discuss matters pursuant to Senate resolution 229. Because of my position as the senior ethics official at Treasury, I have certain responsibilities. To put those responsibilities in proper perspective, I think it is appropriate to briefly review some of the events in which I was involved.

My involvement in, and knowledge of, the events leading up to the February 2, 1994 meeting at the White House was very limited. In January, 1994, I read press stories about Madison Guaranty which stated that some type of civil claims were being reviewed by the Resolution Trust Corporation. I also specifically remember reading a letter from Senator D'Amato to Mr. Altman dated January 25, 1994 that referred to civil claims involving Madison, the statute of limitations, and "tolling agreements." Senator D'Amato's letter noted that there was a deadline for action in late February. At that time, someone — I have no recollection as to who it may have been — explained to me that these terms related to normal RTC procedural actions relating to insolvent thrifts. I was told that the civil claims were being reviewed under routine procedures within the RTC. I believe I also read this comment in Mr. Altman's February 1, 1994

response to Senator D'Amato.

I also understood that action on the substance of the civil claims might eventually be presented to the interim CEO for decision, although no proposed action was yet on his desk. This, then, brought up the question as to whether Mr. Altman should recuse himself from consideration of the matter even before it arrived. In late January or early February, Jean Hanson asked me for my views on whether Mr. Altman should recuse himself because of his friendship with the President. I told her that I had not undertaken any legal analysis to determine whether there was a legal requirement that he recuse, but that my own first reaction was that he should recuse himself. Ms. Hanson commented that she agreed with me.

Sometime after our first discussion, Ms. Hanson told me that she had discussed the recusal with Mr. Altman, and that he was "leaning" toward recusal. In mid-afternoon of Wednesday, February 2, Ms. Hanson entered my office and said something like: "We're going over to the White House in a few minutes. Please look at these talking points." I remember scanning the points quickly and recognizing that they noted generally the same procedural points regarding the statute

of limitations and tolling agreements that I had seen mentioned previously in the press and in Senator D'Amato's letter. The talking points did not mention anything about the substance of the Madison civil claims.

I believe that I said aloud something like "This is OK. This is public information." I based my comment in general on information I had seen in the press and the congressional letters. I did not believe that this was "nonpublic information." If it had been, I would have considered the matter further in terms of the Standards of Conduct, particularly section 5 C.F.R. 2635.703, the "Use of nonpublic information."

The final talking point indicated that Mr. Altman had already decided to recuse himself. I remembered that Ms. Hanson had told me that he was "leaning" toward recusal, and I questioned whether he had made a final decision. I do not remember Ms. Hanson's response, if any.

My review of the talking points and the brief discussion with Ms. Hanson lasted no longer than 2-3 minutes and my analysis centered on the public information issue. Based on the talking points I reviewed, I

do not believe that the meeting violated any ethics regulation. The Office of Government Ethics has agreed with my conclusion.

Based on press comments, there seems to be some confusion about the issue of appearance of impropriety. For there to be an appearance that leads to a violation of the regulations, it is not enough that there is public controversy, or criticism, or even a public uproar. The standard, under the regulations, is whether a reasonable person, with knowledge of the relevant facts, would believe that the regulations have been violated. According to the talking points I reviewed, the information to be discussed at the meeting was procedural and generally public. Moreover, to the best of my knowledge, no action was taken relating to the actual handling of the substance of the Madison civil claims themselves. Hence, I do not believe that a reasonable person with knowledge of the relevant facts would believe that the ethics regulations were violated. Again, I am pleased that the Office of Government Ethics reached the same conclusion.

On February 3, Mr. Altman received a letter from Congressman Leach, asking him to confer with "Treasury's General Counsel and

ethics officers" to consider a recusal from the Madison matter. On the evening of February 2 , or on February 3, Ms. Hanson told me that Mr. Nussbaum thought that I, as the Treasury ethics lawyer, should talk to the senior ethics lawyer for his office, Beth Nolan, about the question of Mr. Altman's possible recusal. I talked to Ms. Nolan on February 4 and informed her that Treasury, RTC and OGE were going to undertake the legal analysis related to recusal. I also informed her that I was only going to discuss procedure, and that I had no knowledge about any of the substantive issues related to Madison. Ms. Nolan's notes indicate that we had a similar phone conversation on February 9. The only comment I remember Ms. Nolan making on this subject was that the conclusion could become a precedent for similar circumstances in the future.

Later, on February 4, I went to the Office of Government Ethics, and had a similar conversation with Donald Campbell, the Deputy Director, and Gary Davis, the General Counsel. I noted again that I had no knowledge of the substance of the civil claims relating to Madison, explained the procedural framework, and said that I had informed Ms. Nolan that we were going to analyze the legal issues with OGE and

RTC ethics officials. The OGE officials said they would work with Treasury and the RTC on the question.

A few days later, Mr. Altman, Ms. Hanson, Ellen Kulka, RTC's General Counsel, and Arthur Kusinski, RTC's senior ethics official, and I met with Mr. Altman to discuss the recusal issue. Mr. Altman directed us to ensure that our legal research and analysis was complete, thorough, and accurate. In the following days, I worked on, and concurred in, the legal analysis and ethics opinion that was sent to Mr. Altman on February 18, 1994, by Mr. Kusinski. The Office of Government Ethics also concurred in that opinion. In essence, that opinion said that there was no legal requirement that Mr. Altman recuse himself from Madison related matters. I sent Mr. Kusinski's memorandum with my own cover note reiterating my concurrence to Mr. Altman on February 23 to ensure that there was no doubt about Treasury, RTC and OGE consensus on this issue.

I believe that there is another source of confusion in the public discussion about these meetings. Do they present issues of "ethics" or questions of "judgment." The word "unethical" has a connotation of something improper. The word "judgment" goes to the subjective

reasoning power of human beings and possible human error, not improper behavior.

In my years as an ethics lawyer, I have always said to federal employees that if they check with us about some proposed action, and give us information about the context, and if we don't object to the activity, then criticism for the ethics call should shift to the ethics lawyer. For the February 2 meeting talking points, that ethics lawyer is me. I had an opportunity to object to the meeting, but didn't do so. I didn't object because there was nothing objectionable. It is not only unfair but inaccurate to criticize Mr. Altman or Ms. Hanson for doing something "unethical" in relation to the February meeting. That is my responsibility.

That leaves the issue of judgment. As I noted before, I suggest that this be analyzed as a question of human reasoning power, rather than one of improper behavior.

Finally, one more comment. In my experience, ethics issues arise all the time in federal agencies, both as considerations in decision-making and in connection with financial disclosure and other requirements applicable to officials appointed by the President.

Secretary Bentsen introduced me to his new staff on the morning of January 21, 1993 and turned that first staff meeting over to me for a ninety minute seminar on government ethics. The Secretary made it clear that ethical considerations were a matter of great importance for him. Based on my frequent interaction with the senior officials at Treasury for the last 18 months, I believe that those officials have worked hard to conform to the many complex ethics rules applicable to senior federal officials. I have the highest regard for their ability, integrity and professionalism.

Thank you, Mr. Chairman. I will be pleased to respond to any questions by members of the committee.

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

Prepared Remarks of J. Benjamin H. Nye
before the Senate Committee on Banking, Housing, and Urban Affairs

August 2, 1994

Mr Chairman and members of the Committee. My name is Benjamin Nye and I welcome the opportunity to appear here today.

I would like to provide you with a brief summary of my background for the benefit of the committee and an outline of my role in the matter at hand. Prior to working at Treasury I worked in Boston as a business consultant in the strategy group of a firm called Mercer Management Consulting. I left in early February of 1993 to begin work in public service, and have since worked at the Treasury Department for the past one and a half years.

I first joined Treasury as the special assistant to the Assistant Secretary for Economic Policy. There I served as both a chief of staff, managing 54 people and the office budget, as well as a policy advisor to the Assistant Secretary on issues such as the 1993 budget bill, the earned income tax credit expansion, the auto task force, and several other issues.

I then succeeded Josh Steiner as special assistant to the Deputy Secretary. I began working for Roger Altman in early September of 1993, and I still do so today.

My involvement in events related to Madison Guaranty comes through meetings I attended within Treasury and at the RTC. I did not attend any of the White House meetings that have been the subject of these hearings. Furthermore, I did not have any phone conversations with anyone at the White House on this matter. And finally, I did not know of the Treasury-White House meetings which occurred before February 2nd and which did not include the Deputy Secretary himself.

In conclusion, I would like to state for the record that I have the utmost respect for the integrity of the people with whom I work at Treasury. Roger Altman, Jean Hanson, and Joshua Steiner are friends yes, but more importantly I know them to be honest, forthright, and credible. I trust that at the conclusion of these hearings you will know them to be so too.

Now, I would be happy to answer any questions you may have.

LB-1003

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

EMBARGOED UNTIL DELIVERY
Expected at 9:30 A.M.

STATEMENT OF JOSHUA L. STEINER

CHIEF OF STAFF

U.S. DEPARTMENT OF THE TREASURY

BEFORE THE COMMITTEE ON BANKING,
HOUSING, AND URBAN AFFAIRS
UNITED STATES SENATE

AUGUST 2, 1994

1004

August 2, 1994

Mr. Chairman, Senator D'Amato, Members of this Committee:

My name is Joshua Steiner and I serve as the Chief of Staff at the Department of the Treasury. Before joining the Treasury Department, I was Executive Assistant to Timothy Healy, the President of the New York Public Library.

I am here today to answer your questions and help clarify any outstanding issues concerning contacts between the Treasury Department and the White House on the Resolution Trust Corporation's investigation of Madison Guaranty. I have cooperated fully with all investigations into this matter including those conducted by Mr. Fiske, the Office of Government Ethics and Congressional committees.

Several members of this Committee have commented on my personal diary and, if I might, I would like to make one brief point about it.

I started keeping this diary nearly six years ago. I would write in it fairly infrequently -- sometimes every two weeks, other times six weeks would go by before I made an entry. Indeed, some of the entries of interest to this Committee describe events that occurred nearly a month before I wrote about them.

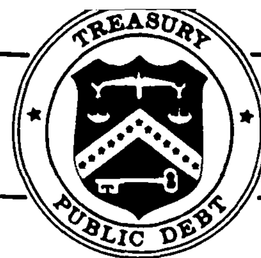
I made no effort to check the accuracy of my diary because this was never intended to be a precise narrative or a verbatim account of what took place. At times, it included impressions of meetings that I did not even attend. It was, more than anything, a way to reflect on events and draw lessons from my personal and professional experiences.

Today, you will ask me questions under oath and I hope my answers will clarify the entries I made in my diary. Since the time I first made these entries, I have had a chance to reflect about precisely what I know.

I wish that my diary was more accurate, but I take my responsibility to this Committee very seriously and I feel obligated to present the facts as truthfully as I possibly can.

Thank you.

PUBLIC DEBT NEWS



Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 4, 1994

Contact: Peter Hollenbach
(202) 219-3302

JULY SAVINGS BONDS SALES REACH $626 MILLION

Savings Bonds sales in July reached $626 million, pushing the value of U.S. Savings Bonds held by Americans to $177.7 billion, up 6 percent over a year ago.

Savings Bonds issued on or after March 1, 1993, and held five years or longer, earn the market-based interest rate if it averages more than the guaranteed minimum of 4 percent. If redeemed during the first five years, bonds earn 4 percent. Bonds issued before March 1993 retain their existing guaranteed minimum rates until they enter a new extended maturity period. The current semiannual market-based rate effective May 1, 1994, through October 31, 1994, is 4.70 percent.

Interest earnings on Savings Bonds are exempt from State and local income taxes, and Federal income taxes on the interest earnings can be deferred.

Current rate information can be obtained by calling the Savings Bonds Marketing Office's toll-free number, 1-800-4US-BOND.

-more-

PA-154

(LB-1005)

Removal Notice

The item identified below has been removed in accordance with FRASER's policy on handling sensitive information in digitization projects due to

Citation Information

Document Type:

Number of Pages Removed:

Author(s):

Title:

Date:

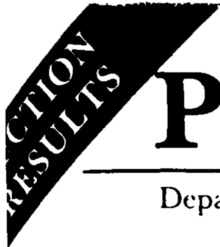
Journal:

Volume:

Page(s):

URL:

Federal Reserve Bank of St. Louis https://fraser.stlouisfed.org



PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 8, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 13-WEEK BILLS

Tenders for $12,430 million of 13-week bills to be issued August 11, 1994 and to mature November 10, 1994 were accepted today (CUSIP: 912794N91).

RANGE OF ACCEPTED COMPETITIVE BIDS:

	Discount Rate	Investment Rate	Price
Low	4.42%	4.53%	98.883
High	4.44%	4.55%	98.878
Average	4.43%	4.54%	98.880

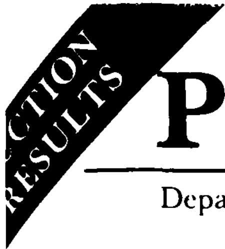
$100,000 was accepted at lower yields.
Tenders at the high discount rate were allotted 63%.
The investment rate is the equivalent coupon-issue yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$42,118,569	$12,429,904
Type		
Competitive	$36,678,808	$6,990,143
Noncompetitive	1,465,505	1,465,505
Subtotal, Public	$38,144,313	$8,455,648
Federal Reserve	3,186,210	3,186,210
Foreign Official Institutions	788,046	788,046
TOTALS	$42,118,569	$12,429,904

An additional $224,354 thousand of bills will be issued to foreign official institutions for new cash.

LB-1006



PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 8, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 26-WEEK BILLS

Tenders for $12,457 million of 26-week bills to be issued August 11, 1994 and to mature February 9, 1995 were accepted today (CUSIP: 912794Q49).

RANGE OF ACCEPTED
COMPETITIVE BIDS:

	Discount Rate	Investment Rate	Price
Low	4.92%	5.11%	97.513
High	4.93%	5.13%	97.508
Average	4.93%	5.13%	97.508

$10,000 was accepted at lower yields.
Tenders at the high discount rate were allotted 42%.
The investment rate is the equivalent coupon-issue yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$48,139,089	$12,457,070
Type		
Competitive	$42,167,352	$6,485,333
Noncompetitive	1,301,683	1,301,683
Subtotal, Public	$43,469,035	$7,787,016
Federal Reserve	3,400,000	3,400,000
Foreign Official Institutions	1,270,054	1,270,054
TOTALS	$48,139,089	$12,457,070

An additional $361,646 thousand of bills will be issued to foreign official institutions for new cash.

LB-1007

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

EMBARGOED UNTIL 1:00 P.M.
August 9, 1994

STATEMENT OF
GLEN A. KOHL
TAX LEGISLATIVE COUNSEL
DEPARTMENT OF THE TREASURY
BEFORE THE
WAYS AND MEANS SUBCOMMITTEE ON SELECT REVENUE MEASURES
AND THE
WAYS AND MEANS SUBCOMMITTEE ON OVERSIGHT
U.S. HOUSE OF REPRESENTATIVES

Honorable Chairmen and members of the Subcommittees:

Thank you for the opportunity to present the views of the Administration on the proposal to modify the legal restrictions on the use of tax-exempt bonds for certain non-profit healthcare providers. Specifically, the proposal would eliminate the $150 million cap on the amount of tax-exempt bonds that may be outstanding for the benefit of certain health-related facilities operated by qualifying section 501(c)(3) organizations. In summary, for the reasons outlined below, the Administration does not oppose the proposal, provided it is financed with an appropriate revenue offset.

Background

General rules for tax-exempt bonds. Generally, the interest on the obligations of a State or political subdivision is excluded from gross income. Tax-exempt bonds provide a subsidy to the ultimate borrower in the form of lower interest rates. Under the tax-exempt bond rules, State and local governments are generally permitted to borrow on a tax-exempt basis to finance their direct activities. By contrast, unless a statutory exception applies, interest on private activity bonds--that is, bonds issued by State or local governments to finance the activities of private, nongovernmental entities--is taxable.

Tax-exempt private activity bonds. Exceptions to the general rule that interest on private activity bonds is taxable include bonds issued to provide funding for airports, rental housing, single family mortgages, and student loans, as well as bonds issued for the benefit of section 501(c)(3) organizations. Qualified private activity bonds are subject to a number of limitations that do not apply to other tax-exempt bonds. Most importantly, tax-exempt private activity bonds are generally subject to an annual volume cap that limits the amount of private activity bonds that can be issued in each year on a State-by-State basis. Thus, the aggregate volume of most tax-exempt private activity bonds is strictly limited.

However, this State volume cap does not apply to private activity bonds issued for section 501(c)(3) organizations. Instead, current law places a volume limitation on the particular section 501(c)(3) organization. Specifically, no single section 501(c)(3) organization may be the beneficiary of more than $150 million of outstanding tax-exempt bonds. However, in recognition of the large amounts of capital that these institutions require, this limitation does not apply to bonds to finance hospitals. Thus, there is currently no limitation on the amount of tax-exempt bonds that may be issued for the benefit of a section 501(c)(3) hospital. The term "hospital" is defined in the legislative history to mean acute care, primarily inpatient facilities.

Proposal and Administration's Position

The proposal would expand the exception to the $150 million limitation so that, rather than being limited to "hospitals," it would cover a broader class of health-related facilities. We do have some reservations regarding the proposal. First, the proposal would result in a revenue loss to the federal government. Second, tax-exempt bonds are an inefficient means of providing a subsidy when compared to other, more direct programs such as grants and direct loans. Also, the proposal may result in a greater than optimal percentage of healthcare resources being spent on capital intensive activities. Finally, we are also concerned that the proposal is inconsistent with the general tax policy objective of limiting tax-exempt bonds. The characterization of bonds for 501(c)(3) organizations as private activity bonds subject to the $150 million limitation is the only significant statutory limitation on the potential volume of these bonds.

Each of these matters is of concern to the Administration. Nevertheless, we recognize the importance of facilitating healthcare providers' ability to adapt to a changing healthcare environment. The range of healthcare providers needing large amounts of capital is no longer limited to "hospitals" within the current tax law definition. For example, the current definition of hospital does not appear to apply to a healthcare provider that wishes to build and finance more efficient, satellite clinics and similar facilities, in addition to its more traditional, inpatient facilities.

The proposal would also eliminate the arbitrariness of the $150 million limitation. Unlike the private activity bond volume cap, which is established based on the population of each State, the $150 million limitation is a flat limit that applies uniformly to both large and small institutions without regard to need or the relative scope of an organization's activities.

In summary, although we have concerns regarding the expanded use of tax-exempt bonds, this proposal provides important benefits, particularly with regard to healthcare reform. Therefore, we do not oppose the proposal to exempt health-related facilities from the $150 million limitation, provided that it is financed with an appropriate revenue offset.

* * *

This concludes my prepared remarks. I would be happy to answer any questions that you may have and Treasury would be pleased to work with your subcommittees as the proposal moves forward.

PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 9, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 3-YEAR NOTES

Tenders for $17,015 million of 3-year notes, Series X-1997, to be issued August 15, 1994 and to mature August 15, 1997 were accepted today (CUSIP: 912827Q70).

The interest rate on the notes will be 6 1/2%. The range of accepted bids and corresponding prices are as follows:

	Yield	Price
Low	6.59%	99.759
High	6.62%	99.678
Average	6.61%	99.705

$56,000 was accepted at lower yields.
Tenders at the high yield were allotted 45%.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$43,994,012	$17,014,837

The $17,015 million of accepted tenders includes $1,318 million of noncompetitive tenders and $15,697 million of competitive tenders from the public.

In addition, $1,098 million of tenders was awarded at the average price to Federal Reserve Banks as agents for foreign and international monetary authorities. An additional $2,013 million of tenders was also accepted at the average price from Federal Reserve Banks for their own account in exchange for maturing securities.

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE AT 2:30 P.M.
August 9, 1994

CONTACT: Office of Financing
202/219-3350

TREASURY'S WEEKLY BILL OFFERING

The Treasury will auction two series of Treasury bills totaling approximately $24,800 million, to be issued August 18, 1994. This offering will result in a paydown for the Treasury of about $550 million, as the maturing weekly bills are outstanding in the amount of $25,341 million.

Federal Reserve Banks hold $6,497 million of the maturing bills for their own accounts, which may be refunded within the offering amount at the weighted average discount rate of accepted competitive tenders.

Federal Reserve Banks hold $1,910 million as agents for foreign and international monetary authorities, which may be refunded within the offering amount at the weighted average discount rate of accepted competitive tenders. Additional amounts may be issued for such accounts if the aggregate amount of new bids exceeds the aggregate amount of maturing bills.

Tenders for the bills will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D. C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR Part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about each of the new securities are given in the attached offering highlights.

oOo

Attachment

LB - 1010

HIGHLIGHTS OF TREASURY OFFERINGS OF WEEKLY BILLS
TO BE ISSUED AUGUST 18, 1994

August 9, 1994

Offering Amount	$12,400 million	$12,400 million
Description of Offering:		
Term and type of security	91-day bill	182-day bill
CUSIP number	912794 L9 3	912794 Q5 6
Auction date	August 15, 1994	August 15, 1994
Issue date	August 18, 1994	August 18, 1994
Maturity date	November 17, 1994	February 16, 1995
Original issue date	November 18, 1993	August 18, 1994
Currently outstanding	$28,399 million	---
Minimum bid amount	$10,000	$10,000
Multiples	$ 1,000	$ 1,000

The following rules apply to all securities mentioned above:

Submission of Bids:

Noncompetitive bids . . . . Accepted in full up to $1,000,000 at the average discount rate of accepted competitive bids

Competitive bids . . . .
(1) Must be expressed as a discount rate with two decimals, e.g., 7.10%.
(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is $2 billion or greater.
(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.

Maximum Recognized Bid at a Single Yield . . . . 35% of public offering

Maximum Award . . . . 35% of public offering

Receipt of Tenders:

Noncompetitive tenders . . . . Prior to 12:00 noon Eastern Daylight Saving time on auction day

Competitive tenders . . . . Prior to 1:00 p.m. Eastern Daylight Saving time on auction day

Payment Terms . . . . Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
Text as Prepared for Delivery
August 10, 1994

REMARKS OF TREASURY SECRETARY LLOYD BENTSEN
DEMOCRATIC BUDGET GROUP
WASHINGTON D.C.

Last month, I was at the G-7 with the President. And we asked our trading partners: is it time to think about what we do after the Uruguay Round? What we do next? And they pointed back at us and said: we'll be glad to talk -- once Congress ratifies what's on the table now. They put the monkey right back on our backs.

The other countries don't have the problem we do. Britain, Germany, and France don't have a budget that says "Go make up $11-12 billion in lost revenues." We get no credit that once business expands because of this more revenues will come in. No credit that over the next 10 years, because of the increase in business, this could reduce the deficit by $60 billion.

Having been in the Senate, I know what happens if you waive the budget. It's a slippery slope down. And think about what would happen in the financial markets. They finally respect Washington for cutting the budget deficit. Do you want interest rates headed up because of the Uruguay Round?

The timing on this is bad. It's too close to an election. You know what happens when it gets close to an election -- you don't want to take tough votes. I don't blame you. And you have enough tough ones between health care and crime.

But we have to do this -- and now. Can you imagine the shockwave this would send around the world if the country that led the effort for seven years didn't ratify it?

I'm being told by CEOs that GATT is five times bigger for them than NAFTA. But GATT numbers are Washington's best-kept secrets.

This will help us export an extra $150 billion per year in 10 years. It will create between 300,000 and 700,000 jobs. Right now 10 million Americans owe their jobs to exports.

LB-1011

It will reduce global tariffs by one-third on manufactured goods. Overall, tariff cuts are far larger abroad, than in the U.S.. For example, in India it's 15 percent; Argentina, 13 percent; New Zealand, 12 percent; Thailand, 10 percent; Chile, 10 percent; and the European Union, 2.3 percent. In America, it's 1.6 percent.

This will protect intellectual property, especially in the pharmaceutical and software industries. Right now, the U.S. loses up to $60 billion a year in intellectual property rights violations. It also will open up service industry markets and require other countries to reduce quotas that keep out American products.

We did a study at Treasury and found the Uruguay Round will reduce worldwide tariffs on industrial commodities by $750 billion over the next 10 years. That makes it one of the biggest international tax cuts in history. I would think if congressmen were voting on a tax cut, you'd all be with us. We'd have 535 co-sponsors. But you're not all with us -- because some of you don't see it as a tax cut. And this may hurt some of your industries and some of your constituents. It's easier to criticize than to be positive.

But we have to start asking -- how can we in this country prepare for a world that 10 years from now, won't look anything like it does today? In the coming decades, three-quarters of all growth in world trade will come from developing countries. By the year 2010, countries like Argentina, Brazil, China, India, Indonesia, South Korea, Poland, Turkey, and South Africa will generate $900 billion in new export opportunities.

During the NAFTA and budget debates, I argued that you need to pass something, or else all you're left with is the status quo. This one's different. No Uruguay Round, and we don't even keep the status quo.

If we don't implement this, we'd be inviting other countries to cut preferential deals. This means our exporters may be paying higher tariffs than their competitors. That's not keeping the status quo, that's putting American companies 10 points down.

Sixty years ago, the average tariff on foreign goods was 60 percent in the United States. There have been eight GATT bargaining rounds -- and with completion of the Uruguay Round, average tariffs in industrial countries will be brought down to about 4 percent. From 60 percent to 4 percent.

Now, we're the fastest growing G-7 country -- growing three times faster than Japan. Our companies have done the restructuring. They've done the cutting that the Europeans are only beginning. They're the ones in the best shape to benefit from the Uruguay Round. The bottom line: we need American trade policies that are as competitive as American producers.

-30-

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 10, 1994

Contact: Michelle Smith
(202) 622-2960

STATEMENT BY TREASURY SECRETARY LLOYD BENTSEN

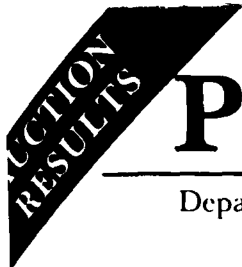
I commend the House and the Senate for passing the foreign operations bill, which includes vital funding for the multilateral development banks.

The development banks are in the thick of the action on the international economic front. Together, they are the largest single source of official financing for economic growth and development. The economic policies they promote increase growth and support U.S. interests around the world.

The House and Senate action helps the U.S. retain its leadership position in these banks. For years, we allowed our commitments to go unmet and our arrears to these banks skyrocketed. But now, with this responsible vote, we've turned the corner and are taking an important first step in fulfilling our promises.

-30-

LB-1012



PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 10, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 10-YEAR NOTES

Tenders for $12,073 million of 10-year notes, Series C-2004, to be issued August 15, 1994 and to mature August 15, 2004 were accepted today (CUSIP: 912827Q88).

The interest rate on the notes will be 7 1/4%. The range of accepted bids and corresponding prices are as follows:

	Yield	Price
Low	7.32%	99.510
High	7.33%	99.440
Average	7.33%	99.440

$90,000 was accepted at lower yields.
Tenders at the high yield were allotted 96%.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$29,142,649	$12,073,181

The $12,073 million of accepted tenders includes $524 million of noncompetitive tenders and $11,549 million of competitive tenders from the public.

In addition, $500 million of tenders was awarded at the average price to Federal Reserve Banks as agents for foreign and international monetary authorities. An additional $750 million of tenders was also accepted at the average price from Federal Reserve Banks for their own account in exchange for maturing securities.

The minimum par amount required for STRIPS is $800,000. Larger amounts must be in multiples of that amount.

LB-1013

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 10, 1994

Contact: Jon Murchinson
(202) 622-2960

STATEMENT BY SECRETARY BENTSEN ON COMMUNITY DEVELOPMENT ACT

I commend the members of the House and Senate for the strong support they showed by passing the Riegle Community Development and Regulatory Improvement Act of 1994.

This legislation reaffirms our commitment to economic and social redevelopment based on entrepreneurial spirit, fiscal responsibility and private sector funding. In addition to establishing the Community Development Financial Institutions Fund, this broad act will take steps to make credit more available to small businesses and reduce paperwork burdens on financial institutions. The bill also reforms the Bank Secrecy Act to improve detection of money laundering, protects consumers of second mortgages from abusive practices and strengthens the National Flood Insurance Program.

This act, in addition to the RTC Completion Act and the Credit Availability Program, highlights the success of our incremental approach to financial services legislation as opposed to the omnibus approach favored by previous administrations. The Community Development Act was passed with overwhelming bipartisan support in Congress. I am also pleased that the House passed the Interstate Banking Bill with widespread bipartisan support, and I hope the Senate will do so in the near future.

I look forward to President Clinton signing the Riegle Community Development Act into law and implementing the initiative he announced on July 15, 1993.

-30-

LB-1014

Major Provisions of the Riegle Community Development and Regulatory Improvement Act of 1994

Community Development Financial Institutions:

- The Riegle Community Development and Regulatory Improvement Act of 1994 implements the initiative announced by President Clinton on July 15, 1993.

- This legislation reaffirms the Administration's commitment to helping communities help themselves by ensuring greater access to capital and credit.

- The Act sets forth a program of federal support for a wide range of specialized lenders known as community development financial institutions (CDFIs), including "community partnerships" formed by CDFIs and other traditional institutions.

  - CDFIs provide basic banking services, lending, equity investment, and development services to economically distressed areas and populations.

- The Act establishes a Community Development Financial Institutions Fund (Fund) and authorizes $382 million over four years.

  - The Fund will be administered by an Administrator, who is appointed by the President and confirmed by the Senate, and advised by a 15-member Advisory Board consisting of government officials and private citizens.

  - The Fund will promote the formation and expansion of community development financial institutions by providing them with equity, loans, grants, deposits and technical assistance; and the Fund may provide assistance to organizations for the purpose of enhancing the liquidity of CDFIs.

  - The Fund also will administer a new deposit insurance assessment credit program built largely on the Bank Enterprise Act to award credits to traditional lenders based on increases in qualifying activities.

- Fund assistance may be used by CDFIs to support activities, such as small business credit extensions, low income housing development, community facilities development, provision of basic financial services, and training.

- Among other things, to be eligible for Fund assistance applicants must have a primary mission of community development, provide for community input into the operations of the institution, leverage private funds, and demonstrate the capacity to be self-sustaining.

- This Act is not a substitute for active community lending by institutions subject to the Community Reinvestment Act (CRA). Rather, this Act complements the CRA.

Other Provisions:

- In addition to creating the Community Development Financial Institutions Fund, the legislation addresses a number of other issues. It will:

  - authorize $10 million in appropriations for the Community Development Credit Union Revolving Loan Fund over the next four years;

  - protect consumers from exorbitant fees, high interest rates, and abusive terms of second mortgages;

  - increase the availability of credit to small businesses by removing regulatory barriers that hinder the securitization of small business loans and by authorizing a small business capital access program administered by the states;

  - reduce the regulatory and paperwork burden on financial institutions by removing unnecessary and outdated legislative requirements and by providing for the federal banking agencies to streamline and simplify regulatory requirements;

  - reform the Bank Secrecy Act to improve the detection of money laundering while reducing the regulatory burden of Currency Transaction Reports;

  - strengthen the National Flood Insurance Program and reduce the risk to the flood insurance fund by increasing compliance, providing incentives for community flood plain management, and providing for mitigation assistance.

Department of the Treasury
Office of Financial Institutions Policy
August 10, 1994

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

STATEMENT OF GERALD MURPHY

FISCAL ASSISTANT SECRETARY

UNITED STATES DEPARTMENT OF THE TREASURY

BEFORE THE JOINT HEARING OF THE HOUSE BANKING SUBCOMMITTEES ON CONSUMER CREDIT AND INSURANCE; AND FINANCIAL INSTITUTIONS SUPERVISION, REGULATION AND DEPOSIT INSURANCE

AUGUST 11, 1994

Good morning, Chairman Kennedy and Chairman Neal, and members of the subcommittees. Thank you for providing me with the opportunity to testify at this hearing.

My name is Gerald Murphy, and I am the Fiscal Assistant Secretary for the United States Department of the Treasury. While I have many duties, perhaps the most important are to oversee Treasury's payments and collections system. During the present Fiscal Year, Treasury's Financial Management Service (FMS) will process and deliver roughly 840 million Treasury payments, and collect approximately $1.2 trillion in Federal revenues. My other responsibilities include promoting sound financial management practices throughout the Federal Government, overseeing the Government's central accounting and reporting system, and providing a number of other financial services.

I am here today to convey the Administration's commitment to developing an efficient, electronic system to deliver Federal benefits and payments to those who lack bank accounts, the so called unbanked. Our program is referred to as Electronic Benefit Transfer, or EBT.

EBT will enable the Government to electronically deliver a full array of benefits and payments to the unbanked, including food stamps, Aid to Families with Dependent Children (AFDC), and Supplemental Security Income (SSI). Under EBT, paper checks will be replaced with plastic cards. Basically, unbanked recipients will be issued debit cards by the Government. The debit cards will then be utilized to access Automated Teller Machines (ATMs) to withdraw cash and Point-of-Sale (POS) terminals for the purchase of food and other retail commodities.

Before I report on our efforts to make EBT a National reality, let me briefly detail the Department of the Treasury's advancement into Electronic Funds Transfer (EFT) systems.

Treasury is the leader in promoting the use of electronic methods for making Federal Government payments. In FY 1993, for the first time ever, Treasury made more than 50 percent of direct Federal benefit payments electronically, using primarily direct deposit. These payments include Social Security, SSI, Veterans Pension and Compensation, and Civil Service and Railroad

Retirement benefit programs. Disbursing these payments electronically saves the taxpayers nearly $100 million per year. It also provides recipients with significantly greater safety and convenience compared with receiving and cashing Government checks.

Treasury's long-term goal is to create an all-electronic Treasury, with all payments and collections made electronically. By 1999, our objective is to make 80 percent of all benefit payments electronically. But, we cannot depend exclusively on direct deposit to achieve that objective.

To use direct deposit, recipients must have a bank account. Unfortunately, an estimated 20-30 million Americans, including 10 million recipients of direct Federal benefits, do not have bank accounts, and thus cannot participate in the direct deposit program. Since the late-1980's, Treasury has been testing the use of EBT to make payments electronically to these unbanked Federal benefit recipients. As stated previously, EBT simply enables recipients to use plastic cards to access their benefits through ATMs and retail POS terminals.

Treasury has demonstrated that recipients of direct Federal benefits, who do not have bank accounts, can receive the greater safety and convenience of electronic payments in a cost-effective manner using EBT. Baltimore, Maryland was the site of Treasury's

first pilot in 1989. Currently, we are testing EBT in Texas, specifically the Houston and Dallas/Ft. Worth metropolitan areas.

We believe that the Government-wide use of EBT for not only Federal benefits, but State-administered program payments as well, will promote sound Government financial management. Current EBT pilots have delivered food stamps, AFDC and other State-administered programs, in: Reading, Pennsylvania; Bernallio County (Albuquerque), New Mexico; Ramsey County (St. Paul), Minnesota; Linn County, Iowa; Dayton, Ohio; Camden County, New Jersey; and the entire State of Maryland. Evaluations of these pilots have shown that such benefits can be delivered cost-effectively using EBT.

Furthermore, all of the pilots, Federal as well as State-run, have demonstrated that, as compared with paper check disbursement, EBT:

* is safer and reduces crime
* provides convenience for recipients as well as food stamp retailers
* empowers low-income recipients and enhances a sense of dignity
* has the potential to save taxpayer dollars through more efficient disbursement and by combating fraud in welfare programs.

The real opportunity, and challenge, in EBT is in combining both the Federal and State programs in a single, unified EBT payment process that is modelled closely after, and uses to the extent possible, the commercial banking infrastructure.

Vice President Gore's September 1993 report of the National Performance Review called for the rapid development of a nationwide, integrated system to deliver Government benefits electronically.

An EBT Task Force, comprised of the Federal Government Agencies that have the greatest interest in EBT, was chartered in November 1993 to meet this challenge. In May 1994, the Task Force issued its implementation plan for nationwide EBT, with the concept of EBT as a one card, user friendly, unified electronic delivery method for all Government funded benefits under a Federal-State partnership.

The plan projects that once fully implemented, a broad range of Federal and State benefits, including food stamps, AFDC, State General Assistance, Social Security, and SSI will be delivered using EBT. The Task Force estimates that benefits totalling over $111 billion annually will be delivered electronically to over 31 million recipients.

Based on our experience in EBT and our role in Government

financial management, Treasury has been an active participant in the EBT Task Force, along with the Office of Management and Budget, the United States Department of Health and Human Services, and the United States Department of Agriculture. My Deputy and I represent Treasury on the Task Force. We have detailed staff to work with the Task Force executive staff, and we have an in-house staff to support Treasury's commitments to the Task Force. These commitments relate closely to Treasury's traditional role in payments and financial services, and include acquisition of EBT banking services, development of EBT settlement services, development of EBT audit and certification requirements, and coordination with the financial industry. We at Treasury are also continuing our active role in promoting the use of direct deposit and EBT for direct Federal benefit programs to ensure we achieve our 80 percent objective by 1999.

Treasury's acquisition of EBT services will support both of the strategic paths endorsed by the Task Force for nationwide EBT, which are: The development of one or more EBT prototypes in joint venture partnership between one or more States and the Federal Government; and, The State-initiated approach in which Treasury provides direct Federal and settlement services that States can access through their own acquisition processes. In either case, the Task Force will provide States a foundation, including base service requirements, operating rules, and funding agreements, that will ensure a consistent operating environment among States,

enabling true interstate access of benefits and reduced costs through standard requirements and operations.

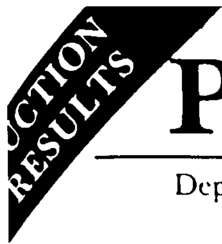
Currently, one of the Task Force's highest priorities is to work with seven southern States, known as the Southern Alliance of States, to develop the first of the joint-venture partnership EBT prototypes. The seven States are: Alabama, Arkansas, Florida, Georgia, Missouri, North Carolina, and Tennessee. These States began working together over a year ago, and formally asked the Federal Government to work with them to define, develop, and implement an integrated regional Federal/State EBT system. The Southern Alliance plans to have a pilot system running by early 1996.

The Task Force has consulted, and continues to consult closely, with the key non-government parties with a crucial interest in EBT: retailers, financial institutions, and recipient advocacy groups. The input and support of these stakeholder groups is critical to the success of EBT, and by understanding each group's needs, will provide the opportunity to design a more efficient, cost-effective process. For example, retailer groups have expressed a willingness to invest in Point-of-Sale infrastructure that can be used by EBT if the Government can ensure a standard retailer interface in all EBT systems. This sort of trade-off can make EBT more cost-effective for both Government and retailers.

The EBT Task Force's plan for nationwide EBT is clear and in writing: (1) establish partnerships with States, (2) build the foundation to ensure consistency among States and with commercial processes, (3) implement EBT both in joint-venture partnerships and State-initiated projects, (4) expand EBT to include additional benefit programs, and (5) enhance EBT by adopting new and evolving technologies such as smart cards. This plan provides for nationwide EBT by 1999. While maintaining this focus, Treasury will not miss opportunities to expand EBT for direct Federal benefits where it makes sense, and adding these benefits to existing State EBT programs to help reduce the cost and increase the level of service to recipients who receive both a Federal and a State benefit.

We at Treasury, and I think I can speak for the other members of the EBT Task Force, are very excited about the prospects for EBT. This is truly a win-win situation--recipients get greater safety and convenience, and an enhanced sense of dignity; Federal and State Governments have a way to improve service to our customers at reduced cost; and the private sector will save money compared to the cost of processing paper checks and food coupons. There are still numerous issues that need to be resolved to make nationwide EBT a reality. But EBT can reflect Government at its best, working better and costing less.

Thank you again for the opportunity to appear at this joint hearing and discuss EBT. I am available to answer any questions.



PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 11, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 38-DAY BILLS

Tenders for $7,005 million of 38-day bills to be issued August 15, 1994 and to mature September 22, 1994 were accepted today (CUSIP: 912794L77).

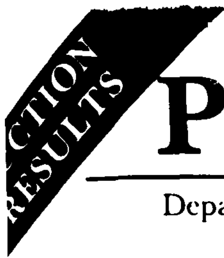
RANGE OF ACCEPTED
COMPETITIVE BIDS:

	Discount Rate	Investment Rate	Price
Low	4.35%	4.43%	99.541
High	4.39%	4.47%	99.537
Average	4.37%	4.45%	99.539

Tenders at the high discount rate were allotted 33%.
The investment rate is the equivalent coupon-issue yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$29,573,000	$7,004,500
Type		
Competitive	$29,572,000	$7,003,500
Noncompetitive	1,000	1,000
TOTALS	$29,573,000	$7,004,500



PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 11, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 30-YEAR, 3-MONTH BONDS

Tenders for $11,006 million of 30-year, 3-month bonds to be issued August 15, 1994 and to mature November 15, 2024 were accepted today (CUSIP: 912810ES3).

The interest rate on the bonds will be 7 1/2%. The range of accepted bids and corresponding prices are as follows:

	Yield	Price
Low	7.55%	99.373
High	7.59%	98.904
Average	7.56%	99.256

$2,000 was accepted at lower yields.
Tenders at the high yield were allotted 72%.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$21,588,686	$11,005,549

The $11,006 million of accepted tenders includes $323 million of noncompetitive tenders and $10,683 million of competitive tenders from the public.

In addition, $450 million of tenders was also accepted at the average price from Federal Reserve Banks for their own account in exchange for maturing securities.

The minimum par amount required for STRIPS is $80,000. Larger amounts must be in multiples of that amount.

Also, accrued interest of $18.75000 per $1,000 of par must be paid for the period May 15, 1994 to August 15, 1994.

Treas.
RA
445
.T7
19

National Vaccine Injury Compensation Program: Financing the Post-1988 Program and Other Issues

A Report to The Congress

Department of the Treasury
August 1994

National Vaccine Injury Compensation Program:
Financing the Post-1988 Program and Other Issues

A Report to the Congress

Department of the Treasury
August 1994

DEPARTMENT OF THE TREASURY
WASHINGTON

ASSISTANT SECRETARY

August 10, 1994

The Honorable Sam Gibbons
Acting Chairman
Committee on Ways and Means
United States House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

The Conference Report on H.R. 2264 (Public Law 103-66), the Omnibus Budget Reconciliation Act of 1993, provides that the Secretary of the Treasury, in consultation with the Secretary of Health and Human Services, conduct a study of the Vaccine Injury Compensation Trust Fund and several related matters and submit a report of that study to the House Committee on Ways and Means and the Senate Committee on Finance within one year after the date of enactment.

Pursuant to that Conference Report, I hereby submit "Vaccine Injury Compensation: Financing the Post-1988 Program and Other Issues."

I hope you will find this report informative. I am sending a similar letter to Representative Bill Archer.

Sincerely,

Leslie Samuels

Leslie B. Samuels
Assistant Secretary
(Tax Policy)

DEPARTMENT OF THE TREASURY
WASHINGTON

ASSISTANT SECRETARY

August 10, 1994

The Honorable Daniel Patrick Moynihan
Chairman
Committee on Finance
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

The Conference Report on H.R. 2264 (Public Law 103-66), the Omnibus Budget Reconciliation Act of 1993, provides that the Secretary of the Treasury, in consultation with the Secretary of Health and Human Services, conduct a study of the Vaccine Injury Compensation Trust Fund and several related matters and submit a report of that study to the House Committee on Ways and Means and the Senate Committee on Finance within one year after the date of enactment.

Pursuant to that Conference Report, I hereby submit "Vaccine Injury Compensation: Financing the Post-1988 Program and Other Issues."

I hope you will find this report informative. I am sending a similar letter to Senator Bob Packwood.

Sincerely,

Leslie Samuels

Leslie B. Samuels
Assistant Secretary
(Tax Policy)

EXECUTIVE SUMMARY

The National Vaccine Injury Compensation Program (VICP) was made permanent by the Omnibus Budget Reconciliation Act of 1993 (OBRA '93). For vaccinations occurring after September 30, 1988, VICP compensates for injuries and deaths associated with vaccines routinely administered to children. Compensation is paid out of a trust fund supported by excise taxes levied on vaccine manufacturers.

The Conference Report on OBRA '93 mandated that the Secretary of the Treasury, in consultation with the Secretary of Health and Human Services, conduct a study of several specific aspects of VICP and its financing. This report is rendered in response to that mandate. The major findings of the report are as follows:

- VICP compensation awards are expected to be $55 million per year during the latter half of the 1990s. VICP has not been in existence long enough to project future outlays with confidence. All cases arising from vaccinations in the first full year of operation have yet to be adjudicated. As the program matures sufficient program data will become available to permit more sophisticated methods of estimating future outlays to be used.

- The scientific literature indicates that most injuries and deaths of a type compensable under VICP cannot be said with certainty to have been caused by vaccines covered by VICP. VICP awards are extremely rare in comparison to the number of vaccines administered.

- The principle of imposing excise taxes on vaccine manufacturers to support a trust fund used to compensate victims of adverse effects associated with vaccinations is sound.

- The Secretary of Health and Human Services is expected to add hepatitis B and Hib vaccines to VICP's Vaccine Injury Table. Following this action, taxes on these vaccines should be enacted so that any related adverse events are covered by VICP.

- Current tax rates on vaccines generate more revenue than needed to support the Vaccine Trust Fund. Based on current projections, the trust fund balance will be about $1.2 billion by the year 2000. Rates could be cut roughly in half and still retain a trust fund balance sufficient to cover an unexpected increase in VICP awards.

- Vaccines produced by State governments should be taxed on the same basis as vaccines produced by private companies.

- As an alternative to maintaining the current risk-related method of setting tax rates on each vaccine covered by VICP, Congress may need to consider a flat-rate tax on all covered vaccines because changing vaccine technology and other factors may make risk assessment problematic.

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	v
TABLE OF CONTENTS	vii
LIST OF TABLES	ix
CHAPTER 1. INTRODUCTION AND SUMMARY	1
I. INTRODUCTION	1
A. Congressional Mandate	1
B. Description of the National Vaccine Injury Compensation Program (VICP)	2
C. Amendments Made by OBRA '93	7
II. SUMMARY	7
CHAPTER 2. ESTIMATED COMPENSATION PAYMENTS	9
I. SUMMARY	9
II. FACTORS AFFECTING FUTURE COMPENSATION PAYMENTS	9
III. VICP OUTLAYS	10
IV. VICP AWARDS ASSOCIATED WITH 1989 VACCINATIONS	12
CHAPTER 3. RATES OF INJURY AND DEATH RELATED TO VACCINATIONS	13
I. SUMMARY	13
II. CASES ASSOCIATED WITH 1989 VACCINATIONS	13
III. THE SCIENTIFIC EVIDENCE	14
IV. THE VACCINE ADVERSE EVENT REPORTING SYSTEM (VAERS)	16
CHAPTER 4. NEW VACCINES AND IMMUNIZATION PRACTICES THAT MAY BE COVERED BY VICP	17
I. SUMMARY	17

II. RECOMMENDATIONS OF THE CENTERS FOR DISEASE CONTROL AND PREVENTION 17

III. DE FACTO VICP COVERAGE OF UNTAXED VACCINES 17

IV. CONSEQUENCES FOR THE VACCINE TRUST FUND 18

CHAPTER 5. INCLUDING ADDITIONAL VACCINES IN VICP 19

I. SUMMARY 19

II. THE RATIONALE FOR TAXING VACCINES 19

A. The Cost of Vaccinations 19
B. Appropriate Tax Rates 20
C. Tax Rate Recommendation of the Advisory Commission on Childhood Vaccines 23

III. TAXING ADDITIONAL VACCINES 24

CHAPTER 6. TAXING VACCINES PRODUCED BY STATE AGENCIES 25

I. SUMMARY 25

II. THE RATIONALE FOR TAXING VACCINES PRODUCED BY STATES 25

III. THE RATIONALE FOR PUBLIC PROVISION OF VACCINATIONS 25

TABLES following page 26

APPENDICES

A. *Fact Sheet: Vaccine Injury Compensation Program, Post-1988 Program* and *Fact Sheet: Vaccine Injury Compensation Program, Pre-1988 Program*

B. Vaccine Injury Table

C. Schedule of Vaccinations Recommended for Children

D. *Adverse Effects of Pertussis and Rubella Vaccines* - Executive Summary

E. *Adverse Events Associated with Childhood Vaccines: Evidence Bearing on Causalty* - Executive Summary

LIST OF TABLES

(tables appear following page 26)

Table 1. Vaccine Injury Compensation Trust Fund, Fiscal Years 1988-1999

Table 2. Disposition of VICP cases arising from Vaccinations Administered after September 30, 1988

Table 3. Net Doses of Vaccines Available and Implicit Taxes, Calendar Year 1989

Table 4. Disposition of VICP Cases Arising from 1989 Vaccinations

Table 5. Payments for VICP Cases Arising from 1989 Vaccinations

Table 6. Average Time Between Vaccination and Payment for VICP Cases Arising from 1989 Vaccinations

Table 7. VICP Compensations Payments by Year: Cases Arising from 1989 Vaccinations

CHAPTER 1. INTRODUCTION AND SUMMARY

I. INTRODUCTION

A. Congressional Mandate

The Conference Report on H.R. 2264 (Public Law 103-66), the Omnibus Budget Reconciliation Act of 1993 (OBRA '93), provides that the Secretary of the Treasury, in consultation with the Secretary of Health and Human Services (HHS), conduct a study of the Vaccine Injury Compensation Trust Fund and several related matters and submit a report of that study to the House Committee on Ways and Means and the Senate Committee on Finance within one year after the date of enactment.[1] The Conference Report referenced the House bill which directed that the following items be studied:

1) The estimated amount that will be paid from the Vaccine Injury Compensation Trust Fund with respect to vaccines administered after September 30, 1988;

2) The rates of vaccine-related injury or death with respect to various types of vaccines;

3) New vaccines and immunization practices being developed or used for which amounts may be paid from the Trust Fund;

4) Whether additional vaccines should be included in the National Vaccine Injury Compensation Program; and

5) The appropriate treatment of vaccines produced by State governmental agencies.

---

[1] H.R. Rept. 103-213, August 4, 1993, pp. 730-33. OBRA '93 was enacted August 10, 1993. The Report of the House Committee on the Budget indicated that the mandated report should "determine whether additional vaccines should be included in the Program or other modifications (such as adjustments to the excise tax rates) are warranted." H.R. Rept. 103-111, p. 810.

B. Description of the National Vaccine Injury Compensation Program (VICP)

VICP is a no-fault alternative to State tort law and private liability insurance systems for compensating individuals, including adults, who have been injured by vaccines routinely administered to children. It was established by the National Childhood Vaccine Injury Act of 1986, title III of P.L. 99-660 (the 1986 Act), enacted on November 14, 1986.[2]

VICP was established to improve the then current approach to compensating individuals damaged by a vaccine, and to improve the stability and predictability of the childhood vaccine market. The legislative history of the 1986 Act states, in part:

> ...for the relatively few who are injured by vaccines -- through no fault of their own -- the opportunities for redress and restitution are limited, time-consuming, expensive, and often unanswered. Currently, vaccine-injured persons can seek recovery for their damages only through the civil tort system or through a settlement arrangement with the vaccine manufacturer. Over time, neither approach has proven satisfactory. Lawsuits and settlement negotiations can take months and even years to complete. Transaction costs -- including attorneys' fees and court payments -- are high. And in the end, no recovery may be available. Yet futures have been destroyed and mounting expenses must be met.
>
> Manufacturers have become concerned not only with the problems of time and expense, but with the issue of the availability of affordable product liability insurance that is used to cover losses related to vaccine injury cases. Whether current problems with liability insurance arise from a crisis in the tort system or from a particularly bad downturn in the business cycle of the insurance industry has been and remains a matter of great controversy. Nevertheless, there is little doubt that vaccine manufacturers face great difficulty in obtaining insurance. This lack of insurance was the stated reason for one manufacturer to withdraw temporarily from the vaccine market in 1984. Others have suggested that they may follow a similar course of action. This factor, coupled with the possibility that vaccine-injured persons may recover substantial awards in tort claims, has prompted manufacturers to question their continued participation in the vaccine market.
>
> The loss of any of the existing manufacturers of childhood vaccines at this time could create a genuine public health hazard in this country. Currently, there is only one manufacturer of the polio vaccine, one manufacturer of the measles, mumps, rubella (MMR) vaccine, and two manufacturers of the DPT vaccine.

[2] The VICP provisions of the 1986 Act, as subsequently amended, appear as Subtitle 2 of Title XXI of the Public Health Service Act (title 42 United States Code).

Two states, Michigan and Massachusetts, produce their own DPT vaccine. Despite Congressional support, Federal vaccine stockpiles maintained by the Centers for Disease Control [and Prevention] (CDC) have never reached CDC's recommended level of six-months' supply. Thus, the withdrawal of even a single manufacturer would present the very real possibility of vaccine shortages, and, in turn, increasing numbers of unimmunized children, and, perhaps, a resurgence of preventable diseases.[3]

The Vaccine Injury Compensation Trust Fund (the Vaccine Trust Fund) was created by the Omnibus Budget Reconciliation Act of 1987 (OBRA '87) to provide an appropriate funding mechanism for the ongoing portion of VICP. Prior to being made permanent by OBRA '93, compensation payments only with respect to injuries and deaths from vaccines administered after September 30, 1988, and before October 1, 1992, were to be paid out of the Vaccine Trust Fund. In addition to compensation payments for injuries and deaths, attorney fees and certain administrative costs of VICP are also paid out of the Vaccine Trust Fund.

Trust Fund Revenues. Net revenues from excise taxes imposed on certain vaccines are transferred into the Vaccine Trust Fund. In addition, interest income is received by the Vaccine Trust Fund on fund balances invested in special-issue Treasury securities. The excise taxes are imposed on the following vaccines, at the following per-dose rates:[4]

Diphtheria, pertussis, and tetanus (DPT)	$4.56
Diphtheria and tetanus (DT)	0.06
Measles, mumps, and rubella (MMR)	4.44
Polio	0.29

Gross excise tax receipts are reduced by 25 percent before being transferred from the General Fund (into which these excise taxes are initially deposited) to the Vaccine Trust Fund. This reduction follows the statutory requirement in OBRA '87 that net revenues be transferred and committee report language indicating that a 25 percent factor be used to account for the

[3] H.R. Rept. 99-908, Part I, September 26, 1986, pp. 6-7.

[4] These excise taxes became effective for vaccines sold after December 31, 1987. If a vaccine includes more than one of the enumerated vaccines then the tax on the combination vaccine is the sum of the taxes separately imposed on the components. A single-antigen vaccine (e.g., for measles) is taxed at the rate applicable to the taxable vaccine of which the single antigen is a part (e.g., $4.44 per dose for a measles vaccine).

reduction in income and payroll tax receipts resulting from imposition of an excise tax.[5] Exported vaccines are not subject to these excise taxes.[6]

As provided in OBRA '87, the excise taxes supporting the Vaccine Trust Fund expired after December 31, 1992, as a result of the Treasury Secretary's determination that the Trust Fund balance was sufficient to compensate individuals for the adverse effects of vaccines administered after September 30, 1988, and before October 1, 1992.[7]

Pre-1988 Program. Compensation for injuries related to vaccines administered prior to October 1, 1988, is paid out of General Fund appropriations. This "Pre-1988 Program" component of VICP is limited to claims filed before February 1, 1991 and is not further discussed in this report; a *Fact Sheet* regarding that program appears in Appendix A.

Compensation Under the Post-1988 Program. To qualify for compensation from the Vaccine Trust Fund a petitioner must either prove that the vaccine caused the death or injury, or that a death or injury set forth in the Vaccine Injury Table occurred within the time periods specified in the Table. Additional information regarding the "Post-1988 Program" component of VICP is provided in a Health Resources and Services Administration *Fact Sheet*, which appears in Appendix A. The Vaccine Injury Table appears in Appendix B.

An individual is, in general, barred from bringing a civil action in State or Federal court against a vaccine manufacturer or administrator for damages in excess of $1,000 (or in an unspecified amount) arising from a vaccine administered after September 30, 1988. The courts are barred from awarding amounts in excess of $1,000 for such damages, unless a petition has been filed for compensation under VICP for such injury or death, the U.S. Court of Federal Claims has issued a judgment on such petition, and the petitioner files an election to file a civil action or withdraw the petition.

[5] The 25 percent factor is the standard offset used when excise tax provisions are scored for budget purposes during the legislative process. Budget estimating conventions are that gross domestic product (GDP) and the price level are fixed. Excise and other indirect business taxes are a wedge between GDP and payments to labor and capital (wages and other employee compensation, interest, profits, and rents). Thus an increase in excise taxes, with GDP and the price level fixed, must reduce payments to labor and capital (the "offset"), and therefore reduce income and payroll taxes. The Vaccine Trust Fund is the only trust fund financed with dedicated excise taxes where net, rather than gross, excise tax revenues are transferred from the General Fund.

[6] Exports to U.S. possessions are taxed and residents of U.S. possessions are covered by VICP.

[7] Treasury Announcement 93-11, January 25, 1993.

A petition for compensation under VICP must show that the person who suffered the injury, or who died, received a taxable vaccine set forth in the Vaccine Injury Table or contracted polio from another person who received an oral polio vaccine. A petition must also show that the person sustained, or had significantly aggravated, any illness, disability, injury, or condition set forth in the Vaccine Injury Table, or died from the administration of the vaccine, and the first symptom or manifestation of that condition occurred within the time period after vaccine administration set forth in the Vaccine Injury Table.

A petition does not require evidence proving a causal relationship between vaccine administration and an adverse reaction. However, a petition may provide evidence supporting a causal relationship between a listed vaccine and an adverse reaction specified in the Vaccine Injury Table occurring outside the time periods specified in the Table. A petition may also provide evidence supporting a causal relationship between a listed vaccine and an adverse reaction not specified in the Vaccine Injury Table.

In addition, the petition must show that the person (i) suffered the residual effects or complications of such illness, disability, injury, or condition for more than six months after the administration of the vaccine; (ii) incurred unreimbursable expenses due in whole or in part to such illness, disability, injury, or condition in an amount greater than $1,000, or (iii) died from the administration of the vaccine. Finally, the petition must show that the petitioner has not previously collected an award or settlement of a civil action for damages for such vaccine-related injury or death.

Petitions must be filed within 36 months after the date of the first symptom of a vaccine-related injury. Petitions with respect to a death must be filed within 24 months from the date of the death, and within 48 months after the date of the first symptom of the injury resulting in death.

The U.S. Court of Federal Claims has jurisdiction over the proceedings to determine if a petitioner is entitled to compensation under the program and the amount of the compensation. In general, a person files a petition in the U.S. Court of Federal Claims naming the Secretary of Health and Human Services as the respondent. Following receipt of the petition, the U.S. Court of Federal Claims designates a special master who has the authority to require written information or testimony and to conduct hearings as may be appropriate for the preparation of proposed findings of fact and conclusions of law with respect to whether compensation is to be provided under VICP and the amount of the compensation.

VICP provides compensation for the following costs associated with the adverse effects of vaccines administered after September 30, 1988:

- Actual and reasonable projected unreimbursable expenses before and after the date of judgment, including expenses which result from the vaccine-related injury, expenses incurred by or on behalf of the person who suffered the injury, expenses for diagnosis and medical or other remedial care, and expenses for rehabilitation,

developmental evaluation, special education, vocational training and placement, case management services, counseling, emotional or behavioral therapy, residential and custodial care and service expenses, special equipment, related travel, and facilities;

- Actual and anticipated loss of earnings after the age of 18;

- Actual and projected pain and suffering and emotional distress from the vaccine-related injury, not to exceed $250,000;

- $250,000 for the estate of the deceased in the case of a vaccine-related death; and

- Reasonable attorney fees and other costs incurred in any proceeding on a petition, even if no other compensation is provided under VICP.

After the judgment of the U.S. Court of Federal Claims or the appellate court, the petitioner files either an election to receive compensation (if compensation was awarded) or to accept the judgment (if compensation was not awarded), or an election to file a civil action. If the election is not filed within 90 days from the date of judgment, the petitioner is deemed to have filed an election to accept the judgment of the court.

VICP compensation is secondary to all insurance coverage except Medicaid. Compensation payments for injury awards are usually paid in the form of an annuity purchased from an insurance company. Death awards are paid as a lump sum.

Modifications to the Vaccine Injury Table. The 1986 Act granted the Secretary of HHS authority to promulgate regulations modifying the Vaccine Injury Table. Such modifications may involve adding or removing injuries, disabilities, illnesses, conditions, and deaths for which compensation may be provided or changing the time periods during which the first symptom or manifestation of the onset or the significant aggravation of any such injury, disability, illness, condition, or death must occur. That authority did not extend to adding new vaccines to the list of vaccines covered by VICP.

Based on an Institute of Medicine (IOM) study of the adverse effects of the pertussis and rubella vaccines, the Secretary of HHS promulgated proposed changes to the Vaccine Injury Table on August 14, 1992.[8] Final regulations modifying the Vaccine Injury Table in response to the IOM study had not been issued as of July 31, 1994. A second IOM report, released in September 1993, studied the remaining vaccines on the Vaccine Injury Table, as well as hepatitis B and Hib vaccines. During 1994, The Secretary of HHS is expected to begin the rulemaking process to further modify the Table, using this second IOM report as a key document addressing the adverse events that may be related to these vaccines.

---

[8] Federal Register, Vol.57, No. 158, August 12, 1992, pp. 36878-85.

C. Amendments Made by OBRA '93

OBRA '93 permanently extended the excise taxes on the four categories of vaccines, effective August 10, 1993. It also authorized compensation to be paid from the Vaccine Trust Fund under VICP for certain damages resulting from vaccines administered after September 30, 1988, without respect to the October 1, 1992 cutoff date contained in OBRA '87.

OBRA '93 required the Secretary of HHS to revise the Vaccine Injury Table to include: 1) vaccines which are recommended to the Secretary by the Centers for Disease Control and Prevention (CDC) for routine administration to children; 2) the injuries, disabilities, illnesses, conditions, and deaths associated with such vaccines; and 3) the time period in which the first symptoms or manifestations of onset or other significant aggravation of such injuries, disabilities, illnesses, conditions, and deaths associated with such vaccines may occur. With respect to CDC recommendations made prior to August 1, 1993, the Vaccine Injury Table is to be revised by the Secretary of HHS prior to August 1, 1995. With respect to CDC recommendations made after August 1, 1993 the Secretary is required to revise the Vaccine Injury Table within two years of such recommendation. Under the terms of OBRA '93, those vaccinated with vaccines added to the Vaccine Injury Table pursuant to this administrative procedure are not covered by VICP until taxes on those vaccines are enacted.

II. SUMMARY

This report addresses the issues of future outlays and rates of vaccine-related deaths and injuries that the Congress directed to be studied by analyzing financial and programmatic data relating to petitions filed seeking compensation for injuries and deaths which petitioners attributed to vaccinations occurring after September 30, 1988. In particular, data are analyzed regarding petitions filed with respect to vaccinations administered in 1989, the first full year the Post-1988 Program operated. This analysis provides information regarding future outlays for compensation from the Vaccine Trust Fund and rates of injury and death associated with particular vaccines.

The report notes that the CDC has recommended that two additional vaccines be routinely administered to children, thus potentially adding to the scope of injuries and deaths for which compensation may be sought from the Vaccine Trust Fund. Some economic reasoning is used to address the question of whether additional vaccines should be subject to tax and the issue of how to treat vaccines produced by State governments.

The five topics listed in Section I.A are separately addressed in the five chapters which follow. The report includes the following Appendices:

A. *Fact Sheet: Vaccine Injury Compensation Program, Post-1988 Program* and *Fact Sheet: Vaccine Injury Compensation Program, Pre-1988 Program*
B. Vaccine Injury Table
C. Schedule of Vaccinations Recommended for Children
D. *Adverse Effects of Pertussis and Rubella Vaccines* - Executive Summary
E. *Adverse Events Associated with Childhood Vaccines: Evidence Bearing on Causalty* - Executive Summary

CHAPTER 2. ESTIMATED COMPENSATION PAYMENTS

I. SUMMARY

This chapter discusses the estimation of future outlays from the Vaccine Trust Fund, presents the assumptions used to make such estimates for the President's FY 1995 budget, and compares those assumptions to VICP administrative data. The analysis concludes that the budget estimates for compensation awards in FY 1994 ($69.6 million) and FY 1995 ($54.5 million), are too high. The estimates for FY 1996 - FY 1999 ($54.5 million per year) are high based on experience to date, but are not unreasonable if cases where there is a long lag between administration of the vaccine and adjudication of the claim result in higher average awards than awards made to date. Some additional awards may result from adding Hib and hepatitis B vaccines to the Vaccine Injury Table, presuming excise taxes are enacted on these vaccines (Chapter 4).

II. FACTORS AFFECTING FUTURE COMPENSATION PAYMENTS

Future outlays from the Vaccine Trust Fund for VICP compensation awards cannot be estimated with any degree of certainty. Adverse reactions to vaccinations are rare events. Petitions for compensation are typically filed well after the vaccination was administered and judicial review of petitions is time-consuming. Even though the program of making compensation payments out of the Vaccine Trust Fund began on October 1, 1988, not enough time has elapsed to observe final resolution of all cases arising from the administration of a cohort of vaccinations.

Aggregate awards paid from the Vaccine Trust Fund, with respect to vaccinations administered during a particular year, by type of vaccine, depend upon: the number of vaccinations administered in that year; the frequency of adverse reactions; the probability that petitions will be filed following an adverse reaction;[9] the filing of petitions not in fact attributable to the adverse consequences of a vaccination; the probability that a petitioner will be awarded compensation; the size of compensation awards; the probability that attorney fees will be awarded; and the size of attorney fee awards.

The payment of awards occurs several years after the vaccination occurred. The total time lag between vaccination and payment of an award depends upon the time between vaccination and the filing of a petition, the time expended in reaching a judicial decision with respect to a petition, and the time between the decision to grant an award and payment.

---

[9] Some victims of adverse reactions may be compensated through ordinary health insurance.

III. VICP OUTLAYS

Since the first cohort of Post-1988 Program cases has not been fully resolved, outlays from the Vaccine Trust Fund have not reached a "steady state" such that expected future levels would only be affected by underlying trends in the number of vaccinations administered and other factors, such as inflation and other factors determining average awards and the impact of health care reform.[10] Actual outlays from the Vaccine Trust Fund for compensation through FY 1993 (including attorney fees) are shown in Table 1[11] along with projections for FY 1994 through FY 1999. Transfers out of the Vaccine Trust Fund to other Federal government accounts to cover administrative expenses for three Federal agencies are also shown. The agencies are the Public Health Service, the Department of Justice, and the Court of Federal Claims.[12]

Outlay estimates for FY 1995 through FY 1999 were made in preparation for the FY 1995 budget by the Division of Vaccine Injury Compensation, Bureau of Health Professions, Health Resources and Services Administration in the Department of Health and Human Services. They are based on the following assumptions: 150 cases filed per year, beginning in 1994; all cases filed in one year are settled in the second following year; 78 percent of cases filed are injury cases and 22 percent death cases; 30 percent of injury claims and 48 percent of death cases ruled compensable; and average awards (including attorney fees) for injury cases are $1.5 million and $257,000 for death cases. These assumptions result in an estimated outlay of $54.4 million each fiscal year from 1995 through 1999.

Some of these assumptions can be compared with actual VICP data regarding all cases filed as of May 10, 1994, shown in Table 2. Despite the fact that the average injury award has been about $955,000, rather than the $1.5 million used to make budget forecasts, the latter amount may not be unreasonable as a long-run "steady state" estimate.[13] Average awards to date are not representative of averages in the future because VICP is not a mature program. Average awards to date are disproportionately weighted by cases adjudicated within a relatively few years of the vaccination giving rise to the claim. Cases filed later, and that take longer to adjudicate, are likely to result in higher awards.

---

[10] Health insurance extended to those now uninsured would pay for some medical expenses currently included in VICP awards.

[11] All tables follow page 26.

[12] The $6 million limit on administrative expenses paid out of the Vaccine Trust Fund as provided in Section 9510(c)(1) of the Internal Revenue Code has been overridden by appropriations acts.

[13] As of May 10, 1994, 35 injury awards had been paid out of the 42 judged compensable by that date. There is typically about a two-month time lag between adjudication and payment.

The number of post-1988 cases filed declined from 191 in FY 1992 to 137 in FY 1993. If the filing of claims continues at the same pace for the entirety of FY 1994 as for the period through May 1994, 118 cases will be filed for the fiscal year as a whole. The declining number of cases filed may simply reflect a better understanding on the part of petitioners and their attorneys as to what circumstances constitute a compensable claim. In future years, compensable claims as a percentage of claims filed may therefore increase as petitions expected to be dismissed simply are not filed.

Awards for FY 1994 through that same date were on a pace that would result in a total of $23.8 million for the entire year, considerably below the budget forecast of $69.6 million. The outlay estimates for compensation contained in the FY 1995 budget for FY 1994 therefore appear to be too large. For FY 1995 the estimate of $54.5 million is also likely to be too large because the program is unlikely to have reached a steady-state in that year. The program should be mature by about FY 1996, in the sense that at least one full cohort of cases will have all been adjudicated. While compensation payments at a steady-state rate of $54.5 million per year appears high based on awards through May 1994, that level may be reached if awards for cases that take a long time to adjudicate are higher than average awards have been so far and if some additional outlays are associated with adding new vaccines to the Vaccine Injury Table (Chapter 4). Other proposed changes to the Vaccine Injury Table may also affect the steady-state level of awards. As the program matures, sufficient program data will be available to permit more sophisticated methods of estimating future outlays to be used.

Significant and growing balances in the Vaccine Trust Fund are apparent from Table 1. Excise taxes transferred to the Trust Fund each year are expected to be about twice the level of trust fund outlays.[14] Significant interest receipts also contribute to the build up of the Trust Fund balance. By the end of FY 1999, the balance in the Trust Fund is expected to be nearly 20 times as large as annual outlays. Tax rates required to maintain an adequate trust fund balance are discussed in Chapter 5.

---

[14] In FY 1990 there was a catch-up transfer of excise taxes from the General Fund to the Vaccine Trust Fund to account for the excess of liabilities recorded from excise tax returns over earlier estimates of receipts which were used as a basis for transfers in 1988 and 1989. Trust fund receipts were lower than usual in 1993 because taxes on vaccines terminated on December 31, 1992 and were reenacted by OBRA '93, effective August 10, 1993. Relatively high receipts during 1994 - 1996 reflect the additional vaccines expected to be manufactured and administered in those years in order to implement the Childhood Vaccination Program. This program intends to speed up vaccinations to assure that two-year olds receive all recommended vaccinations in part by making vaccines freely available to low-income and uninsured children. Once the catch-up process is completed, vaccine production is expected to return to a steady-state level.

IV. VICP AWARDS ASSOCIATED WITH 1989 VACCINATIONS

Evidence that average awards for injury cases will eventually reach a higher level than that experienced to date may be found in the data regarding injury cases arising from vaccinations administered in 1989. About 71 million vaccines were available to be administered in 1989 (Table 3). Average injury awards for the 12 injury cases ruled compensable to date were about $1.2 million. But 104 out of 170 of these injury cases remained pending as of May 12, 1994 (Table 4), and could ultimately involve larger average compensation payments.

A total of $18.2 million had been paid out, through May 12, 1994, in VICP awards with respect to all cases arising from 1989 vaccinations (Table 5). The portion of total awards associated with each vaccine was 74.0 percent for DPT, 1.5 percent for DT, 19.4 percent for MMR, and 5.1 percent for polio. The largest average award to petitioners, $1.4 million, went to those claiming injury with respect to the DPT vaccine. The largest single award was for $3.3 million.

VICP has not matured sufficiently to estimate with confidence the dollar volume of awards that may yet be paid with respect to the undecided 55 percent of the 1989 cases. Because of the considerable time lags inherent in VICP, on average over 1000 days between vaccination and compensation payment (Table 6), the payment of awards has been spread out over the years since 1989 (Table 7).[15] Payments with respect to cases still pending may be spread out over several future years, with possibly large payments yet to come.

---

[15] The average of over 1053 days is for cases that have already been adjudicated. The average will increase when all pending cases associated with vaccinations in 1989 are decided.

CHAPTER 3. RATES OF INJURY AND DEATH RELATED TO VACCINATIONS

I. SUMMARY

This chapter presents data regarding VICP claims filed with respect to vaccinations administered in 1989. Based on the somewhat less than half of these claims that had been adjudicated by May 12, 1994, it appears that injuries and deaths compensable under VICP occur about once out of every one million vaccinations administered. The scientific literature indicates that most injuries and deaths of a type compensable under VICP cannot be said with certainty to have been caused by vaccines.

II. CASES ASSOCIATED WITH 1989 VACCINATIONS

Administrative records of VICP related to cases arising from vaccinations administered in 1989, the first full calendar year the Post-1988 Program was in effect, are used here, along with information taken from reports made by vaccine manufacturers to the Centers for Disease Control and Prevention (CDC), to estimate the rate at which compensable deaths and injuries occur.

There is no direct information on the number of vaccines administered in the United States each year. CDC does, however, maintain the Biologics Surveillance Reporting System which records reports made voluntarily by vaccine manufacturers of the number of net doses distributed each year.[16] These data for 1989, along with taxes paid, estimated on the basis of those amounts, are reported in Table 3. This estimate of $150.1 million in taxes paid is very close to the $151.1 million in excise tax liabilities reported on tax returns filed with the Internal Revenue Service (IRS) by manufacturers with respect to vaccines sold during calendar year 1989.[17] The IRS figure is also a net number in the sense that taxes paid on out-of-date or otherwise unusable vaccines returned to manufacturers are credited against current liabilities. The slight difference between tax liabilities reported to the IRS and estimated taxes based on CDC data may be explained by differences in timing between the two reporting systems.[18] The

---

[16] The CDC data are net in the sense that vaccines returned to manufacturers are subtracted.

[17] Department of the Treasury, Internal Revenue Service, *News Release*, "Internal Revenue Report of Excise Taxes," various dates.

[18] The number of doses of specific vaccines reported to the IRS cannot be revealed here because to do so would disclose individual taxpayer information. In some cases there is only (continued...)

CDC reports are an upper-bound estimate of the number of vaccines administered. Some unknown amount would have been discarded without being returned to the manufacturer and some net inventory accumulation may have occurred.

As an indication of how rare severe adverse reactions to vaccinations are, only 211 VICP petitions have been filed with respect to vaccinations occurring in 1989 (Table 4) out of the approximately 70 million vaccines purchased, and presumably administered, that year.[19] About 45 percent of these cases had been decided by May 12, 1994. Only 27 petitioners have been awarded compensation. If pending cases result in awards in the same proportion as decided cases, then about 60 compensation awards can be expected when all cases arising from 1989 vaccinations are finally settled. This would mean less than one award for each one million vaccines administered. Because petitioners do not have to prove that the vaccination caused the injury upon which the petition is based, so long as the injury is listed on the Vaccine Injury Table, some unknown portion of these less than one-in-a-million cases are likely to be chance occurrences rather than deaths or injuries caused by vaccinations.

III. THE SCIENTIFIC EVIDENCE

The National Childhood Vaccine Injury Act of 1986 (the 1986 Act) directed, in Section 312, that a review of scientific and other information on possible adverse consequences of pertussis (whooping cough) and rubella vaccines be conducted. The Institute of Medicine (IOM) established an 11-member interdisciplinary committee to conduct the study, the results of which

---

[18](...continued)
a single producer of a particular vaccine. The difference between the $151.1 million in vaccine excise tax liabilities reported to the IRS for 1989 and the $98.7 million transferred into the Vaccine Trust Fund in FY 1989 (Table 1) is only in part due to the difference between fiscal and calendar years. Transfers to the Vaccine Trust Fund are made on a current basis based on Office of Tax Analysis estimates of taxes received and are reduced by 25 percent of expected receipts to recognize an offset for reduced income and payroll taxes (see footnote 5). Transfers are adjusted in future years for differences between those estimates and liabilities reported by the IRS. Liabilities for a particular quarter are reported with a time lag. For additional information on excise tax accounting see Bruce F. Davie, "Excise Taxes, Fiscal Year 1992" *Statistics of Income Bulletin*, Fall 1993. pp. 36-52.

[19] This data set covers cases filed through May 12, 1994. The last of these 211 cases was filed in August of 1993. It is possible that a few additional cases pertaining to 1989 vaccinations may yet be filed.

were published in 1991.[20] The committee reviewed five types of evidence: (1) human experiments; (2) animal experiments; (3) case-comparison, cohort, and other controlled studies; (4) case reports and case series; and (5) biologic plausibility.[21] Of the 22 types of adverse events studied, the evidence was judged to indicate a causal relation to vaccines with respect to three types of adverse events. The evidence was judged to be consistent with a casual relation to vaccines with respect to three other types of adverse events.[22] Partly on the basis of the findings of this committee, the Secretary of Health and Human Services (HHS) has proposed to amend the Vaccine Injury Table (see Chapter 1).

Section 313 of the 1986 Act mandated that a study be conducted of adverse events associated with vaccines commonly administered during childhood, other than pertussis and rubella vaccines. IOM created the Vaccine Safety Committee, a 14-member interdisciplinary group, to undertake this review which was published in 1994.[23] The scope of the study was expanded beyond those vaccines covered by VICP to include *haemophilus influenzae* type b (Hib) and hepatitis B vaccines because of the expectation that these vaccines would be added to the list of vaccines covered by VICP (see Chapter 4).

The Committee noted the difficulty in assessing causality when several vaccines are commonly administered at once, and when vaccines contain more than one antigen. The Committee indicated the impossibility, based on the material it reviewed, of calculating the proportion of individuals whose condition is causally related to a vaccination.[24]

---

[20] Christopher P. Howson, Cynthia J. Howe, and Harvey V. Fineberg, eds., *Adverse Effects of Pertussis and Rubella Vaccines* Washington, D.C.: National Academy Press, 1991. The complete Executive Summary appears in Appendix D.

[21] *Ibid*, p.4.

[22] *Ibid*, p 7.

[23] Kathleen R. Stratton, Cynthia J. Howe, and Richard B. Johnson, Jr., eds., *Adverse Events Associated with Childhood Vaccines, Evidence Bearing on Causality* Washington, D.C.: National Academy Press, 1994. The complete Executive Summary of this study appears in Appendix E.

[24] *Ibid*, p. 17.

IV. THE VACCINE ADVERSE EVENT REPORTING SYSTEM (VAERS)

The 1986 Act required that manufacturers and health care providers who administer vaccines report serious adverse events following vaccinations to the Secretary of HHS. VAERS was created to implement this requirement, and became fully operational on November 1, 1990. VAERS is not expected to provide sufficient information to make epidemiological assessments of causality. VAERS may, however, be useful in identifying hypotheses that may be testable using other data bases.[25]

---

[25] Robert T. Chen, et al, "The Vaccine Adverse Event Reporting System (VAERS)" *Vaccine*, 1994 Vol. 12, No. 6, pp. 542-50.

CHAPTER 4. NEW VACCINES AND IMMUNIZATION PRACTICES THAT MAY BE COVERED BY VICP

I. SUMMARY

The Secretary of Health and Human Services (HHS) is expected to exercise authority granted by OBRA '93 to add hepatitis B and Hib vaccines to the Vaccine Injury Table. Following that action, enactment of taxes on these vaccines will expand VICP to cover vaccinations using them. Some additional petitions for compensation under VICP will probably be filed and compensation payments made as a result.

II. RECOMMENDATIONS OF THE CENTERS FOR DISEASE CONTROL AND PREVENTION

The Centers for Disease Control and Prevention (CDC), through the Advisory Committee on Immunization Practices, recommended prior to August 1, 1993, that two additional vaccines be routinely administered to children. These two vaccines are the *Haemophilus influenzae* type b (Hib) and hepatitis B vaccines.[26] The Secretary of HHS is required by OBRA '93 to revise the Vaccine Injury Table by August 1, 1995, to include these vaccines in the Table. Recipients of these vaccines will not be covered by VICP , however, until excise taxes are in place for these vaccines. Neither the Secretary of HHS nor the Secretary of the Treasury has the authority to impose any tax on manufacturers of these vaccines when they are included in VICP by virtue of their addition to the Vaccine Injury Table.

III. DE FACTO VICP COVERAGE OF UNTAXED VACCINES

Vaccinations are commonly administered at the same time using several different vaccines. So long as one of the vaccines being administered, whether to children or adults, is subject to excise tax and is listed on the Vaccine Injury Table, an adverse reaction covered by the table can be compensated under VICP, even if the reaction is to a vaccine not covered by the table. A VICP petitioner need not prove that the adverse event was caused by a currently covered vaccine, rather than by another vaccine administered at the same time.

---

[26] The children's vaccination schedule currently recommended by the American Academy of Pediatrics and CDC's Advisory Committee on Immunization Practices appears in Appendix C.

IV. CONSEQUENCES FOR THE VACCINE TRUST FUND

Some additional outlays from the Vaccine Trust Fund may be caused by the addition of Hib and hepatitis B vaccines to the Vaccine Injury Table, presuming taxes are enacted on these vaccines. The effect is not expected to be major, however, because many children already receive these vaccines at the same time they receive other vaccines. In these cases, adverse events, such as anaphylaxis, are already covered in connection with the other vaccines. Other conditions may be added to the Vaccine Injury Table for these vaccines as a result of mandated rulemaking. Furthermore, petitioners may receive compensation for a condition not listed on the Table, if they can prove that the vaccine caused that condition. Adults to whom Hib and hepatitis B vaccines are administered would be covered, but are less likely to receive vaccines currently covered by the Vaccine Injury Table at the same time. Additional outlays from the Vaccine Trust Fund as a result of including these two vaccines on the Vaccine Injury Table are thus likely to be related primarily to petitions filed on behalf of adults.

CHAPTER 5. INCLUDING ADDITIONAL VACCINES IN VICP

I. SUMMARY

A strong economic rationale exists for taxing vaccines to cover the costs of compensating those adversely affected by vaccinations, so long as compensation is to be paid out of public funds. Taxes on individual vaccines have been set in an attempt to relate them to the expected compensation payments associated with each covered vaccine. On the basis of this rationale, present law tax rates may need to be adjusted and *Haemophilus influenzae* type b (Hib) and hepatitis B vaccines should be added to the list of taxed vaccines when these two vaccines are added to the Vaccine Injury Table. Changes in vaccine technology, pending revisions to the Table, and other factors suggest that Congress may need to consider shifting away from risk-related taxation to a flat tax on each antigen contained in vaccines.

II. THE RATIONALE FOR TAXING VACCINES

A. The Cost of Vaccinations

The manufacture of vaccines involves certain labor, capital and raw material costs, like the production of any other commodity. The capital costs include the costs of research and development necessary to bring a vaccine into production and meet the requirements of regulatory agencies seeking to assure that the vaccine is safe and effective. In addition, administering vaccines incurs costs for the labor services of doctors and nurses and some capital costs. In the United States, the costs of manufacturing vaccines have traditionally been incurred by private drug companies who sell vaccines to the private physicians, health maintenance organizations, and public agencies who administer vaccinations.

There is another cost of vaccinations, beyond the costs of manufacturing and administering vaccines. This is the cost of adverse events. These adverse events are rare, and difficult to associate causally with particular vaccines or antigens when several are administered at the same time. When they do occur, adverse events associated with vaccinations can result in death and impose significant medical and personal care costs on the individuals and families involved, in addition to emotional burdens.

There are three ways in which the costs of adverse events associated with vaccinations are accommodated. First, individuals receiving vaccinations could bear the risk of incurring the costs associated with adverse events. Health insurance, or other forms of insurance, would be used by some individuals to protect against incurring such costs directly. In the absence of universal health insurance, others would not be insured against such risks, or only partially

insured. Insurance would be unlikely to cover some of the costs, such as long term care, pain and suffering, and death.

A second approach is for vaccine manufacturers to pay the costs of adverse events. The difficulty of proving manufacturer negligence under traditional tort law, plus the understandable tendency of juries to award huge settlements when confronted with a severely damaged child, was regarded by the Congress as an unsatisfactory method of covering these costs when VICP was established in 1986.

The third approach is to use public funds to compensate the individuals who directly bear the costs of adverse events associated with vaccinations. The strong public interest served by widespread vaccination practices, as implemented by requirements that children be vaccinated before entering school, is a reason for treating the costs of these adverse events as eligible for compensation from public funds.[27] Vaccinations protect not only those who are vaccinated, but reduce the risk that others contract diseases. Over the years, publicly supported vaccination programs have eliminated smallpox and virtually eliminated polio. As further examples, diphtheria cases have been reduced from about 207,000 in 1921 to 2 in 1993, pertussis from 265,000 in 1943 to about 6,000 in 1993, and rubella from about 58,000 in 1969 to 188 in 1993.[28] Protecting the very few who endure adverse events from vaccinations can benefit the many, because protection can be expected to encourage participation in vaccination programs.

Current practice in the United States is to use a combination of all three approaches to covering the costs of adverse vaccination events. For some persons, ordinary health insurance covers the cost. VICP is available to those experiencing events covered by the Vaccine Injury Table or who can prove that a covered vaccine was responsible for the adverse event. Individuals may also seek relief through the tort law if they reject the decision rendered with respect to a VICP petition.

B. Appropriate Tax Rates

The reason to finance public compensation for victims of adverse vaccination events out

---

[27] Vaccinations against rubella and hepatitis B are also required for many health care workers. Any adverse event suffered by one of these adults with respect to a rubella vaccination is already covered by VICP because these vaccinations are currently covered by the Vaccine Injury Table and are subject to excise tax. Because vaccination with a hepatitis B vaccine is now recommended for children, those adults for whom these vaccinations are required (and others as well) will also be covered when the Vaccine Injury Table is amended to include hepatitis B and Hib vaccines and the excise tax is extended to these vaccines.

[28] Chen et al (1994), *op. cit.*, p. 543.

of funds derived from excise taxes on vaccine manufacturers, rather than general revenues, is to assure that the cost of vaccines reflects not only manufacturing costs, but the costs of adverse events as well.[29] The costs of adverse events are as much a cost of vaccinations as the costs of raw materials. If tort law were the primary means of assuring compensation payments for adverse events, then these costs would also be reflected in the prices charged by those who produce and administer vaccines.

The principle of using excise taxes to cover the cost of adverse vaccination-related events paid for out of public funds could be implemented in one of two ways. The first, which Congress followed in creating the Vaccine Trust Fund, is to tax individual vaccines in proportion to the costs of the adverse events with which they are individually associated. The second, discussed in the next section, is to impose a tax on all covered vaccines at a flat rate.

There is a major advantage to the approach of having the costs of compensating for adverse events reflected in vaccine prices. If the prices of particular vaccines reflect the costs of compensating for the adverse events associated with them, then these prices act as a signaling device, directing research and development activities to the search for new vaccines that reduce the risk of adverse events.

There are several disadvantages associated with this risk-related approach to setting excise tax rates. The relative risks associated with specific vaccines are likely to change over time as new forms of vaccines (such as the acellular pertussis vaccine recently introduced and approved by the Food and Drug Administration for use in the fourth and fifth series of childhood DPT inoculations) that are expected to reduce the incidence of adverse events come into use. As more antigens are bundled into single vaccinations, it becomes increasingly difficult to attribute adverse events to any particular antigen. Changes in the recommended schedule of vaccinations will also change these relative risks. Changing the specifics of the Vaccine Injury Table will also change the relative costs of compensation awards associated with different vaccines. Finally, as new vaccines are added to the list of those recommended for children, accurate information on the costs of adverse events associated with those vaccines is likely to be unavailable. New vaccines may be proven to be completely acceptable on the basis of clinical trials involving thousands of doses, yet a few adverse events may occur once they are administered routinely to millions of children.

---

[29] Theoretically, the principle of internalizing the costs of adverse events into the price of vaccinations could be achieved by imposing a tax on the administration of vaccinations rather than the manufacture of vaccines. As a practical matter, however, taxing a few manufacturers is vastly easier, as an administrative matter, and minimizes both private and public compliance costs than would taxing thousands of persons who administer vaccinations.

Present law tax rates were set with the expectation that the relative amounts of revenue from the separately taxed vaccines would be in the following proportions, expressed in percentage terms:

DPT	76.98
DT	0.05
MMR	18.75
Polio	4.22

These proportions took into account the number of vaccines recommended for children and reflected "...currently accepted views regarding the relative reactogenicty of vaccines."[30] They can be compared to the percentage distribution of VICP awards arising from 1989 vaccinations, through May 12, 1994, derived from the data in Table 5, and with the percentage distribution of estimated 1989 tax receipts, by vaccine (based on data reported to CDC as shown in Table 3).

	Awards	Revenues
DPT	74.0	66.5
DT	1.5	0.8
MMR	19.4	29.0
Polio	5.1	3.7

Comparing the percentage distributions of awards and revenues suggests that the tax rate on DPT vaccines is somewhat too low and the rate on MMR vaccines is somewhat too high, in relative terms. The relative distribution of VICP awards for 1989 may, of course, change when all pending cases have been adjudicated. If the risk-related approach to setting excise tax rates is to be maintained, relative tax rates may need to be altered so that the distribution of receipts as among different vaccines better matches the distribution of awards. Making such a change should wait until the adjustment can be based on at least a few cohorts of cases arising from vaccinations in a given year that have been fully adjudicated.

Setting relative tax rates on vaccines is only half the job required to determine appropriate tax rates on vaccines. Rates should also be set, in terms of absolute amounts per dose, at levels that will generate an appropriate amount of Vaccine Trust Fund receipts. To date, excise taxes transferred to the Vaccine Trust Fund have exceeded trust fund outlays in every year (Table 1). As a consequence, the trust fund has been accumulating a growing surplus. The surplus is invested in Treasury securities and interest earnings on those securities

---

[30] H.R. Rept. 99-908, September 26, 1986, p. 34. Congressional deliberations regarding relative tax rates occurred in conjunction with the 1986 Act even though the taxes were not enacted until OBRA '87.

are also deposited into the trust fund. By the end of FY 1999 the balance in the Vaccine Trust Fund is expected to reach $1.2 billion. Some positive trust fund balance is appropriate to assure that compensation payments can be made should there be an unusual outbreak of adverse events leading to an increase in compensation awards. A balance equal to three times steady-state annual outlays, or about $200 million, should be sufficient for such a precautionary purpose.[31] Reducing the absolute levels of tax rates would be necessary to prevent any additional increase in the ratio of fund balances to annual outlays.

C. Tax Rate Recommendation of the Advisory Commission on Childhood Vaccines

The second approach to setting excise tax rates is to impose a flat tax on all vaccines, or all antigens, so as to generate the desired aggregate amount of revenue. The Advisory Commission on Childhood Vaccines has recommended to the Secretary of Health and Human Services (HHS) that a flat rate of $.50 per dose be applied to all vaccines covered by the Vaccine Injury Table.[32] The Commission intends that the tax be applied on a per antigen basis so that, for example, DPT and MMR would each be taxed at a rate of $1.50 per dose.[33] The major advantage of the Commission's recommendation is that it addressed concerns that epidemiological evidence was becoming increasingly uncertain with respect to the association of adverse events with particular antigens. They were advised that changing vaccine technology, changes to the Table, and other factors would make the problem of determining such associations even more difficult in the future. Another purpose of the recommendation was to address the concern that taxes on vaccines were too high relative to VICP outlays. Reducing vaccine taxes in the aggregate is consistent with the goal of adequately funding the Vaccine Trust Fund, given the current and projected fund balances.

The disadvantage of a flat-rate approach to setting excise tax rates is that it forecloses the ability to relate excise taxes on specific vaccines to the level of compensation payments related to those vaccines. Even if petitioners need not prove that their adverse event was caused by a vaccine when the event falls within the terms of the Vaccine Injury Table, it still will be the case that compensation payments are disproportionately related to some vaccines rather than others.

---

[31] The Advisory Commission on Childhood Vaccines (ACCV), created by the National Childhood Vaccine Injury Act of 1986, has recommended that the Vaccine Trust Fund balance be maintained at a level equal to three years' of awards. (Letter from Gerald M. Fenichel, M.D. Chairman, ACCV to The Honorable Donna E. Shalala, Secretary, Department of Health and Human Services, December 14, 1993.)

[32] The Secretary of HHS has not endorsed this recommendation.

[33] *Ibid.* This feature of the Commission's recommendation, that vaccines be taxed on a per antigen basis, is appropriate whether tax rates are set on a risk-related basis or on a flat rate basis.

III. TAXING ADDITIONAL VACCINES

As indicated in Chapter 4, two additional vaccines, Hib and hepatitis B, are expected to be added to the Vaccine Injury Table by the Secretary of HHS. It is recommended that after this occurs, Section 4131 of the Internal Revenue Code be amended to add these two vaccines to the list of taxable vaccines so that related adverse events are covered by VICP. Because sufficient information is not available to assess the probable future costs associated with compensating expected adverse events associated with these vaccines and the new provisions of the Table, a flat rate tax should be considered. The Advisory Commission on Childhood Vaccines has recommended a rate of $.50 per vaccine. Another option is to set the rate equal to the lowest tax rate on any other vaccine.

If other vaccines are subsequently added to the Vaccine Injury Table by administrative action of the Secretary of Health and Human Services, Section 4131 of the Code should be similarly amended. As an alternative method of accommodating new vaccines approved for public use by the Food and Drug Administration and recommended for routine administration to children by CDC's Advisory Committee on Immunization Practices, the Code could be amended to establish an excise tax, at a preset rate, triggered by the formal recommendation of the Committee or the inclusion of the vaccine in the Vaccine Injury Table. The tax rate could be adjusted by subsequent legislative action to comport with actual experience regarding compensation awards related to a new vaccine.

CHAPTER 6. TAXING VACCINES PRODUCED BY STATE AGENCIES

I. SUMMARY

Two States, Massachusetts and Michigan, manufacture vaccines to supply publicly-supported vaccination programs. A 1988 technical amendment to Section 4132 of the Internal Revenue Code[34] made it clear that vaccines manufactured by States are to be taxed.[35] Taxing these vaccines is consistent with the rationale for funding VICP with revenue from excise taxes, even though there is also a rationale for public provision of vaccinations.

II. THE RATIONALE FOR TAXING VACCINES PRODUCED BY STATES

VICP covers adverse events associated with vaccinations using vaccines produced by States as well as those produced by private drug companies. The cost of compensating those who suffer adverse events associated with vaccinations using State-produced vaccines are a part of the total cost of those vaccinations. The rationale for taxing vaccinations outlined in Section II of Chapter 5 applies equally to State-produced vaccines and privately-produced vaccines. If State-produced vaccines were untaxed, those vaccines would appear to be artificially cheaper than privately-produced vaccines. States maintaining extensive free or low-cost vaccination programs might thereby be encouraged to produce their own vaccines even though actual production costs might be higher, due to economies of scale, than production costs for private firms.

III. THE RATIONALE FOR PUBLIC PROVISION OF VACCINATIONS

Vaccinations benefit the public at large by limiting or preventing the spread of certain diseases. Young children, if not vaccinated, are particularly susceptible to the diseases for which vaccines have been developed and which are covered by VICP. Despite evidence that the risk of adverse events is extremely low, and despite covering those risks through VICP, many

---

[34] Technical and Miscellaneous Revenue Act of 1988 (P.L. 100-647), Section 2006.

[35] If a State produces vaccines and uses them in a "free" vaccination program, there is no sale of the vaccine. The 1988 amendment made it clear that the taxable event in this case was the use of the vaccine. This follows general excise tax principles that taxable articles used by their manufacturer are taxed. For example, gasoline used by a refiner to fuel its own trucks is taxable even though it is never sold.

children in the United States are not vaccinated at recommended times. For example, the Centers for Disease Control and Prevention (CDC) reported that, for 1991, only 37.2 percent of two year olds and 42.1 percent of one to four year olds were up to date on vaccinations.[36] Cost may be a factor explaining these low vaccination rates. The tax-included 1993 catalogue price to those who administer vaccinations privately of the full series of vaccines recommended for children (including Hib and hepatitis B vaccines) was $252. The tax component of the price was $32.84.[37] To address the concern that vaccine prices discourage immunization, a recently enacted Federal program will, in FY 1995, purchase $425 million of vaccines for low-income and uninsured children and provide them to these children free of charge.[38]

CDC anticipates that nearly 55 million doses of vaccines currently covered by VICP will be purchased by State and Federal agencies during FY 1995. If public purchases occur at this level, the major part of total Vaccine Trust Fund receipts for FY 1995 will come out of State and Federal budgets. To exempt these public purchases from vaccine excise taxes would be inappropriate. If there were such an exemption, public entities would not be paying for the full cost of the vaccination programs they support. The cost of adverse events associated with those vaccinations would go uncovered. There is nothing inconsistent with publicly providing or subsidizing vaccinations and at the same time taxing vaccines purchased or produced with government outlays as a means of funding VICP.

---

[36] *Statistical Abstract of the United States, 1993*, p. 133.

[37] Data supplied by VICP staff.

[38] The VICP staff report that the 1993 contract price to the Federal government for the full series of childhood vaccines was $111 per child, including the tax component of $32.84.

Table 1

VACCINE INJURY COMPENSATION TRUST FUND, FISCAL YEARS 1988 – 1999
(thousands of dollars)

Fiscal Year	Opening Balance	Excise Tax Receipts	Interest Received	Appropriations		Ending Balance
				Compensation Payments	Administrative Costs	
1988	0	74,038	580	0	0	77,547
1989	77,547	98,719	10,857	0	0	190,930
1990	190,300	158,551	21,600	261	2,844	368,560
1991	368,560	80,884	29,158	4,200	4,928	476,000
1992	476,000	117,788	28,381	13,022	6,811	602,336
1993	601,564	37,868 *	25,957	14,993	7,169	643,227
1994 est.	643,227	147,605	19,200	69,611	7,160	733,261
1995 est.	733,261	140,576	21,900	54,476	8,250	833,011
1996 est.	833,011	140,576	24,900	54,476	8,250	933,516
1997 est.	933,516	121,642 **	27,900	54,476	8,250	1,018,087
1998 est.	1,018,087	121,642	30,400	54,476	8,250	1,105,158
1999 est.	1,105,158	121,642	33,100	54,476	8,250	1,194,929

Department of the Treasury
Office of Tax Analysis

* Reflects termination of taxes on December 31, 1992 and reenactment of taxes effective August 10, 1993.

** Reflects assumed success of program to assure timely vaccinations of all children by age two (see text).

Note: Opening balances plus receipts and minus appropriations do not necessarily equal ending balances because of changed trust fund accounting concepts.

Source: Budget of the United States Government, Appendix, various years and VICP forecast.

Table 2

DISPOSITION OF VICP CASES ARISING FROM
VACCINATIONS ADMINISTERED AFTER SEPTEMBER 30, 1988
(through May 10, 1994)

Vaccine/ Death or Injury	Cases Filed	Cases Dismissed	Cases Adjudicated		Compensation Paid	Cases Pending	Awards* (thousands of dollars)
			Compensable	Not Compensable			
DPT – Death	96	19	30	4	29	43	7,337
DPT – Injury	226	35	30	12	25	149	27,640
DT – Death	3	2	1	0	1	0	273
DT – Injury	24	4	1	1	1	18	67
MMR – Death	11	0	2	3	2	6	512
MMR – Injury	128	23	6	1	5	98	3,719
Polio – Death	5	1	3	0	2	1	521
Polio – Injury	28	4	5	0	4	19	1,980
TOTAL	521	88	78	21	69	334	42,049
Death	115	22	36	7	34	50	8,643
Injury	406	66	42	14	35	284	33,406

Department of the Treasury
Office of Tax Analysis

* Only cases where compensation paid to petitioners.

Source: VICP administrative data.

Table 3

NET DOSES OF VACCINES AVAILABLE AND ESTIMATED TAXES, CALENDAR YEAR 1989*

Vaccine	Net Doses Available (millions)	Tax Rate	Estimated Taxes (millions of dollars)	Percentage of Total Implicit Taxes
DPT	22.0	$4.56	$100.1	66.5
DT	20.3	$0.06	$1.2	0.8
MMR	9.8	$4.44	$43.6	29.0
Polio	19.1	$0.29	$5.5	3.7
TOTAL	71.1		$150.1	100.0

Department of the Treasury
Office of Tax Analysis

* "Implicit taxes" are net doses available times tax rates and are not equal to tax liabilities reported to the Internal Revenue Service (see text).

Note: Detail may not add to totals due to rounding.

Source: Centers for Disease Control and Prevention, Biologics Surveilance Reporting System.

Table 4

DISPOSITION OF VICP CASES ARISING FROM 1989 VACCINATIONS
(through May 12, 1994)

Vaccine/ Death or Injury	Cases Filed	Cases Decided	Compensation Awards	Attorney Fees Awarded Only	Cases Pending
DPT – Death	36	25	13	3	11
DPT – Injury	95	43	7	15	52
DT – Death	2	2	1	0	0
DT – Injury	6	2	0	1	4
MMR – Death	1	1	0	0	0
MMR – Injury	57	17	3	10	40
Polio – Death	2	1	1	0	1
Polio – Injury	12	4	2	1	8
TOTAL	211	95	27	30	116
Death	41	29	15	3	12
Injury	170	66	12	27	104

Department of the Treasury
Office of Tax Analysis

Source: VICP administrative data.

Table 5

PAYMENTS FOR VICP CASES ARISING FROM 1989 VACCINATIONS
(through May 12, 1994)

Vaccine/ Death or Injury	Total Payments			Average Payments		
	Awards to Petitioners	Attorney Fees	Total	Award to Petitioners	Attorney Fees	Total Award*
DPT – Death	$2,935,000	$279,985	$3,214,985	$225,769	$17,499	$246,039
DPT – Injury	$9,962,693	$278,946	$10,241,639	$1,423,242	$12,679	$1,446,079
DT – Death	$250,000	$22,940	$272,940	$250,000	$22,940	$272,940
DT – Injury	$0	$2,978	$2,978	$0	$2,978	$0
MMR – Death	$0	$0	$0	$0	$0	$0
MMR – Injury	$3,221,109	$304,169	$3,525,278	$1,073,703	$23,398	$1,099,173
Polio – Death	$250,000	$3,279	$253,279	$250,000	$3,279	$253,279
Polio – Injury	$626,562	$42,606	$669,168	$313,281	$14,202	$332,328
TOTAL	$17,245,364	$934,903	$18,180,267	$638,717	$16,402	$659,610
Death	$3,435,000	$306,204	$3,741,204	$229,000	$17,011	$248,315
Injury	$13,810,364	$628,699	$14,439,063	$1,150,864	$8,428	$1,173,727

Department of the Treasury
Office of Tax Analysis

* Excludes cases where payments of attorney fees were made but no award was made to petitioner.

Source: VICP administrative data.

Table 6

AVERAGE TIME BETWEEN VACCINATION AND PAYMENT
FOR VICP CASES ARISING FROM 1989 VACCINATIONS
(through May 12, 1994)

Vaccine/ Death or Injury	Average Number of Days Between:			
	Vaccination and Filing	Filing and Judgment	Judgment and Payment*	Vaccination and Payment*
DPT – Death	676	481	56	1,048
DPT – Injury	865	701	88	1,296
DT – Death	789	558	68	1,293
DT – Injury	911	311	na	na
MMR – Death	811	373	na	na
MMR – Injury	943	683	53	1,402
Polio – Death	958	346	60	1,506
Polio – Injury	865	465	27	995
AVERAGE	855	543	63	1,053

Department of the Treasury
Office of Tax Analysis

* Excludes cases where only attorney fees were awarded.

na = not applicable (no compensation awarded in these cases)

Table 7

VICP COMPENSATION PAYMENTS, BY YEAR:
CASES ARISING FROM 1989 VACCINATIONS

Calendar year	Compensation payments:*		
	Number	Amount	Average
1990	1	$261,247	$261,247
1991	7	$3,019,210	$431,316
1992	8	$3,334,327	$416,791
1993	9	$10,645,141	$1,182,793
1994**	2	$549,531	$274,766
TOTAL	27	$17,809,457	$659,610

Department of the Treasury
Office of Tax Analysis

* Excludes cases where only attorney fees were awarded.

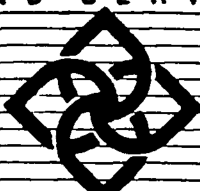
** Through May 12.

Source: VICP administrative data.

APPENDIX A

Fact Sheet: Vaccine Injury Compensation Program, Post-1988 Program
and
Fact Sheet: Vaccine Injury Compensation Program, Pre-1988 Program

HEALTH RESOURCES AND SERVICES ADMINISTRATION



FACT SHEET

OFFICE OF COMMUNICATIONS • PROGRAM SERIES SEPTEMBER 1993

VACCINE INJURY COMPENSATION PROGRAM

POST-1988 PROGRAM

Program Description

The Vaccine Injury Compensation Program (VICP) is a no-fault alternative to the tort system for resolving claims resulting from adverse reactions to covered vaccines. Vaccines covered by the Act include diphtheria, tetanus, pertussis (DTP, DT, TT, or Td); measles, mumps, rubella (MMR or any components); and polio (OPV or IPV). The VICP is administered jointly by the United States Court of Federal Claims (the Court), the Department of Health and Human Services (HHS), and the Department of Justice (DOJ). An individual claiming injury or death from a vaccine files a petition for compensation with the Court. A physician at the Division of Vaccine Injury Compensation, HHS, reviews each petition to determine whether it meets the criteria for compensation and makes a recommendation in the form of a respondent's report that is filed with the Court by DOJ.

There are two means to qualify for compensation: (1) a petitioner must prove that the vaccine caused the injury, or (2) a petitioner must prove that an injury listed on the Vaccine Injury Table, as set forth in the Act, occurred within the specified time periods.

The Act distinguishes in terms of the date of vaccination, the elements of compensation, source of funds, and court processing time between vaccines administered **prior to** October 1, 1988 (pre-1988 claims), and those administered **on or after** this date (post-1988 claims). This fact sheet provides general information relevant to all claims and specific information on post-1988 claims.

Filing Claims

For post-1988 claims involving an injury, the effects must have continued for at least 6 months after vaccine administration and the claim must be filed within 36 months after the first symptom appeared. For post-1988 claims involving a death, the claim must be filed within 24 months of the death and within 48 months after the onset of the vaccine-related injury from which the death occurred.

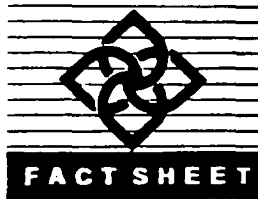
Elements of Compensation for Post-1988 Claims

For death-related claims, the total benefit allowed by law is $250,000. In injury claims, the amount of compensation is determined by the Court based on the needs of the individual and the extent of the injury. The award may include past and future non-reimbursable medical, residential, custodial and rehabilitation expenses not otherwise covered by a third-party payor. In addition, an amount may be awarded for lost earnings, pain and suffering, and reasonable attorneys' fees and costs.

Adjudication

Petitions for compensation are adjudicated by the Court, and the Secretary of HHS is named as the respondent. Attorneys from DOJ represent HHS in hearings before a "Special Master", appointed by the Court, who makes the initial decision on the petition for compensation. Either party may file an objection to the decision of a Special Master and request review by the Court. Appeals of judgments by the Court are heard by the Federal Circuit Court of Appeals.

The responsibility for determining the order in which petitions will be heard lies with the Court. The Court has indicated that the processing order for each claim depends on issues germane to each specific claim, e.g., adequacy of medical documentation, type of vaccine involved, etc. For additional information pertaining to how claims are scheduled to be heard, an individual



may write to the Clerk of the United States Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005, or call (202) 219-9657.

The Court has approximately 14 months from the date a petition is filed to render a decision on post-1988 claims, counting all available suspension time. After the deadline has passed, the Court may retain jurisdiction over a petition with the consent of the petitioners.

Payment of Awards

For post-1988 claims, awards are paid from the Vaccine Injury Compensation Trust Fund, which is funded by an excise tax on covered vaccines as follows: DPT, or any Pertussis containing combination - $4.56; DT, D or T - $0.06; MMR, MM, MR, M, or R - $4.44; and Polio - $0.29.

Status of Funds

Based on awards thus far for post-1988 claims, the amount of funds available is sufficient.

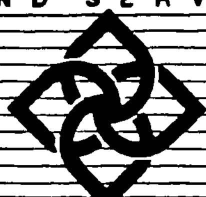
Advisory Commission on Childhood Vaccines

The ACCV meets quarterly and is composed of nine appointed voting members -three health professionals, three members of the general public and three attorneys and four ex-officio members. The ACCV advises the Secretary on implementation of the compensation program and recommends changes in the vaccine injury table.

Additional Information

For more information about the Program, write the National Vaccine Injury Compensation Program, Health Resources and Services Administration, Parklawn Building, Room 8-05, 5600 Fishers Lane, Rockville, Maryland 20857; or call 301-443-6593. For specific information on how to file a claim call: 1-800-338-2382 toll free.

HEALTH RESOURCES AND SERVICES ADMINISTRATION



FACT SHEET

OFFICE OF COMMUNICATIONS • PROGRAM SERIES • SEPTEMBER 1993

VACCINE INJURY COMPENSATION PROGRAM

PRE-1988 PROGRAM

(Legislative Deadline for Filing Claims Expired January 31, 1991)

Program Description

The Vaccine Injury Compensation Program (VICP) is a no-fault alternative to the tort system for resolving claims resulting from adverse reactions to covered vaccines. Vaccines covered by the Act include diphtheria, tetanus, pertussis (DTP, DT, TT, or Td); measles, mumps, rubella (MMR or any components); and polio (OPV or IPV). The VICP is administered jointly by the United States Court of Federal Claims (the Court), the Department of Health and Human Services (HHS), and the Department of Justice (DOJ). An individual claiming injury or death from a vaccine files a petition for compensation with the Court. A physician at the Division of Vaccine Injury Compensation, HHS, reviews each petition to determine whether it meets the criteria for compensation and makes a recommendation in the form of a respondent's report that is filed with the Court by DOJ.

There are two means to qualify for compensation: (1) a petitioner must prove that the vaccine caused the injury, or (2) a petitioner must prove that an injury listed on the Vaccine Injury Table, as set forth in the Act, occurred within the specified time periods.

The Act distinguishes in terms of the date of vaccination, the elements of compensation, source of funds, and court processing time between vaccines administered **prior to** October 1, 1988 (pre-1988 claims), and those administered **on or after** this date (post-1988 claims). The deadline for filing pre-1988 claims under the program expired on **January 31, 1991**. This fact sheet provides general information relevant to all claims and specific information on pre-1988 claims.

Elements of Compensation for Pre-1988 Claims

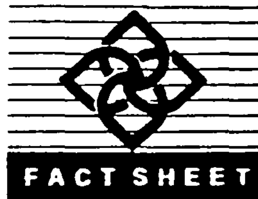
For death-related claims, the total benefit allowed by law is $250,000. In injury claims, the amount of compensation is determined by the Court based on the needs of the individual and the extent of the injury. The award may include future non-reimbursable medical, residential, custodial and rehabilitation expenses not otherwise covered by a third-party payor. In addition, up to a total of $30,000 for pre-1988 claims may be awarded for lost earnings, pain and suffering, and reasonable attorneys' fees and costs.

Adjudication

Petitions for compensation are adjudicated by the Court, and the Secretary of HHS is named as the respondent. Attorneys from DOJ represent HHS in hearings before a "Special Master", appointed by the Court, who makes the initial decision on the petition for compensation. Either party may file an objection to the decision of a Special Master and request review by the Court. Appeals of judgments by the Court are heard by the Federal Circuit Court of Appeals.

The responsibility for determining the order in which petitions will be heard lies with the Court. The Court is now seeking input from HHS on whether cases are sufficiently documented to proceed to full review; the intial review is based on the assignment of cases by the Court, generally in the order received by the Court, as reflected by the Court's docket numbers. For additional information pertaining to how claims are scheduled to be heard, an individual may write to the Clerk of the United States Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005, or call (202) 219-9657.

The Court has approximately 44 months from the date a petition is filed to render a decision on pre-1988 claims, including all available suspension time. After the deadline has passed, the Court may retain jurisdiction over a petition with the consent of the petitioners.



Payment of Awards

For pre-1988 claims, awards are paid from general fund appropriations authorized by the Congress at $110 million per year. HHS pays awards for pre-1988 claims based on the order in which the Court resolves claims.

Advisory Commission on Childhood Vaccines

The ACCV meets quarterly and is composed of nine appointed voting members--three health professionals, three members of the general public and three attorneys and four ex-officio members. The ACCV advises the Secretary on implementation of the compensation program and recommends changes in the vaccine injury table.

Additional Information

For more information about the Program, write the National Vaccine Injury Compensation Program, Health Resources and Services Administration, Parklawn Building, Room 8-05, 5600 Fishers Lane, Rockville, Maryland 20857; or call 301-443-6593. For specific information on how to file a claim call: 1-800-338-2382 toll free.

APPENDIX B

Vaccine Injury Table

TABLE 1: VACCINE INJURY TABLE

ILLNESS, DISABILITY, INJURY OR CONDITION COVERED*	TIME PERIOD FOR FIRST SYMPTOM OR MANIFESTATION OF ONSET OR OF SIGNIFICANT AGGRAVATION AFTER VACCINE ADMINISTRATION
I. DTP; P; DT; Td; or Tetanus Toxoid; or in any combination with Polio; or any Other Vaccine Containing Whole Cell Pertussis Bacteria, or Partial Cell Pertussis Bacteria, or Specific Pertussis Antigen(s)	
A. Anaphylaxis or anaphylactic shock	24 hours
B. Encephalopathy (or encephalitis)	3 days
C. Shock-collapse or hypotonic or hyporesponsive collapse	3 days
D. Residual seizure disorder as defined below**	3 days
II. Measles, mumps, rubella, or any vaccine containing any of the foregoing as a component;	
A. Anaphylaxis or anaphylactic shock	24 hours
B. Encephalopathy (or encephalitis)	15 days (for mumps, rubella, measles, or any vaccine containing any of the foregoing as a component) 3 days (for DT, Td, or tetanus toxoid)
C. Residual seizure disorder as defined below**	same as for encephalopathy
III. Polio Vaccines (other than Inactivated Polio Vaccine)	
A. Paralytic Polio	
--- in a non-immunodeficient recipient	30 days
--- in an immunodeficient recipient	6 months
--- in a vaccine associated community case	Not applicable
IV. Inactivated Polio Vaccine	
A. Anaphylaxis or anaphylactic shock	24 hours

* For any covered vaccine the following applies: Any acute complication or sequela including death) of an illness, disability, injury or condition referred to above that arose within the time period prescribed is also subject to the presumption of causation.

** A petitioner may be considered to have suffered a residual seizure disorder if the petitioner did not suffer a seizure or convulsion unaccompanied by fever or accompanied by a fever of less than 102 degrees F before the first seizure or convulsion after the administration of the vaccine involved and if:

(a) in the case of measles, mumps, or rubella vaccine or any combination of such vaccines, the first seizure or convulsion occurred within 15 days after administration of the vaccine and two or more seizures or convulsions occurred within one year after the administration of the vaccine which were unaccompanied by fever or accompanied by a fever of less than 102 degrees F. and;

(b) in the case of any other vaccine, the first seizure or convulsion occurred within three days after the administration of the vaccine and two or more seizures or convulsions occurred within one year after the administration of the vaccine which were unaccompanied by a fever or accompanied by a fever of less than 102 degrees F.

APPENDIX C

Schedule of Vaccinations Recommended for Children

Recommended schedule for active immunization of normal infants and children[*]

Recommended age[†]	Vaccine(s)[§]	Comments
2 mos	DTP#1[¶], OPV#1[**]	OPV and DTP can be given earlier in areas of high endemicity
4 mos	DTP#2, OPV#2	6-wk to 2-mo interval desired between OPV doses
6 mos	DTP#3	An additional dose of OPV at this time is optional in areas with a high risk of poliovirus exposure
15 mos[††]	MMR[§§], DTP#4, OPV#3	Completion of primary series of DTP and OPV
18 mos	HbCV[¶¶]	Conjugate preferred over polysaccharide vaccine[***]
4–6 yrs	DTP#5[†††], OPV#4	At or before school entry
14–16 yrs	Td[§§§]	Repeat every 10 yrs throughout life

*See Table 3 for the recommended immunization schedules for infants and children up to their seventh birthday not immunized at the recommended times.

†These recommended ages should not be construed as absolute, e.g., 2 months can be 6–10 weeks. However, MMR should not be given to children <12 months of age. If exposure to measles disease is considered likely, then children 6 through 11 months old may be immunized with single-antigen measles vaccine. These children should be reimmunized with MMR when they are approximately 15 months of age.

§For all products used, consult the manufacturers' package enclosures for instructions regarding storage, handling, dosage, and administration. Immunobiologics prepared by different manufacturers can vary, and those of the same manufacturer can change from time to time. The package inserts are useful references for specific products, but they may not always be consistent with current ACIP and American Academy of Pediatrics immunization schedules.

¶DTP = Diphtheria and Tetanus Toxoids and Pertussis Vaccine, Adsorbed. DTP may be used up to the seventh birthday. The first dose can be given at 6 weeks of age and the second and third doses given 4–8 weeks after the preceding dose.

**OPV = Poliovirus Vaccine Live Oral, Trivalent: contains poliovirus types 1, 2, and 3.

††Provided at least 6 months have elapsed since DTP#3 or, if fewer than 3 doses of DTP have been received, at least 6 weeks since the last previous dose of DTP or OPV. MMR vaccine should not be delayed to allow simultaneous administration with DTP and OPV. Administering MMR at 15 months and DTP#4 and OPV#3 at 18 months continues to be an acceptable alternative.

§§MMR = Measles, Mumps, and Rubella Virus Vaccine, Live. Counties that report ≥5 cases of measles among preschool children during each of the last 5 years should implement a routine 2-dose measles vaccination schedule for preschoolers. The first dose should be administered at 9 months or the first health-care contact thereafter. Infants vaccinated before their first birthday should receive a second dose at about 15 months of age. Single-antigen measles vaccine should be used for children aged <1 year and MMR for children vaccinated on or after their first birthday. If resources do not allow a routine 2-dose schedule, an acceptable alternative is to lower the routine age for MMR vaccination to 12 months.

¶¶HbCV = Vaccine composed of Haemophilus influenzae b polysaccharide antigen conjugated to a protein carrier. Children <5 years of age previously vaccinated with polysaccharide vaccine between the ages of 18 and 23 months should be revaccinated with a single dose of conjugate vaccine if at least 2 months have elapsed since the receipt of the polysaccharide vaccine.

***If HbCV is not available, an acceptable alternative is to give Haemophilus influenzae b polysaccharide vaccine (HbPV) at age ≥24 months. Children at high risk for *Haemophilus influenzae* type b disease where conjugate vaccine is not available may be vaccinated with HbPV at 18 months of age and revaccinated at 24 months.

†††Up to the seventh birthday.

§§§Td = Tetanus and Diphtheria Toxoids, Adsorbed (for use in persons aged ≥7 years): contains the same amount of tetanus toxoid as DTP or DT but a reduced dose of diphtheria toxoid.

Minimum age for initial vaccination and minimum interval between vaccine doses, by type of vaccine

Vaccine	Minimum *age* for first dose*	Minimum *interval* from dose 1 to 2*	Minimum *interval* from dose 2 to 3*	Minimum *interval* from dose 3 to 4*
DTP (DT)†	6 weeks§	4 weeks	4 weeks	6 months
Combined DTP-Hib	6 weeks	1 month	1 month	6 months
DTaP*	15 months			6 months
Hib (primary series)				
HbOC	6 weeks	1 month	1 month	¶
PRP-T	6 weeks	1 month	1 month	¶
PRP-OMP	6 weeks	1 month	¶	
OPV	6 weeks§	6 weeks	6 weeks	
IPV**	6 weeks	4 weeks	6 months††	
MMR	12 months§§	1 month		
Hepatitis B	birth	1 month	2 months¶¶	

DTP	Diphtheria-tetanus-pertussis
DTaP	Diphtheria-tetanus-acellular pertussis
Hib	*Haemophilus influenza* type b conjugate
IPV	Inactivated poliovirus vaccine
MMR	Measles-mumps-rubella
OPV	Live oral polio vaccine

*These minimum acceptable ages and intervals may not correspond with the optimal recommended ages and intervals for vaccination. See tables 3–5 for the current recommended routine and accelerated vaccination schedules.

†DTaP can be used in place of the fourth (and fifth) dose of DTP for children who are at least 15 months of age. Children who have received all four primary vaccination doses before their fourth birthday should receive a fifth dose of DTP (DT) or DTaP at 4–6 years of age before entering kindergarten or elementary school **and** at least 6 months after the fourth dose. The total number of doses of diphtheria and tetanus toxoids should not exceed six each before the seventh birthday (*14*).

§The American Academy of Pediatrics permits DTP and OPV to be administered as early as 4 weeks of age in areas with high endemicity and during outbreaks.

¶The booster dose of Hib vaccine which is recommended following the primary vaccination series should be administered no earlier than 12 months of age **and** at least 2 months after the previous dose of Hib vaccine (Tables 3 and 4).

**See text to differentiate conventional inactivated poliovirus vaccine from enhanced-potency IPV.

††For unvaccinated adults at increased risk of exposure to poliovirus with <3 months but >2 months available before protection is needed, three doses of IPV should be administered at least 1 month apart.

§§Although the age for measles vaccination may be as young as 6 months in outbreak areas where cases are occurring in children <1 year of age, children initially vaccinated before the first birthday should be revaccinated at 12–15 months of age and an additional dose of vaccine should be administered at the time of school entry or according to local policy. Doses of MMR or other measles-containing vaccines should be separated by at least 1 month.

¶¶This final dose is recommended no earlier than 4 months of age.

APPENDIX D

Adverse Effects of Pertussis and Rubella Vaccines
Executive Summary

Adverse Effects of PERTUSSIS and RUBELLA Vaccines

A Report of the
Committee to Review the Adverse Consequences of
Pertussis and Rubella Vaccines

Christopher P. Howson, Cynthia J. Howe,
and *Harvey V. Fineberg, Editors*

Division of Health Promotion and
Disease Prevention

INSTITUTE OF MEDICINE

NATIONAL ACADEMY PRESS
Washington, D.C. 1991

1

Executive Summary

Next to clean water, no single intervention has had so profound an effect on reducing mortality from childhood diseases as has the widespread introduction of vaccines. Immunization, the process in which the body's own protective mechanisms are primed to thwart the invasion or multiplication of pathogens, is effective and relatively inexpensive, simple, and easy to deliver.

The use of vaccines is not entirely without risk, however. Vaccines, including the whole-cell pertussis (whooping cough) vaccine and the rubella (German measles) vaccine, the subjects of this report, typically contain small quantities of material derived from disease-causing organisms. The pertussis vaccine contains dead bacteria and is termed a *killed* or *inactivated vaccine*; the rubella vaccine contains laboratory-weakened live viruses and is termed a *live, attenuated vaccine*.

This study responds to a request to the Institute of Medicine (IOM) to conduct a thorough review of the evidence pertaining to a set of serious adverse events and immunization with pertussis or rubella vaccine. The request to IOM originated in the 1986 National Childhood Vaccine Injury Act (Public Law 99-660), whose primary purpose was to establish a federal compensation scheme for persons potentially injured by a vaccine. Section 312 of Public Law 99-660 called for IOM review of scientific and other information on specific adverse consequences of pertussis and rubella vaccines. The 11-member interdisciplinary committee, constituted

by IOM to conduct this study, recognized that its charge was to focus on questions of causation and not broader topics, such as cost-benefit or risk-benefit analyses of vaccination. These topics are therefore not addressed in the report.

After formation of the committee, additional adverse events were added both by the committee and at the request of the Advisory Commission on Childhood Vaccines. During the 20 months of the study, the committee reviewed altogether *17 adverse events for pertussis vaccine*—infantile spasms; hypsarrhythmia; aseptic meningitis; encephalopathy (including acute encephalopathy and chronic neurologic damage); deaths classified as sudden infant death syndrome (SIDS); anaphylaxis; autism; erythema multiforme or other rashes; Guillain-Barré syndrome (polyneuropathy); peripheral mononeuropathy; hemolytic anemia; juvenile diabetes; learning disabilities and hyperactivity; protracted inconsolable crying or screaming; Reye syndrome; shock and "unusual shock-like state" with hypotonicity, hyporesponsiveness, and short-lived convulsions (usually febrile); and thrombocytopenia—and *3 adverse events for rubella vaccine*—arthritis (acute and chronic); radiculoneuritis and other neuropathies; and thrombocytopenic purpura. Although the committee was not asked expressly to examine febrile seizures, afebrile seizures, or epilepsy in relation to diphtheria-pertussis-tetanus (DPT) vaccine, it did so because these conditions may also be serious and are considered by some to be components of encephalopathy. Conclusions regarding these conditions are given in Chapter 4. The committee's conclusions on acute encephalopathy, also presented in Chapter 4, refer only to conditions diagnosed as encephalopathy, encephalitis, or encephalomyelitis. (For additional information on the committee's charge and the events leading to the enactment of Public Law 99-660, see the Preface and Appendix B, Pertussis and Rubella Vaccines: A Brief Chronology.)

The following three sections of this summary briefly review the methods used by the committee to evaluate the evidence relating the 20 adverse events to pertussis or rubella vaccine, the evidence considered and the conclusions reached for each adverse event, and the research directions recommended by the committee.

METHODOLOGIC CONSIDERATIONS IN EVALUATING THE EVIDENCE

The committee undertook the task of judging whether each of a set of adverse events can occur as a result of exposure to pertussis or rubella vaccine. These judgments have both quantitative and qualitative aspects; they reflect the nature of the exposures, events, and populations at issue; the specific questions to be considered; the characteristics of the evidence examined; and the approach taken to evaluate that evidence. To facilitate the

independent assessment of the committee's conclusions, the committee wishes to make the process of its evaluation as explicit as possible.

The adverse events under consideration by the committee are, in most instances, rare in the exposed population. They also are known to occur in the absence of vaccination, are clinically ill-defined, and are generally of unknown causation in the general population. The exposures—pertussis and rubella vaccinations—are very widespread in the population, so that the absence of exposure may itself require an explanation in the interpretation of comparative studies. These and other features raise a number of difficulties both in the investigation and in the evaluation of the resulting evidence.

The committee considered causal questions of three kinds in connection with adverse events that have been reported to occur after administration of pertussis or rubella vaccine. The first of these questions about exposure to pertussis or rubella vaccine is, in general, *can it cause* the specified adverse condition? For example, can rubella vaccine cause chronic arthritis? If the conclusion is affirmative, a second question becomes pertinent: *How frequently does it cause* that condition? Or, how frequently is arthritis a result of rubella vaccination? The third question, which applies to a particular instance or case of an adverse event, is *did it cause* that specific event? Or, did rubella vaccine cause this particular individual to develop arthritis? The committee has undertaken its evaluation from a neutral posture, presuming neither the existence nor the absence of association between these vaccines and the events under consideration.

The identification and acquisition of the relevant evidence were major tasks of the committee throughout the course of its work. The preponderance of this material comprised either reports of controlled, observational epidemiologic studies (case-comparison or cohort studies) or uncontrolled case reports or case series. There was no experimental evidence, whether in humans or animals, that clearly proved or disproved a causal relation. Each study or report reviewed by the committee was first assessed individually and then, as appropriate, incorporated into the collective results that underlie the committee's conclusions.

Both quantitative and qualitative approaches to integration of the evidence were utilized. Formal meta-analysis was applied when it was feasible and appropriate. All of the studies were assessed insofar as possible with respect to the roles of error, bias, confounding, and chance in producing the observed results. Several considerations bearing on the inference that an association may reflect a true causal relation were also included in the committee's evaluation of the overall body of evidence pertaining to each type of adverse event under review. These included the strength of association, temporal relation between exposure and event, consistency of results between studies, specificity of the relation between exposure and event, and biologic plausibility of such a relation.

SUMMARY AND CONCLUSIONS

Table 1-1 summarizes the categories of evidence reviewed for each adverse event and the respective contribution of each to the committee's judgments about causation. The evidence is organized under five headings: (1) human experiments; (2) animal experiments; (3) case-comparison, cohort, and other controlled studies, (4) case reports and case series; and (5) biologic plausibility. Methods for interpreting evidence in the first four categories are discussed in Chapter 3. The fifth category, biologic plausibility, includes background knowledge concerning the pathophysiology of an adverse event, attributes of a particular vaccine, or other biologic information derived from research in such areas as immunology and physiology. The evidence in these five categories, elaborated in the body of the report, forms the basis of the committee's conclusions.

Where evidence was available in a particular category, the committee judged whether that evidence was generally supportive or not supportive of causation or whether it was insufficient for a determination. For example, where there were relevant controlled studies which, overall, found relative risks greater than 1, the evidence was classified as "supportive of causation." Blanks for any given category of evidence indicate that evidence of that type was lacking. It is important to note that any one category of evidence generally was not sufficient in itself to support a conclusion of causality, since other aspects of the evidence, including the details of the results and the number and quality of contributing studies, as well as the assessment of the other categories of evidence, were also considered in the evaluation.

Table 1-2 summarizes the committee's conclusions about the 20 adverse events evaluated in this report. As shown in the table, the committee found it convenient to organize its conclusions about the adverse events into five categories. These categories reflect the strength and direction of the conclusions about the causal relations between DPT or rubella vaccine and the 20 adverse events evaluated in the report. The bases of these conclusions are discussed in Chapters 4 through 7 of the report. Conclusions on rubella vaccine apply to the RA 27/3 rubella strain currently in use. Evidence does not differentiate between DPT vaccine and the pertussis component of DPT vaccine, except in the case of protracted crying (see below). As shown in Table 1-2, the committee found:

- no evidence bearing on a causal relation between DPT vaccine and autism;
- insufficient evidence to indicate a causal relation between DPT vaccine and aseptic meningitis, chronic neurologic damage, erythema multiforme or other rash, Guillain-Barré syndrome, hemolytic anemia, juvenile diabetes, learning disabilities and attention deficit disorder, peripheral mononeurop-

TABLE 1-1 Categories of Evidence Reviewed for Each Adverse Event: Is the Evidence Supportive of Causation?[a]

Vaccine and Adverse Event (Chapter of Report)	Human Experiments			Animal Experiments			Case-Comparison, Cohort, and Other Controlled Studies			Case Reports and Case Series			Biologic Plausibility		
	Yes[b]	?[c]	No[d]	Yes	?	No	Yes	?	No	Yes	?	No	Yes	?	No
DPT															
Infantile spasms (4)									X		X				
Hypsarrhythmia (4)			X								X				
Aseptic meningitis (4)								X			X				
Acute encephalopathy[e] (4)					X		X			X				X	
Chronic neurologic damage (4)					X			X			X			X	
Sudden infant death syndrome (5)									X		X				
Anaphylaxis (6)					X			X		X			X		
Autism (6)															
Erythema multiforme or other rash (6)											X		X		
Guillain-Barré syndrome (polyneuropathy) (6)											X				
Peripheral mononeuropathy (6)											X				
Hemolytic anemia (6)											X		X		
Juvenile diabetes (6)					X			X			X				
Learning disabilities and hyperactivity (6)									X		X				
Protracted inconsolable crying and screaming (6)							X			X			X		
Reye syndrome (6)								X				X			

TABLE 1-1 *Continued*

Vaccine and Adverse Event (Chapter of Report)	Human Experiments			Animal Experiments			Case-Comparison, Cohort, and Other Controlled Studies			Case Reports and Case Series			Biologic Plausibility		
	Yes[b]	?[c]	No[d]	Yes	?	No	Yes	?	No	Yes	?	No	Yes	?	No
Shock and "unusual shock-like state" (6)								X		X				X	
Thrombocytopenia (6)											X				
RA 27/3 Rubella															
Arthritis (7)															
Acute	X						X			X			X		
Chronic		X								X			X		
Radiculoneuritis and other neuropathies (7)											X		X		
Thrombocytopenic purpura (7)											X		X		

[a]Blanks for any given category of evidence indicate that evidence of this kind is lacking.
[b]Yes, Evidence of this kind is supportive of causation.
[c]?, Evidence of this kind cannot be classified either as supportive or as not supportive of causation.
[d]No, Evidence of this kind is not supportive of causation.
[e]Defined in controlled studies reviewed as encephalopathy, encephalitis, or encephalomyelitis.

TABLE 1-2 Summary of Conclusions by Adverse Event for DPT and RA 27/3 MMR[b] Vaccines

	Adverse Events Reviewed	
Conclusion	DPT Vaccine	RA 27/3 Rubella Vaccine
1. No evidence bearing on a causal relation[c]	Autism	
2. Evidence insufficient to indicate a causal relation[d]	Aseptic meningitis Chronic neurologic damage Erythema multiforme or other rash Guillain-Barré syndrome Hemolytic anemia Juvenile diabetes Learning disabilities and attention-deficit disorder Peripheral mononeuropathy Thrombocytopenia	Radiculoneuritis and other neuropathies Thrombocytopenic purpura
3. Evidence does not indicate a causal relation[e]	Infantile spasms Hypsarrythmia Reye syndrome Sudden infant death syndrome	
4. Evidence is consistent with a causal relation[f]	Acute encephalopathy[g] Shock and "unusual shock-like state"	Chronic arthritis
5. Evidence indicates a causal relation[h]	Anaphylaxis Protracted, inconsolable crying	Acute arthritis

[a]Evidence does not differentiate between DPT vaccine and the pertussis component of DPT vaccine except in the case of protracted, inconsolable crying where the evidence implicates the pertussis component specifically.

[b]RA 27/3 MMR, Trivalent measles-mumps-rubella vaccine containing the RA 27/3 rubella strain.

[c]No category of evidence was found bearing on a judgment about causation (all categories of evidence left blank in Table 1-1).

[d]Relevant evidence in one or more categories was identified but was judged to be insufficient to indicate whether or not a causal relation exists (no category of evidence checked as supporting causation in Table 1-1; exceptions are this designation under biologic plausibility for erythema multiforme and hemolytic anemia).

[e]The available evidence, on balance, does not indicate a causal relation (one or more categories of evidence checked as not supporting causation in Table 1-1, with evidence supporting causation being either absent or outweighed by the other evidence).

[f]The available evidence, on balance, tends to support a causal relation (one or more categories of evidence checked as supporting causation in Table 1-1, with evidence checked as insufficient or not supporting causation being absent or outweighed by the other evidence).

[g]Defined in controlled studies reviewed as encephalopathy, encephalitis, or encephalomyelitis.

[h]The available evidence, on balance, supports a causal relation, and the evidence is more persuasive than that for conclusion 4 above (the categories of evidence are coded similarly to those in conclusion 4, with evidence checked as insufficient or not supporting causation in Table 1-1 being absent or less than for 4).

athy, or thrombocytopenia, and between the currently used rubella vaccine (RA 27/3) and radiculoneuritis and other neuropathies or thrombocytopenic purpura;

- that the evidence does not indicate a causal relation between DPT vaccine and infantile spasms, hypsarrythmia, Reye syndrome, or SIDS;
- that the evidence is consistent with a causal relation between DPT vaccine and acute encephalopathy and shock and "unusual shock-like state," and between RA 27/3 rubella vaccine and chronic arthritis; and
- that the evidence indicates a causal relation between DPT vaccine and anaphylaxis, between the pertussis component of DPT vaccine and protracted, inconsolable crying, and between RA 27/3 rubella vaccine and acute arthritis.[1]

RESEARCH NEEDS

In the course of its review, the committee encountered many gaps and limitations in knowledge bearing directly and indirectly on the safety of vaccines. These include inadequate understanding of the biologic mechanisms underlying adverse events following natural infection or immunization, insufficient or inconsistent information from case reports and case series, inadequate size or length of follow-up of many population-based epidemiologic studies, and limited capacity of existing surveillance systems of vaccine injury to provide persuasive evidence of causation. The committee found few experimental studies published in relation to the number of epidemiologic studies published. Clearly, if research capacity and accomplishment in these areas are not improved, future reviews of vaccine safety will be similarly handicapped.

With respect to pertussis and rubella vaccines, careful review is needed to identify what sorts of questions might be best answered by further investigations and which kinds of studies could be carried out economically. The availability and introduction of new forms of pertussis vaccine, for example, could offer valuable opportunities for comparison of vaccine safety as well as efficacy. The committee's experience points to fresh possibilities and to the need for such a review.

---

[1] The available evidence is consistent with a causal relation, but, on balance, is more persuasive than that in the previous bullet.

APPENDIX E

Adverse Events Associated with Childhood Vaccines: Evidence Bearing on Causality
Executive Summary

Adverse Events Associated with CHILDHOOD VACCINES

Evidence Bearing on Causality

Kathleen R. Stratton, Cynthia J. Howe, and
Richard B. Johnston, Jr., *Editors*

Vaccine Safety Committee

Division of Health Promotion and Disease Prevention

INSTITUTE OF MEDICINE

NATIONAL ACADEMY PRESS
Washington, D.C. 1994

1

Executive Summary

"Our aim, therefore, must be to study these [complications] as fully as possible in the confident expectation that, as in other branches of science, knowledge will bring enlightenment" (Wilson, 1967).

Childhood immunization has been one of the foremost public health measures of the twentieth century. It has allowed control and prevention of many diseases from which morbidity and mortality can be staggering. Medical personnel in the United States currently rarely see a case of the infectious diseases against which the vaccines are directed. Yet, recent measles epidemics on college campuses and in inner cities suggest that vaccine-preventable disease is not to be ignored. The first health initiative of the new presidential administration was to increase funding for childhood immunization programs to boost vaccination rates in the United States, particularly for children under age 2 years.

BACKGROUND AND HISTORY

The public policy debate regarding immunization stretches beyond the question of how to meet the goals of universal immunization. Concern over the safety of pertussis vaccine was long-standing in Great Britain by the time of the 1982 airing in the United States of a documentary entitled "DPT: Vaccine Roulette" (WRC-TV, 1982) and the 1985 publication of *DPT: A Shot in the Dark* (Coulter and Fisher, 1985). Concern has stretched to other vaccines and has spawned the formation of groups of interested citizens throughout the United States, for example, National Vaccine Information Center/Dissatisfied Parents Together, Determined Parents to Stop Hurting Our Tots, Concerned Health Professionals and Others, and Parents

Concerned About the Safety of Vaccines. More articles and books have been published (e.g., Coulter, 1990; Miller, 1992) to alert the public to the potential risks of vaccination.

In 1986, the U.S. Congress passed the National Childhood Vaccine Injury Act (NCVIA; P.L. 99-660) in response to worries about the safety of currently licensed childhood vaccines and in response to the economic pressures that were threatening the integrity of childhood immunization programs. The litigation costs associated with claims of damage from vaccines had forced several companies to end their vaccine research and development programs as well as to stop producing already licensed vaccines. The NCVIA was an attempt to encourage and ensure vaccine production by creating a no-fault compensation program (the National Vaccine Injury Compensation Program) as a required first resort for those who believed that they or their children had been injured by certain vaccines. The need for a compensation program had long been recognized, and several groups had proposed possible mechanisms for compensating people believed to be injured by vaccination (Institute of Medicine, 1985; Office of Technology Assessment, 1980). This program was envisioned to alleviate, but not completely eliminate, manufacturer liability and encourage research and development of more and safer vaccines. The compensation program is administered by the federal government and is financed by an excise tax on the sale of vaccines covered by the program (Iglehart, 1987; Mariner, 1992).

In addition to establishing the compensation program, the NCVIA set forth other vaccine-related efforts to be carried out by the U.S. Department of Health and Human Services, including mandatory reporting of specific adverse events following childhood immunizations against diphtheria, tetanus, pertussis, measles, mumps, rubella, and polio (see box entitled The Vaccine Injury Table in Chapter 10); voluntary reporting of any reaction to any immunization to the Vaccine Adverse Event Reporting System (see Chapter 10 for a discussion of this passive surveillance system and Figure B-1 for a copy of the reporting form); the creation of a National Vaccine Program Office to coordinate federal vaccine initiatives and to help meet immunization coverage goals; the establishment of advisory groups to the National Vaccine Program and the National Vaccine Injury Compensation Program; and better communication of the potential risks of vaccines through public information pamphlets that are distributed at the time of vaccination (under the direction of the Centers for Disease Control and Prevention) and changes in vaccine package inserts (under the direction of the U.S. Food and Drug Administration).

The NCVIA also mandated that the Secretary of the U.S. Department of Health and Human Services enlist the help of the Institute of Medicine (IOM) of the National Academy of Sciences to study the adverse effects of childhood vaccines. The NCVIA called for two specific studies. The first,

mandated under Section 312 of P.L. 99-660, was to address the serious adverse effects of pertussis and rubella vaccines. The Committee to Review the Adverse Consequences of Pertussis and Rubella Vaccines published its findings in 1991 (Institute of Medicine, 1991). Appendix A contains the Executive Summary of that report.

The second study, mandated under Section 313 of P.L. 99-660, was to review adverse events associated with other vaccines commonly administered during childhood. The Vaccine Safety Committee, which was charged with performing the second study, was convened early in 1992. The results of that inquiry are provided in this report.

THE CHARGE TO THE COMMITTEE

The members of the interdisciplinary, 14-member Vaccine Safety Committee have expertise in such areas as immunology, pediatrics, internal medicine, infectious diseases, neurology, virology, microbiology, epidemiology, and public health. The committee was charged with (1) reviewing the relevant scientific and medical literature on specific risks to children associated with the vaccines or vaccine components directed against tetanus, diphtheria, measles, mumps, polio, *Haemophilus influenzae* type b, and hepatitis B currently licensed for use in the United States and (2) reviewing the available data on specific risk-modifying factors, that is, circumstances under which administration of these vaccines increases the risk of an adverse event, characteristics of groups known to be at increased risk of an adverse event, and timing of vaccination that increases the risk of an adverse event.

Risk-benefit comparisons or recommendations about immunization schedules were not within the charge to the Vaccine Safety Committee. Despite the name of the committee, many aspects of vaccine safety, such as purity standards or production techniques, also were beyond the committee's charge.

Both IOM studies mandated in P.L. 99-660 entailed the evaluation of the weight of scientific and medical evidence bearing on the question of whether a causal relation exists between certain vaccines and specific serious adverse events. Like the Committee to Review the Adverse Consequences of Pertussis and Rubella Vaccines, the Vaccine Safety Committee approached its task from a position of neutrality, presuming neither the presence nor the absence of a causal relation between the vaccines and the adverse events under consideration.

THE STUDY PROCESS

Over the course of 18 months, the committee met six times, reviewed more than 7,000 abstracts of scientific and medical studies, read more than 2,000 published books and articles (including many sources in the non-

English literature), analyzed information from U.S. Public Health Service-administered reporting systems for adverse reactions to vaccines, and considered material submitted by interested parties. The committee solicited input from scientists who were invited to participate in two open scientific meetings and from other interested parties at two open public meetings. Details regarding how the committee gathered information are given in Appendix B. All salient information from those reviews is contained in this report.

P.L. 99-660 stated that the review was to include those vaccines covered by the National Vaccine Injury Compensation Program. *Haemophilus influenzae* type b (Hib) and hepatitis B vaccines were added for consideration because of the increasing use of these vaccines and the supposition that in the near future they could be mandatory vaccines covered by the National Vaccine Injury Compensation Program. The list of adverse events investigated for this report derived primarily from negotiations with representatives of the U.S. Public Health Service. However, preliminary investigations into additional adverse events were prompted by queries from interested parties or committee members. After considering the information from these preliminary investigations, the committee added several vaccine-adverse event relations to the original list. Table B-1 in Appendix B contains a complete listing of the specific vaccine-adverse event relations under study.

The report begins with background information. Chapter 2 contains an in-depth discussion of the approach used by the committee to weight the evidence and assess causality. Information on the neurologic disorders and immunologic reactions discussed in much of the report is contained in Chapters 3 and 4. Chapters 5 through 9 include the vaccine-specific evidence and conclusions. All information (evidence, causality argument, and conclusions) regarding death as an adverse event associated with vaccination is contained in Chapter 10.

Adverse Effects of Pertussis and Rubella Vaccines (Institute of Medicine, 1991), the report of the predecessor IOM committee, provides an in-depth review of the literature concerning the adverse events associated with diphtheria and tetanus toxoids and pertussis vaccine (DPT), as well as pertussis vaccine, and should be referred to for conclusions regarding DPT. Appendix A contains the Executive Summary of that report. The charge to the Vaccine Safety Committee was to examine adverse events associated with tetanus toxoid as well as tetanus and diphtheria toxoid combination preparations. The committee reviewed data concerning DPT if the data also concerned diphtheria and tetanus toxoids for pediatric use (DT); however, it was beyond the committee's scope to make conclusions about pertussis vaccine or DPT.

The IOM Committee to Review the Adverse Consequences of Pertussis

and Rubella Vaccines made determinations of causality only for rubella vaccine and the rubella vaccine component of multivalent vaccines, but not for measles-mumps-rubella vaccine (MMR). Thus, the Vaccine Safety Committee reviewed data regarding immunization with MMR as well as data on monovalent measles and mumps preparations. The committee has made separate determinations of causality for the measles and mumps vaccine components for the adverse events for which data were available, particularly if measles or mumps vaccine-strain virus was isolated from the patient. In circumstances in which a causality assessment specific to monovalent measles or mumps vaccine was not possible, this is stated in the conclusion regarding that specific adverse event.

In circumstances in which the committee determined that a component of a multivalent preparation was causally related to a specific adverse event, but there is no direct experience of such an adverse event being caused by the multivalent preparation, the committee states this, but judges that the combined preparation also is causally related to that adverse event.

Many case reports described an adverse event(s) in a patient who received more than one vaccine. A common combination, as a result of the immunization schedules recommended in the United States, is DPT, oral polio vaccine, and Hib vaccine. Assessment of causality in those reports was more difficult than if the patient had received only one vaccine or vaccine component, but the committee considered that the reports could be theoretically supportive of causality for the combination but not in themselves sufficient to allow a firm judgment regarding causality.

CAUSALITY AND WEIGHT OF EVIDENCE

As discussed in detail in Chapter 2, the committee considered four types of evidence: biologic plausibility; case reports, case series, and uncontrolled observational studies; controlled observational studies; and controlled clinical trials. The committee used qualitative and quantitative approaches to weigh each type of evidence. Table 1-1 contains a summary of the different types of evidence for every vaccine-adverse event relation studied. The committee believes that although it is plausible that there is a causal relation between any of the vaccine-adverse event associations under review, plausibility has been demonstrated only for certain ones of these. Therefore, information on the plausibility of a causal relation was classified in Table 1-1 as either theoretical only or as demonstrated. The other types of evidence were classified in Table 1-1 as nonexistent, indeterminate, or as weighing, on the whole, for or against a determination of a causal relation. The consideration of all four types of evidence as a whole led to a conclusion of the final weight of evidence regarding causality. Table 1-2 contains these conclusions.

TABLE 1-1 Summary of the Evidence For or Against a Determination of a Causal Relation[a]

Vaccine and Adverse Event	Biologic Plausibility[b]	Case Reports, Case Series, and Uncontrolled Observational Studies	Controlled Observational Studies and Controlled Clinical Trials
Diphtheria and Tetanus Toxoids[c]			
Encephalopathy	Demonstrated	Indeterminate	Against (DT) No data (Td, T)
Infantile spasms[d] (DT only)	Theoretical only	No data	Against
Residual seizure disorders other than infantile spasms	Theoretical only	Indeterminate (DT, T) No data (Td)	No data
Demyelinating diseases of the central nervous system	Demonstrated	For	No data
Guillain-Barré syndrome	Demonstrated	For (T) Indeterminate (DT, Td)	No data
Mononeuropathy	Theoretical only	Indeterminate (T, Td) No data (DT)	No data
Brachial neuritis	Theoretical only	For (T) Indeterminate (Td) No data (DT)	No data

Arthritis	Theoretical only	Indeterminate	No data
Erythema multiforme	Theoretical only	Indeterminate (DT, Td) No data (T)	No data
Anaphylaxis	Demonstrated	For (T) Indeterminate (DT, Td)	No data
Death from SIDS (DT only)[e]	Theoretical only	Indeterminate	Against
Measles Vaccine[f]			
Encephalopathy	Demonstrated	Indeterminate	Indeterminate
Subacute sclerosing panencephalitis	Demonstrated	Indeterminate	Indeterminate
Residual seizure disorder	Demonstrated	Indeterminate	No data
Sensorineural deafness	Theoretical only	Indeterminate (MMR)	No data
Optic neuritis	Demonstrated	Indeterminate	No data
Transverse myelitis	Demonstrated	Indeterminate	No data
Guillain-Barré syndrome	Demonstrated	Indeterminate	No data
Thrombocytopenia	Demonstrated	Indeterminate (measles) For (MMR)	Indeterminate (measles) No data (MMR)
Insulin-dependent diabetes mellitus	Theoretical only	Indeterminate	Indeterminate

continued

TABLE 1-1 *(continued)*

Vaccine and Adverse Event	Biologic Plausibility[b]	Case Reports, Case Series, and Uncontrolled Observational Studies	Controlled Observational Studies and Controlled Clinical Trials
Anaphylaxis	Theoretical only	For	No data
Death from vaccine-strain viral infection[e]	Demonstrated	For	No data
Mumps Vaccine[f]			
Encephalopathy	Demonstrated	Indeterminate	No data
Aseptic meningitis	Demonstrated	Indeterminate	No data
Residual seizure disorder	Theoretical only	No data	No data
Neuropathy	Theoretical only	No data	No data
Sensorineural deafness	Demonstrated	Indeterminate (MMR)	No data
Insulin-dependent diabetes mellitus	Demonstrated	Indeterminate	Indeterminate
Sterility	Demonstrated	No data	No data
Thrombocytopenia	Demonstrated	Indeterminate	No data
Anaphylaxis	Theoretical only	Indeterminate (MMR)	No data

Polio Vaccine (OPV and IPV)[g]

Guillain-Barré syndrome	Demonstrated (OPV) Theoretical only (IPV)	For (OPV) Indeterminate (IPV)	For (OPV) No data (IPV)
Transverse myelitis	Demonstrated (OPV) Theoretical only (IPV)	Indeterminate (OPV) No data (IPV)	No data
Poliomyelitis (OPV only)	Demonstrated	For	No data
Thrombocytopenia (IPV)	Theoretical only	No data	No data
Anaphylaxis (IPV)	Theoretical only	No data	No data
Death from SIDS[c]	Theoretical only	Indeterminate	Indeterminate
Death from vaccine-strain viral infection, including from paralytic poliomyelitis (OPV only)[c]	Demonstrated	For	No data

Hepatitis B Vaccine

Guillain-Barré syndrome	Demonstrated	Indeterminate	No data
Demyelinating diseases of the central nervous system	Demonstrated	Indeterminate	No data
Arthritis	Demonstrated	Indeterminate	No data
Anaphylaxis	Theoretical only	For	No data
Death from SIDS[c]	Theoretical only	Indeterminate	No data

TABLE 1-1 *(continued)*

Vaccine and Adverse Event	Biologic Plausibility[b]	Case Reports, Case Series, and Uncontrolled Observational Studies	Controlled Observational Studies and Controlled Clinical Trials
Haemophilus influenzae type b Vaccine			
Guillain-Barré syndrome	Theoretical only	Indeterminate	No data
Transverse myelitis	Theoretical only	Indeterminate	No data
Thrombocytopenia	Theoretical only	Indeterminate	Indeterminate
Susceptibility to early Hib disease[b]	Demonstrated	Indeterminate	For (PRP) Against (conjugated)
Anaphylaxis	Theoretical only	Indeterminate	No data
Death from SIDS[c]	Theoretical only	Indeterminate	No data

[a]*Indeterminate* indicates that there is evidence in this category, but the committee did not consider that, on the whole, it weighed either for or against a causal relation. *No data* indicates that the committee did not find data of this type directly bearing on a causal relation between the vaccine and the adverse event.

[b]The committee considered all adverse events to be theoretically plausible and, therefore, classified plausibility in support of causality as either theoretical only or demonstrated. Demonstrated biologic plausibility refers to information on the known effects of the natural disease against which the vaccine is given and the results of animal experiments and in vitro studies.

[c]Unless noted otherwise, the classification for tetanus toxoid (T), diphtheria-tetanus toxoid for pediatric use (DT), and tetanus-diphtheria toxoid for adult use (Td) is the same. The committee was not charged with assessing monovalent diphtheria toxoid or the combined diphtheria and tetanus toxoids and pertussis vaccine (DPT). In Appendix A, see the Executive Summary of *Adverse Effects of Pertussis and Rubella Vaccines* for conclusions about DPT.

[d]Infantile spasms occur only in the age group that receives DT but not Td or T. A possible causal relation between infantile spasms and Td and T was not examined.

[e]In this table, the committee summarizes the data regarding the causal relation between the vaccine and only those deaths that are classified as sudden infant death syndrome (SIDS) or that are a consequence of vaccine-strain viral infection. SIDS occurs primarily in infants too young to receive tetanus and diphtheria toxoids for adult use, measles vaccine, mumps vaccine, or usually, tetanus toxoid. Therefore, a relation between these vaccines and SIDS was not assessed. If the evidence favors the acceptance of (or establishes) a causal relation between a vaccine and an adverse event, and if that adverse event can be fatal, then in the committee's judgment the evidence favors the acceptance of (or establishes) a causal relation between the vaccine and death from the adverse event. Direct evidence regarding death in association with a potentially fatal adverse event that itself is causally related to the vaccine is limited to tetanus-diphtheria toxoid for adult use and Guillain-Barré syndrome, tetanus toxoid and anaphylaxis, and oral polio vaccine (OPV) and poliomyelitis. Direct evidence regarding death in association with a potentially fatal adverse event that itself is causally related to the vaccine is lacking for measles vaccine and anaphylaxis, MMR and anaphylaxis, OPV and Guillain-Barré syndrome, hepatitis B vaccine and anaphylaxis, and *Haemophilus influenzae* type b unconjugated PRP vaccine and early-onset *Haemophilus influenzae* type b disease in children age 18 months or older who receive their first Hib immunization with unconjugated PRP vaccine. See Chapter 10 for details. The data are indeterminate regarding the causal relation between the vaccine and causes of death other than those discussed above. Data regarding death as an adverse consequence of the vaccines under review are discussed in Chapter 10 rather than in the vaccine-specific chapters.

[f]The committee was charged with assessing the causal relation between several adverse events and measles vaccine or mumps vaccine. The committee was not charged with assessing monovalent rubella vaccine. In Appendix A, see the Executive Summary of *Adverse Effects of Pertussis and Rubella Vaccines* for conclusions regarding rubella vaccine. (MMR) indicates that the data derive exclusively from the multivalent preparation.

[g]OPV is oral polio vaccine; IPV is inactivated polio vaccine.

[h]The committee assessed data regarding the increased susceptibility to *Haemophilus influenzae* type b disease within 7 days of immunization with *Haemophilus influenzae* type b vaccine. For this adverse event only, the committee was able to separate the data regarding the unconjugated (PRP) vaccine from the data regarding the conjugated vaccines.

TABLE 1-2 Conclusions Based on the Evidence Bearing on Causality

DT/Td/T	Measles[a]	Mumps[a]	OPV/IPV[b]	Hepatitis B	*H. influenzae* type b
Category 1: No Evidence Bearing on a Causal Relation					
		Neuropathy	Transverse myelitis (IPV)		
		Residual seizure disorder	Thrombocytopenia (IPV)		
			Anaphylaxis (IPV)		
Category 2: The Evidence Is Inadequate to Accept or Reject a Causal Relation					
Residual seizure disorder other than infantile spasms	Encephalopathy	Encephalopathy	Transverse myelitis (OPV)	Guillain-Barré syndrome	Guillain-Barré syndrome
Demyelinating diseases of the central nervous system	Subacute sclerosing panencephalitis	Aseptic meningitis	Guillain-Barré syndrome (IPV)	Demyelinating diseases of the central nervous system	Transverse myelitis
Mononeuropathy	Residual seizure disorder	Sensorineural deafness (MMR)	Death from SIDS[c]	Arthritis	Thrombocytopenia
Arthritis	Sensorineural deafness (MMR)	Insulin-dependent diabetes mellitus		Death from SIDS[c]	Anaphylaxis
	Optic neuritis	Sterility			Death from SIDS[c]

Erythema multiforme	Transverse myelitis	Thrombocytopenia			
	Guillain-Barré syndrome ·	Anaphylaxis[d]			
	Thrombocytopenia				
	Insulin-dependent diabetes mellitus				
Category 3: The Evidence Favors Rejection of a Causal Relation					
Encephalopathy[e]					Early onset *H. influenzae* b disease (conjugate vaccines)
Infantile spasms (DT only)[f]					
Death from SIDS (DT only)[f,g]					
Category 4: The Evidence Favors Acceptance of a Causal Relation					
Guillain-Barré syndrome[h]	Anaphylaxis[d]		Guillain-Barré syndrome (OPV)		Early-onset *H. influenzae* b disease in children age 18 months or older who receive their first Hib immunization with unconjugated PRP vaccine
Brachial neuritis[h]					

continued

TABLE 1-2 *(continued)*

DT/Td/T	Measles[a]	Mumps[a]	OPV/IPV[b]	Hepatitis B	*H. influenzae* type b
Category 5: The Evidence Establishes a Causal Relation					
Anaphylaxis[h]	Thrombocytopenia (MMR)		Poliomyelitis in recipient or contact (OPV)	Anaphylaxis	
	Anaphylaxis (MMR)[d]				
	Death from measles vaccine-strain viral infection[c,i]		Death from polio vaccine-strain viral infection[c,i]		

[a]If the data derive from a monovalent preparation, then in the committee's judgment the causal relation extends to multivalent preparations. If the data derive exclusively from MMR, that is so indicated by (MMR). In the absence of any data on the monovalent preparation, in the committee's judgment the causal relation determined for the multivalent preparations does not extend to the monovalent components.

[b]For some adverse events, the committee was charged with assessing the causal relation between the adverse event and only oral polio vaccine (OPV) (paralytic and nonparalytic poliomyelitis) or only inactivated polio vaccine (IPV) (anaphylaxis and thrombocytopenia). If the conclusions are different for OPV than for IPV for the other adverse events, that is so noted.

[c]This table lists weight-of-evidence determinations only for deaths that are classified as SIDS and deaths that are a consequence of vaccine-strain viral infection. However, if the evidence favors the acceptance of (or establishes) a causal relation between a vaccine and an adverse event, and that adverse event can be fatal, then in the committee's judgment the evidence favors the acceptance of (or establishes) a causal relation between the vaccine and death from the adverse event. Direct evidence regarding death in association with a vaccine-associated adverse event is limited to tetanus-diphtheria toxoid for adult use (Td) and Guillain-Barré syndrome, tetanus toxoid and anaphylaxis, and OPV and poliomyelitis. Direct evidence regarding death in association with a potentially fatal adverse event that itself is causally related to the vaccine is lacking for measles vaccine and anaphylaxis, MMR and anaphylaxis, OPV and Guillain-Barré syndrome, hepatitis B vaccine and anaphylaxis, and *H. influenzae* type b unconjugated PRP vaccine and early-onset *H. influenzae* type b disease in children age 18 months or older who receive their first Hib immunization with unconjugated PRP vaccine. See Chapter 10 for details.

[d]The evidence that establishes a causal relation for anaphylaxis derives from MMR. The evidence regarding monovalent measles vaccine favors acceptance of a causal relation, but are less convincing, mostly because of incomplete documentation of symptoms or the possible attenuation of symptoms by medical intervention.

[e]The evidence derives from studies of diphtheria-tetanus toxoid for pediatric use (DT). If the evidence favors rejection of a causal relation between DT and encephalopathy, then in the committee's judgment the evidence favors rejection of a causal relation between Td and tetanus toxoid and encephalopathy.

[f]Infantile spasms and SIDS occur only in an age group that receives DT but not Td or tetanus toxoid.

[g]The evidence derives mostly from DPT. Because there are supportive data favoring rejection of a causal relation between DT and SIDS as well, if the evidence favors rejection of a causal relation between DPT and SIDS, then in the committee's judgment the evidence favors rejection of a causal relation between DT and SIDS.

[h]The evidence derives from tetanus toxoid. If the evidence favors acceptance of (or establishes) a causal relation between tetanus toxoid and an adverse event, then in the committee's judgment the evidence favors acceptance of (or establishes) a causal relation between DT and Td and the adverse event as well.

[i]The data come primarily from individuals proven to be immunocompromised.

The committee organized these conclusions into five categories. Because some confusion has arisen over the meaning of the category descriptions used by the Committee to Review the Adverse Consequences of Pertussis and Rubella Vaccines, despite extensive explanations in both the footnotes and the text, the Vaccine Safety Committee adopted some minor modifications in wording intended to help in the interpretation of the present report. To facilitate reading by those familiar with the report of the previous committee, the present committee maintained both the number of categories (five) and the order of those categories but modified the wording in an attempt to clarify its meaning. However, the Vaccine Safety Committee (which has some overlap in committee membership and staff with the earlier committee) believes that the categories represent the same concepts intended by the predecessor committee. The categories are:

1. No evidence bearing on a causal relation.
2. The evidence is inadequate to accept or reject a causal relation.
3. The evidence favors rejection of a causal relation.
4. The evidence favors acceptance of a causal relation.
5. The evidence establishes a causal relation.

Chapter 2 contains a discussion of the criteria used by the committee for each determination of the final weight of evidence.

The evidence favors rejection of, favors acceptance of, or establishes a causal relation between a vaccine and an adverse event in approximately one-third of the relations studied. For the other relations the evidence was inadequate to accept or reject a causal relation or there was no evidence bearing on the relation. It is important to note that the use of the term *inadequate* does not necessarily imply that the data were scarce. In some cases the committee identified an abundance of data. However, as a whole, it did not favor either acceptance or rejection of a causal relation. In the lists below, the superscript letters refer to the appropriate notes in Table 1-2. The notes in Tables 1-1 and 1-2 are integral to interpretation of the findings. The committee reached the following conclusions regarding causality.

The evidence favors rejection of a causal relation between:

- diphtheria and tetanus toxoids and encephalopathy,[e] infantile spasms,[f] and death from sudden infant death syndrome (SIDS),[f,g] and
- conjugate Hib vaccines and early-onset Hib disease.

The evidence favors acceptance of a causal relation between:

- diphtheria and tetanus toxoids and Guillain-Barré syndrome[h] and brachial neuritis,[h]
- measles vaccine and anaphylaxis,[d]

- oral polio vaccine and Guillain-Barré syndrome, and
- unconjugated (PRP) Hib vaccine and early-onset Hib disease in children age 18 months or older who receive their first Hib immunization with unconjugated (PRP) vaccine.

The evidence establishes a causal relation between:

- diphtheria and tetanus toxoids and anaphylaxis.[h]
- measles vaccine and death from measles vaccine-strain viral infection,[c,i]
- measles-mumps-rubella vaccine and thrombocytopenia and anaphylaxis,
- oral polio vaccine and poliomyelitis and death from polio-vaccine-strain viral infection,[c,i] and
- hepatitis B vaccine and anaphylaxis.

For the vast majority of vaccine-adverse event relations studied, the data came predominantly from uncontrolled studies and case reports. Most of the pathologic conditions studied are rare in the general population. The risk of developing these conditions because of vaccination would *seem* to be low. Without age-specific incidence rates and relative risk estimates, however, it is not possible to calculate the proportion of individuals whose condition is causally related to a vaccine. When the data permitted, such calculations (i.e., the risk difference or excess risk) were made and can be found in the conclusions in Chapters 5 through 9. Because age-specific incidence rates were not available for many of the pathologic conditions studied and because controlled epidemiologic studies of these relations are lacking, few such estimates could be made.

NEED FOR RESEARCH AND SURVEILLANCE

During its attempt to find evidence regarding causality, the committee identified needs for research and surveillance of adverse events. Work in these areas will help to ensure that all vaccines used are as free from the risk of causing adverse events as possible. Some of the needs identified are for increased surveillance of reports of demyelinating disease and arthritis following hepatitis B vaccination, better follow-up of reports of death and other serious adverse events following vaccination, increased use of large databases (currently used only on a small scale) to supplement passive surveillance reporting systems, and disease registries for the rare pathologic conditions studied by the committee.

REFERENCES

Coulter HL. Vaccination, Social Violence, and Criminality: The Medical Assault on the American Brain. Berkeley, CA: North Atlantic Books; 1990.

Coulter HL, Fisher BL. DPT: A Shot in the Dark. San Diego: Harcourt Brace Jovanovich; 1985.

Iglehart JK. Compensating children with vaccine-related injuries. New England Journal of Medicine 1987;316:1282-1288.

Institute of Medicine. Adverse Effects of Pertussis and Rubella Vaccines. Washington, DC: National Academy Press; 1991.

Institute of Medicine. Vaccine Supply and Innovation. Washington, DC: National Academy Press; 1985.

Mariner WK. The National Vaccine Injury Compensation Program: update. Health Affairs 1992(Spring):255-265.

Miller NZ. Vaccines: Are They Really Safe and Effective? A Parent's Guide to Childhood Shots. Santa Fe, NM: New Atlantean Press, 1992.

Office of Technology Assessment. Compensation for Vaccine-Related Injuries: A Technical Memorandum. Washington, DC: U.S. Government Printing Office; 1980.

Wilson GS. The Hazards of Immunization. London: The Athlone Press; 1967.

WRC-TV. DPT: Vaccine Roulette. Washington, DC: WRC-TV; 1982.

Department of the Treasury
Washington, D.C. 20220

Official Business
Penalty for Private Use, $300

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE AT 2:30 P.M.
August 12, 1994

CONTACT: Office of Financing
202/219-3350

TREASURY'S 52-WEEK BILL OFFERING

The Treasury will auction approximately $16,750 million of 52-week Treasury bills to be issued August 25, 1994. This offering will provide about $1,450 million of new cash for the Treasury, as the maturing 52-week bill is currently outstanding in the amount of $15,299 million. In addition to the maturing 52-week bills, there are $25,226 million of maturing 13-week and 26-week bills.

Federal Reserve Banks hold $10,271 million of bills for their own accounts in the three maturing issues. These may be refunded at the weighted average discount rate of accepted competitive tenders.

Federal Reserve Banks hold $3,682 million of the three maturing issues as agents for foreign and international monetary authorities. These may be refunded within the offering amount at the weighted average discount rate of accepted competitive tenders. Additional amounts may be issued for such accounts if the aggregate amount of new bids exceeds the aggregate amount of maturing bills. For purposes of determining such additional amounts, foreign and international monetary authorities are considered to hold $560 million of the maturing 52-week issue.

Tenders for the bills will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D. C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR Part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about the new security are given in the attached offering highlights.

oOo

Attachment

LB-1018

HIGHLIGHTS OF TREASURY OFFERING OF 52-WEEK BILLS TO BE ISSUED AUGUST 25, 1994

August 12, 1994

Offering Amount	$16,750 million
Description of Offering:	
Term and type of security .	364-day bill
CUSIP number	912794 T2 0
Auction date	August 18, 1994
Issue date	August 25, 1994
Maturity date	August 24, 1995
Original issue date	August 25, 1994
Maturing amount.	$15,299 million
Minimum bid amount	$10,000
Multiples	$1,000
Submission of Bids:	
Noncompetitive bids	Accepted in full up to $1,000,000 at the average discount rate of accepted competitive bids.
Competitive bids . . .	(1) Must be expressed as a discount rate with two decimals, e.g., 7.10%. (2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position are $2 billion or greater. (3) Net long position must be reported one half-hour prior to the closing time for receipt of competitive bids.
Maximum Recognized Bid at a Single Yield . . .	35% of public offering
Maximum Award	35% of public offering
Receipt of Tenders:	
Noncompetitive tenders . .	Prior to 12:00 noon Eastern Daylight Saving time on auction day.
Competitive tenders	Prior to 1:00 p.m. Eastern Daylight Saving time on auction day.
Payment Terms	Full payment with tender or by charge to a funds account at a Federal Reserve bank on issue date.

PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 15, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 13-WEEK BILLS

Tenders for $12,420 million of 13-week bills to be issued August 18, 1994 and to mature November 17, 1994 were accepted today (CUSIP: 912794L93).

RANGE OF ACCEPTED COMPETITIVE BIDS:

	Discount Rate	Investment Rate	Price
Low	4.57%	4.69%	98.845
High	4.60%	4.72%	98.837
Average	4.59%	4.71%	98.840

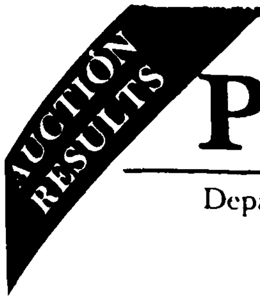
Tenders at the high discount rate were allotted 33%.
The investment rate is the equivalent coupon-issue yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$40,742,324	$12,420,317
Type		
Competitive	$35,204,424	$6,882,417
Noncompetitive	1,384,499	1,384,499
Subtotal, Public	$36,588,923	$8,266,916
Federal Reserve	3,297,485	3,297,485
Foreign Official Institutions	855,916	855,916
TOTALS	$40,742,324	$12,420,317

An additional $636,084 thousand of bills will be issued to foreign official institutions for new cash.

LB-1019



PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 15, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 26-WEEK BILLS

Tenders for $12,414 million of 26-week bills to be issued August 18, 1994 and to mature February 16, 1995 were accepted today (CUSIP: 912794Q56).

RANGE OF ACCEPTED
COMPETITIVE BIDS:

	Discount Rate	Investment Rate	Price
Low	4.97%	5.17%	97.487
High	4.99%	5.19%	97.477
Average	4.99%	5.19%	97.477

Tenders at the high discount rate were allotted 70%.
The investment rate is the equivalent coupon-issue yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$41,833,182	$12,413,675
Type		
Competitive	$36,358,315	$6,938,808
Noncompetitive	1,220,683	1,220,683
Subtotal, Public	$37,578,998	$8,159,491
Federal Reserve	3,200,000	3,200,000
Foreign Official Institutions	1,054,184	1,054,184
TOTALS	$41,833,182	$12,413,675

An additional $783,116 thousand of bills will be issued to foreign official institutions for new cash.

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 16, 1994

Contact: Chris Peacock
(202) 622-2930

STATEMENT BY TREASURY SECRETARY LLOYD BENTSEN
AND COUNCIL OF ECONOMIC ADVISERS CHAIR LAURA D'ANDREA TYSON

The Administration recognizes and respects the independence of the Federal Reserve to make decisions about the nation's monetary policies. We share a common goal with the Federal Reserve of sustained growth with low inflation.

Given the strong gains in output and employment so far this year, we need to be watchful for signs of developing price pressures. So far, the news on inflation has been very good. Based on the most recent available evidence about the economy's growth momentum and price trends, the Administration sees no reason to adjust its forecast at this time. We believe the economy will remain healthy, led by continued strong investment spending, which is laying the foundation for future growth and higher living standards.

-30-

LB-1021

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

August 16, 1994

Monthly Release of U.S. Reserve Assets

The Treasury Department today released U.S. reserve assets data for the month of July 1994.

As indicated in this table, U.S. reserve assets amounted to $75,443 million at the end of July 1994, down from $75,732 million in June 1994.

U.S. Reserve Assets
(in millions of dollars)

End of Month	Total Reserve Assets	Gold Stock 1/	Special Drawing Rights 2/3/	Foreign Currencies 4/	Reserve Position in IMF 2/
1994					
June	75,732	11,052	9,731	42,765	12,184
July	75,443	11,052	9,696	42,512	12,183

1/ Valued at $42.2222 per fine troy ounce.

2/ Beginning July 1974, the IMF adopted a technique for valuing the SDR based on a weighted average of exchange rates for the currencies of selected member countries. The U.S. SDR holdings and reserve position in the IMF also are valued on this basis beginning July 1974.

3/ Includes allocations of SDRs by the IMF plus transactions in SDRs.

4/ Valued at current market exchange rates.

LB-1022

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE AT 2:30 P.M.
August 16, 1994

CONTACT: Office of Financing
202/219-3350

TREASURY'S WEEKLY BILL OFFERING

The Treasury will auction two series of Treasury bills totaling approximately $24,400 million, to be issued August 25, 1994. This offering will result in a paydown for the Treasury of about $825 million, as the maturing 13-week and 26-week bills are outstanding in the amount of $25,226 million. In addition to the maturing 13-week and 26-week bills, there are $15,299 million of maturing 52-week bills. The disposition of this latter amount was announced last week.

Federal Reserve Banks hold $10,271 million of bills for their own accounts in the three maturing issues. These may be refunded at the weighted average discount rate of accepted competitive tenders.

Federal Reserve Banks hold $3,649 million of the three maturing issues as agents for foreign and international monetary authorities. These may be refunded within the offering amount at the weighted average discount rate of accepted competitive tenders. Additional amounts may be issued for such accounts if the aggregate amount of new bids exceeds the aggregate amount of maturing bills. For purposes of determining such additional amounts, foreign and international monetary authorities are considered to hold $3,089 million of the original 13-week and 26-week issues.

Tenders for the bills will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D. C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR Part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about each of the new securities are given in the attached offering highlights.

oOo

Attachment

LB-1023

HIGHLIGHTS OF TREASURY OFFERINGS OF WEEKLY BILLS
TO BE ISSUED AUGUST 25, 1994

August 16, 1994

Offering Amount	$12,200 million	$12,200 million
Description of Offering:		
Term and type of security	92-day bill	182-day bill
CUSIP number	912794 P2 4	912794 Q6 4
Auction date	August 22, 1994	August 22, 1994
Issue date	August 25, 1994	August 25, 1994
Maturity date	November 25, 1994	February 23, 1995
Original issue date	May 26, 1994	August 25, 1994
Currently outstanding	$12,693 million	---
Minimum bid amount	$10,000	$10,000
Multiples	$ 1,000	$ 1,000

The following rules apply to all securities mentioned above:

Submission of Bids:

Noncompetitive bids . . . . Accepted in full up to $1,000,000 at the average discount rate of accepted competitive bids.

Competitive bids . . . .
(1) Must be expressed as a discount rate with two decimals, e.g., 7.10%.
(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is $2 billion or greater.
(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.

Maximum Recognized Bid at a Single Yield . . . . 35% of public offering

Maximum Award . . . . 35% of public offering

Receipt of Tenders:

Noncompetitive tenders . . . . Prior to 12:00 noon Eastern Daylight Saving time on auction day

Competitive tenders . . . . Prior to 1:00 p.m. Eastern Daylight Saving time on auction day

Payment Terms . . . . Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE AT 2:30 P.M.
August 17, 1994

CONTACT: Office of Financing
202/219-3350

TREASURY TO AUCTION 2-YEAR AND 5-YEAR NOTES
TOTALING $28,250 MILLION

The Treasury will auction $17,250 million of 2-year notes and $11,000 million of 5-year notes to refund $15,729 million of publicly-held securities maturing August 31, 1994, and to raise about $12,525 million new cash.

In addition to the public holdings, Federal Reserve Banks hold $876 million of the maturing securities for their own accounts, which may be refunded by issuing additional amounts of the new securities.

The maturing securities held by the public include $1,387 million held by Federal Reserve Banks as agents for foreign and international monetary authorities. Amounts bid for these accounts by Federal Reserve Banks will be added to the offering.

Both the 2-year and 5-year note auctions will be conducted in the single-price auction format. All competitive and non-competitive awards will be at the highest yield of accepted competitive tenders.

Tenders will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D. C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR Part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about each of the new securities are given in the attached offering highlights.

oOo

Attachment

HIGHLIGHTS OF TREASURY OFFERINGS TO THE PUBLIC OF 2-YEAR AND 5-YEAR NOTES TO BE ISSUED AUGUST 31, 1994

August 17, 1994

Offering Amount	$17,250 million	$11,000 million
Description of Offering:		
Term and type of security	2-year notes	5-year notes
Series	AK-1996	R-1999
CUSIP number	912827 Q9 6	912827 R2 0
Auction date	August 23, 1994	August 24, 1994
Issue date	August 31, 1994	August 31, 1994
Dated date	August 31, 1994	August 31, 1994
Maturity date	August 31, 1996	August 31, 1999
Interest rate	Determined based on the highest accepted bid	Determined based on the highest accepted bid
Yield	Determined at auction	Determined at auction
Interest payment dates	The last calendar day of February and August through August 31, 1996	The last calendar day of February and August through August 31, 1999
Minimum bid amount	$5,000	$1,000
Multiples	$1,000	$1,000
Accrued interest payable by investor	None	None
Premium or discount	Determined at auction	Determined at auction

The following rules apply to all securities mentioned above:

Submission of Bids:

Noncompetitive bids . . . Accepted in full up to $5,000,000 at the highest accepted yield

Competitive bids . . . . (1) Must be expressed as a yield with two decimals, e.g., 7.10%
(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all yields, and the net long position is $2 billion or greater.
(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.

Maximum Recognized Bid at a Single Yield . . . 35% of public offering

Maximum Award . . . . 35% of public offering

Receipt of Tenders:

Noncompetitive tenders . Prior to 12:00 noon Eastern Daylight Saving time on auction day

Competitive tenders . . . Prior to 1:00 p.m. Eastern Daylight Saving time on auction day

Payment Terms . . . . Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date

THE DEPUTY SECRETARY OF THE TREASURY
WASHINGTON

August 17, 1994

The Honorable William Jefferson Clinton
President of the United States
Washington, D.C. 20500

Dear Mr. President:

I am resigning today as Deputy Secretary of the Treasury. Under the circumstances, this is the proper step to take. With your permission, the resignation would become effective upon the confirmation of my successor.

As I explained to the Senate, I regret any mistakes or errors of judgment I may have made. For them, I apologize. And, hopefully, my stepping down will help to diminish the controversy.

I am proud to have served in your Administration. It has laid a foundation for improving the security and standards of living of the American people. From the Economic Plan to NAFTA to health care, you have consistently made courageous decisions. And, I believe that history will regard them as such.

It has been a special privilege to serve you, Secretary Bentsen, and the American people over the past year and a half. Thank you very much for the opportunity you gave me. I believe fervently in the Administration's agenda and hope to advance it in other capacities.

Sincerely,

Roger Altman

(LB-1025)

THE WHITE HOUSE

WASHINGTON

August 17, 1994

The Honorable Roger C. Altman
Deputy Secretary of the Treasury
Treasury Department
1500 Pennsylvania Avenue, N.W.
Washington, DC 20220

Dear Roger:

I have received your letter of today's date resigning as Deputy Secretary of the Treasury. I believe you have taken the right step under the circumstances, and I regretfully accept your resignation, effective upon the confirmation of your successor.

I agree with Secretary Bentsen that you have made many valuable contributions to this administration as Deputy Secretary. You played a vital role in the passage of NAFTA and the deficit reduction plan, both critical steps for the American economy. I hope that in due course you will be able to return to public service. Meanwhile, I look forward to the benefit of your continuing advice and assistance.

Sincerely,

THE DEPUTY SECRETARY OF THE TREASURY
WASHINGTON

August 17, 1994

The Honorable Lloyd Bentsen
Secretary of the Treasury
U.S. Department of Treasury
Washington, D.C. 20220

Dear Lloyd,

I am resigning today as Deputy Secretary. Under the circumstances, it is the proper step. With your permission, the resignation would be effective upon the confirmation of my successor.

I regret and apologize for any embarrassment which my misjudgments may have caused the Treasury. But, I want to stress one point. While my Congressional testimony last February wasn't what it should have been, there was never any intent to withhold information.

I am proud of the accomplishments of the President and the Treasury and the opportunity I have had to play a role in them. In my view, history will be very kind to this Administration. And, I will always be grateful to President Clinton and to you for involving me and for the public and private support both of you have provided in the difficult days and months just past.

It has been a special privilege to work for you. Over the years, I've had the good fortune to work with and for some superb individuals, but you're in a league of your own.

Finally, I want to convey to you, the President and my colleagues here in the Department my continuing respect and support. My belief in the importance of public service and the conviction that the rewards of serving this country outweigh its costs remains unchanged.

Sincerely,

Roger Altman

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

RETARY OF THE TREASURY

August 17, 1994

The Honorable Roger Altman
Deputy Secretary
Department of the Treasury
1500 Pennsylvania Avenue, N.W.
Washington, D.C. 20220

Dear Roger:

It is with regret that I accept your resignation as Deputy Secretary of the Treasury.

You brought enormous energy to the job, and your commitment to the broad agenda of the Treasury Department was extraordinary. Your contributions have touched many lives. You were willing to take on any task, no matter the cost. You have performed ably.

Over these past few months I have said repeatedly that I have faith in your integrity. I still do. That faith was borne out with the reports of Mr. Fiske and the Office of Government Ethics.

I admire the fortitude you displayed in recent weeks. It took considerable courage and strength of character. You have made a difficult, selfless decision on behalf of the Department.

Sincerely,

Lloyd Bentsen

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 17, 1994

Contact: Joan Logue-Kinder
202-622-2920

STATEMENT OF TREASURY SECRETARY LLOYD BENTSEN

This evening I recommended to President Clinton that he nominate Treasury Under Secretary Frank Newman to become Deputy Secretary of the Treasury.

Frank Newman is a talented, knowledgeable individual, well-respected throughout the business and financial community, in government and in Congress. He has served with distinction as Under Secretary for Domestic Finance at the Treasury Department and is the right man to take over from Roger Altman. His guidance and counsel in this position will be an asset to the management of Treasury programs.

One of our most important initiatives in this administration has been encouraging economic growth and creating jobs. An integral part of that has been making it possible for small- and medium-sized businesses to have access to credit. Frank led that effort, and we are now seeing the effect throughout the economy.

He helped develop and fight for our extensive legislative agenda, including the Community Development Financial Institutions measure, the interstate banking bill. reauthorization of the Government Securities Act, and the bill making the final payment on the savings and loan cleanup.

In addition, he is a member of the President's Management Council, a key element in the effort to reinvent government. He chairs a council subgroup aimed at improving the service government provides its customers -- the taxpayers. Frank also led our program to redesign our currency to protect it against counterfeiters.

Frank has had a distinguished career in the private sector, most recently as Vice Chairman and Chief Financial Officer of BankAmerica Corp., a major international banking institution. Prior to that he was Executive Vice President of Wells Fargo & Co.

I encourage the Senate to act quickly on his nomination.

-30-

LB-1026

DEPARTMENT OF THE TREASURY
WASHINGTON

GENERAL COUNSEL

August 18, 1994

The Honorable Lloyd Bentsen
Secretary
U.S. Treasury Department
Washington, D.C. 20220

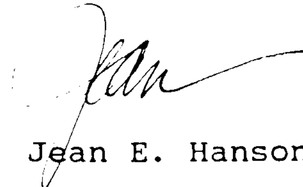
Dear Mr. Secretary:

I tender my resignation as Treasury General Counsel. My former partners at Fried, Frank, Harris, Shriver & Jacobson have asked me to rejoin them in the private practice of law in New York and, after careful consideration, I have decided to accept their offer upon the effectiveness of my resignation. I understand that my resignation is to take effect upon the confirmation of my successor, and you will have my continued attention to Treasury legal matters until then.

My decision to leave government is not an easy one. As you know, prior to my appointment as Treasury General Counsel, I had no experience in the political arena. I accepted your invitation to become Treasury General Counsel happily, proud to serve in an Administration willing to grapple with the difficult issues of our time. The time I have spent working for you and Roger Altman at Treasury has been a privilege, and I am particularly grateful to have worked with an extraordinarily able group of Treasury colleagues, whose friendship and genuine collegiality continue. But, this is the right time for me to return to New York to resume the personal and professional relationships I value so highly, and to ease the burdens that have been imposed on my family as a result of my government service.

I wish you well.

Sincerely,



Jean E. Hanson

(LB-1027)

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

SECRETARY OF THE TREASURY

August 18, 1994

The Honorable Jean Hanson
General Counsel
Department of the Treasury
1500 Pennsylvania Ave., N.W.
Washington, D. C. 20220

Dear Jean:

It is with regret that I accept your resignation as General Counsel of the Department of the Treasury.

I appreciate the commitment to Treasury's agenda you brought to the job, and the valued leadership you gave to an important area of the Department.

I am impressed by the strength of character you displayed in recent weeks. Thank you for the contribution you have made.

Sincerely,

Lloyd Bentsen

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 18, 1994

Contact: Joan Logue-Kinder or
Howard Schloss 202-622-2920

STATEMENT OF TREASURY SECRETARY LLOYD BENTSEN

I have recommended to President Clinton that he nominate my Executive Secretary and Senior Advisor, Edward S. Knight, as General Counsel of the Treasury Department.

Ed has been a trusted advisor over the years. His understanding of Treasury's broad responsibilities, especially in the legal field, give him the insight necessary to lead this critical area of the Department. He is well respected in legal and business circles, in the executive branch, and on Capitol Hill.

Ed Knight has made a serious commitment to public service. He served on my Senate staff from 1976 to 1978, and he left a senior partnership at Akin, Gump, Strauss, Hauer & Feld to join my Treasury team in January 1993.

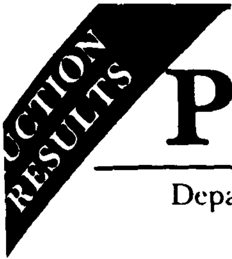
In his present position, he heads the Department's Executive Secretariat, responsible for the review and analysis of issues and preparation of briefing materials for the Secretary's office. In his capacity as Executive Secretary, Ed has worked regularly with the Office of General Counsel in the process of developing regulations and in the development of department-wide administrative guidelines. In addition, he oversees the Office of National Security and the Office of Public Liaison.

During his service at Treasury, among other things, he was strategically involved in our successful effort to win approval of the North American Free Trade Agreement, was instrumental in the creation of the North American Development Bank under the NAFTA agreement, and he has worked tirelessly on our effort to adopt the Uruguay Round.

Born in Amarillo and raised in Houston, Texas, he earned his B.A. and J.D. degrees from the University of Texas at Austin. He is a member of the Texas and District of Columbia Bar Associations, and a member of the National Association of Latino Elected and Appointed Officials.

-30-

LB-1028



PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 18, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 52-WEEK BILLS

Tenders for $16,789 million of 52-week bills to be issued August 25, 1994 and to mature August 24, 1995 were accepted today (CUSIP: 912794T20).

RANGE OF ACCEPTED
COMPETITIVE BIDS:

	Discount Rate	Investment Rate	Price
Low	5.35%	5.65%	94.591
High	5.37%	5.68%	94.570
Average	5.36%	5.67%	94.580

Tenders at the high discount rate were allotted 57%.
The investment rate is the equivalent coupon-issue yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$43,613,351	$16,788,613
Type		
Competitive	$38,173,063	$11,348,325
Noncompetitive	885,288	885,288
Subtotal, Public	$39,058,351	$12,233,613
Federal Reserve	4,200,000	4,200,000
Foreign Official Institutions	355,000	355,000
TOTALS	$43,613,351	$16,788,613

LB-1029

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 18, 1994

TREASURY SECRETARY TO SPEAK ON CRIME BILL

Treasury Secretary Lloyd Bentsen will discuss the importance of the crime legislation pending before Congress in El Paso, Texas on Friday, August 19.

Secretary Bentsen will be joined by Congressman Ron Coleman of El Paso.

"There is a partnership in this crime bill, between state and local officials, and federal officials," said Secretary Bentsen. "We can't fight crime alone. We have to do it together."

The press conference will be at the Federal Building, 700 East San Antonio Street, Room C-301 at 4 p.m.

Journalists must call ATF at (915) 534-6449 for clearance.

Contact:

Treasury	Hamilton Dix	(202) 622-2960
ATF, El Paso, Texas	Hugo Barrera	(915) 534-6449

-30-

LB-1030

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 19, 1994

Contact: Hamilton Dix
(202) 622-2960

BENTSEN URGES CRIME BILL PASSAGE

EL PASO, Texas -- Treasury Secretary Lloyd Bentsen Friday urged Congress to pass the crime bill, arguing that the sweeping legislation will "make a difference throughout America."

Bentsen, in remarks prepared for delivery at a press conference, noted that the measure contains far more than provisions to add 100,000 new police officers to the beat and a ban on assault weapons.

He pointed to items including additional funds for prison construction, money for more judges and prosecutors, and grant programs to combat violence against women and teach youngsters "why gangs are such a bad way to go" for which states can apply.

"This is important legislation," said Bentsen. "It's going to make a difference throughout America. It's going to save lives, lock up criminals, turn kids away from crime."

Bentsen, who said Texas could stand to gain an additional 6,000 police officers under the legislation, cited a variety of programs in Treasury Department bureaus which the Department hopes to put in place in border regions, such as El Paso, under the crime bill.

Those programs include one to reduce car theft, which Bentsen described as a "major problem in Texas," which ranks third in the nation in the number of vehicles stolen each year. "Many of these vehicles are taken over into Mexico and sold," he said. The Treasury Secretary said the U.S. Customs Service has a crime bill initiative that could address that problem.

-30-

LB-1031
(revised to correct weapons ban langage)

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 19, 1994

STATEMENT BY TREASURY SECRETARY LLOYD BENTSEN

I want to commend the Ways and Means Committee for approving the Superfund reauthorization today. This action ensures the momentum necessary to win passage of this legislation this year. This isn't just an environmental issue, it's also an economic one. The sites aren't being cleaned up fast enough under today's Superfund. Studies tell us we're spending far too much on litigation and investigations, and far too little on cleaning up pollution. This legislation sets the priorities straight and should speed the day when these polluted Superfund sites are returned to productive use in our economy.

-30-

LB-1032

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 21, 1994

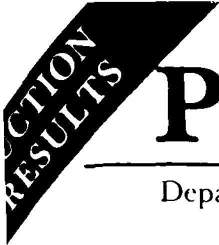
STATEMENT OF TREASURY SECRETARY LLOYD BENTSEN

Crime is not a partisan problem, and this evening the House showed the solution is not partisan, either. It's the criminals we're fighting, not each other.

What I liked about the vote is that the House members asked: "What's best for America?" They locked up the votes that will lock up the criminals.

-30-

LB-1033



PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 22, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 13-WEEK BILLS

Tenders for $12,224 million of 13-week bills to be issued August 25, 1994 and to mature November 25, 1994 were accepted today (CUSIP: 912794P24).

RANGE OF ACCEPTED COMPETITIVE BIDS:

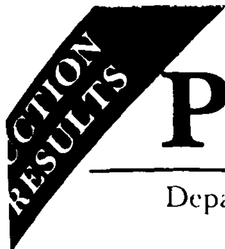
	Discount Rate	Investment Rate	Price
Low	4.61%	4.73%	98.822
High	4.63%	4.75%	98.817
Average	4.62%	4.74%	98.819

$1,970,000 was accepted at lower yields.
Tenders at the high discount rate were allotted 7%.
The investment rate is the equivalent coupon-issue yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$57,445,695	$12,223,760
Type		
Competitive	$51,661,049	$6,439,114
Noncompetitive	1,493,582	1,493,582
Subtotal, Public	$53,154,631	$7,932,696
Federal Reserve	3,020,964	3,020,964
Foreign Official Institutions	1,270,100	1,270,100
TOTALS	$57,445,695	$12,223,760

LB-1034



PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 22, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 26-WEEK BILLS

Tenders for $12,333 million of 26-week bills to be issued August 25, 1994 and to mature February 23, 1995 were accepted today (CUSIP: 912794Q64).

RANGE OF ACCEPTED COMPETITIVE BIDS:

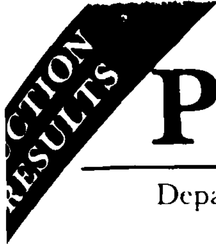
	Discount Rate	Investment Rate	Price
Low	4.96%	5.16%	97.492
High	4.98%	5.18%	97.482
Average	4.98%	5.18%	97.482

$100,000 was accepted at lower yields.
Tenders at the high discount rate were allotted 21%.
The investment rate is the equivalent coupon-issue yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$47,687,865	$12,333,317
Type		
Competitive	$41,653,850	$6,299,302
Noncompetitive	1,292,815	1,292,815
Subtotal, Public	$42,946,665	$7,592,117
Federal Reserve	3,050,000	3,050,000
Foreign Official Institutions	1,691,200	1,691,200
TOTALS	$47,687,865	$12,333,317

LB-1035



PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 23, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 2-YEAR NOTES

Tenders for $17,257 million of 2-year notes, Series AK-1996, to be issued August 31, 1994 and to mature August 31, 1996 were accepted today (CUSIP: 912827Q96).

The interest rate on the notes will be 6 1/4%. All competitive tenders at yields lower than 6.27% were accepted in full. Tenders at 6.27% were allotted 22%. All noncompetitive and sucessful competitive bidders were allotted securities at the yield of 6.27%, with an equivalent price of 99.963. The median yield was 6.26%; that is, 50% of the amount of accepted competitive bids were tendered at or below that yield. The low yield was 6.23%; that is, 5% of the amount of accepted competitive bids were tendered at or below that yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$56,426,736	$17,256,732

The $17,257 million of accepted tenders includes $1,504 million of noncompetitive tenders and $15,753 million of competitive tenders from the public.

In addition, $1,396 million of tenders was awarded at the high yield to Federal Reserve Banks as agents for foreign and international monetary authorities. An additional $450 million of tenders was also accepted at the high yield from Federal Reserve Banks for their own account in exchange for maturing securities.

LB-1036

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE AT 2:30 P.M.
August 23, 1994

CONTACT: Office of Financing
202/219-3350

TREASURY'S WEEKLY BILL OFFERING

The Treasury will auction two series of Treasury bills totaling approximately $24,400 million, to be issued September 1, 1994. This offering will result in a paydown for the Treasury of about $1,975 million, as the maturing weekly bills are outstanding in the amount of $26,387 million.

Federal Reserve Banks hold $6,664 million of the maturing bills for their own accounts, which may be refunded within the offering amount at the weighted average discount rate of accepted competitive tenders.

Federal Reserve Banks hold $2,946 million as agents for foreign and international monetary authorities, which may be refunded within the offering amount at the weighted average discount rate of accepted competitive tenders. Additional amounts may be issued for such accounts if the aggregate amount of new bids exceeds the aggregate amount of maturing bills.

Tenders for the bills will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D. C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR Part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about each of the new securities are given in the attached offering highlights.

oOo

Attachment

HIGHLIGHTS OF TREASURY OFFERINGS OF WEEKLY BILLS
TO BE ISSUED SEPTEMBER 1, 1994

August 23, 1994

Offering Amount	$12,200 million	$12,200 million
Description of Offering:		
Term and type of security	91-day bill	182-day bill
CUSIP number	912794 P3 2	912794 Q7 2
Auction date	August 29, 1994	August 29, 1994
Issue date	September 1, 1994	September 1, 1994
Maturity date	December 1, 1994	March 2, 1995
Original issue date	June 2, 1994	September 1, 1994
Currently outstanding	$13,458 million	---
Minimum bid amount	$10,000	$10,000
Multiples	$ 1,000	$ 1,000

The following rules apply to all securities mentioned above:

Submission of Bids:

Noncompetitive bids . . . . Accepted in full up to $1,000,000 at the average discount rate of accepted competitive bids

Competitive bids . . . .
(1) Must be expressed as a discount rate with two decimals, e.g., 7.10%.
(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is $2 billion or greater.
(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.

Maximum Recognized Bid at a Single Yield . . . . 35% of public offering

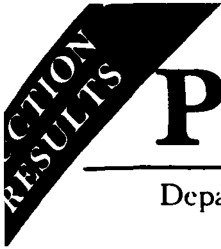
Maximum Award . . . . 35% of public offering

Receipt of Tenders:

Noncompetitive tenders . . . . Prior to 12:00 noon Eastern Daylight Saving time on auction day

Competitive tenders . . . . Prior to 1:00 p.m. Eastern Daylight Saving time on auction day

Payment Terms . . . . Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date



PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 24, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 5-YEAR NOTES

Tenders for $11,012 million of 5-year notes, Series R-1999, to be issued August 31, 1994 and to mature August 31, 1999 were accepted today (CUSIP: 912827R20).

The interest rate on the notes will be 6 7/8%. All competitive tenders at yields lower than 6.91% were accepted in full. Tenders at 6.91% were allotted 5%. All noncompetitive and sucessful competitive bidders were allotted securities at the yield of 6.91%, with an equivalent price of 99.854. The median yield was 6.89%; that is, 50% of the amount of accepted competitive bids were tendered at or below that yield. The low yield was 6.85%; that is, 5% of the amount of accepted competitive bids were tendered at or below that yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$35,498,007	$11,012,319

The $11,012 million of accepted tenders includes $809 million of noncompetitive tenders and $10,203 million of competitive tenders from the public.

In addition, $880 million of tenders was awarded at the high yield to Federal Reserve Banks as agents for foreign and international monetary authorities. An additional $426 million of tenders was also accepted at the high yield from Federal Reserve Banks for their own account in exchange for maturing securities.

LB-1038

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 25, 1994

STATEMENT OF TREASURY SECRETARY LLOYD BENTSEN

I knew that if we had to be here all summer Congress would pass a crime bill. Congress has put America first, and partisanship second.

There's not a Senator who 100 days from now, or one year from now, or five years from now will regret voting yes. I know that by the preliminary success of the Brady Law. Before the vote on Brady, some people said that it wouldn't work. But it has turned out that one of every 20 people who want to buy a gun is an armed robber, or convicted felon, or drug dealer. The Brady Law has stopped them from purchasing guns and probably from committing some terrible crimes.

Fighting crime has changed in this country. Today, we locked up the final vote that will lock up more criminals.

-30-

LB-1039

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 26, 1994

STATEMENT BY R. RICHARD NEWCOMB
DIRECTOR, OFFICE OF FOREIGN ASSETS CONTROL

On August 20, President Clinton announced further steps which the U.S. Government would take to respond to the Cuban Government's attempt to export a problem of its own making to the U.S., and risking the lives of Cuba's own countrymen in the process.

The additional steps announced by the President and effective at 11 a.m. today will deny the Cuban Government badly needed foreign exchange. The implementing measures which I am prepared to discuss in more detail today will further restrict travel to Cuba of Americans and people residing in the U.S.

Travel aboard charter flights between Cuba and the U.S. will be limited to legal immigrants from Cuba, those covered by general license -- government officials and journalists -- and those covered by specific license -- that is, travelling for clearly defined research, religious and humanitarian purposes. Specific licenses in cases of exceptional humanitarian concern may be issued to visit family members. Additionally, licenses to recognized human rights groups to investigate human rights violations may also be issued.

Remittances from U.S. relatives of Cuban nationals will no longer be permitted, although, again, there will be exceptions for humanitarian reasons and to facilitate the travel of lawful immigrants to the U.S.

Gift parcels and humanitarian donations will still be permitted, but their permissible content will be more clearly and narrowly defined.

These measures will severely curtail the flow of U.S. dollars into Cuba. The Cuban economy will no longer benefit from travel-related transactions originating in the U.S. and from cash remittances sent from the U.S. The Cuban government will no longer have access to these U.S. dollars which have for so long helped to sustain the Castro regime.

LB-1040 -30-

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 26, 1994

Cuba Regulations Fact Sheet

Pursuant to the President's announcement on August 20, 1994, the Treasury Department is

- Revoking the general authorizations permitting cash remittances to Cuba, except to facilitate lawful immigration.

- Revoking the general authorizations for persons engaging in travel-related transactions in Cuba for purposes of family visits and professional research.

- Significantly restricting the general authorization incorporating the authorization contained in the General License GIFT, administered by the Department of Commerce, to limit the permissible contents of gift parcels eligible for exportation to Cuba to medicine, food and strictly humanitarian items.

- Except for purposes of facilitating lawful immigration, cash remittances to Cuba will only be permitted for limited humanitarian purposes through case-by-case specific licensing.

- Charter flights between Miami and Havana will only be authorized to carry legal immigrants, U.S. and foreign government and international organization employees traveling on official business, journalists, and persons traveling under specific license.

- Travel-related transactions by persons demonstrating a compelling need to travel to Cuba for humanitarian reasons involving extreme hardship, for clearly and narrowly defined educational and religious activities, for activities of recognized human rights organizations investigating cases of human rights violations, or for activities related to professional research, telecommunications, or the exportation, importation, or transmission of information of informational materials will be considered for a specific license on a case-by-case basis.

LB-1041 -30-

IN ADVANCE OF PRINTED COPY. FILED WITH THE FEDERAL REGISTER ON AUGUST 26, 1994 11:00 A.M. E.D.T.
TO BE PUBLISHED TUESDAY AUGUST 30, 1994.

DEPARTMENT OF THE TREASURY

Office of Foreign Assets Control

31 CFR Part 515

Cuban Assets Control Regulations; Restrictions on Remittances and Travel Transactions

AGENCY: Office of Foreign Assets Control, Treasury.

ACTION: Final rule; amendments.

SUMMARY: Pursuant to the President's announcement on August 20, 1994, the Treasury Department is revoking the general authorizations permitting cash remittances to Cuba, except to facilitate lawful immigration; revoking the general authorizations for persons engaging in travel–related transactions in Cuba for purposes of family visits and professional research; and significantly restricting the general authorization incorporating the authorization contained in the General License GIFT, administered by the Department of Commerce, to limit the permissible contents of gift parcels eligible for exportation to Cuba to medicine, food and strictly humanitarian items. Except for purposes of facilitating lawful immigration, cash remittances to Cuba will only be permitted for limited humanitarian purposes through case–by–case specific licensing. Charter flights between Miami and Havana will only be authorized to carry legal immigrants, U.S and foreign government and international organization employees traveling on official business, journalists, and persons traveling under specific license. Travel–related transactions by persons demonstrating a compelling need to travel to Cuba for humanitarian reasons involving extreme hardship, for clearly and narrowly defined educational and religious activities, for activities of recognized human rights organizations investigating cases of human rights violations, or for activities related to professional research, telecommunications, or the exportation, importation, or transmission of information or informational materials will be considered for a specific license on a case–by–case basis.

EFFECTIVE DATE: [insert date of filing for public inspection]

FOR FURTHER INFORMATION: Steven I. Pinter, Chief of Licensing (tel.: 202/622–2480), William F. Wasley, Chief of Enforcement (tel.: 202/622–2430), Dennis P. Wood, Chief, Compliance Programs Division (202/622–2490), or William B. Hoffman, Chief Counsel (tel.: 202/622–2410), Office of Foreign Assets Control, Department of the Treasury, Washington, D.C. 20220.

SUPPLEMENTARY INFORMATION:

Electronic Availability:

This document is available as an electronic file on *The Federal Bulletin Board* the day of publication in the **Federal Register**. By modem dial 202/512–1387 or call 202/515–1530 for disks or paper copies. This file is available in Postscript, WordPerfect 5.1 and ASCII.

Background

On August 20, 1994, President Clinton announced steps to limit the ability of the Cuban government to accumulate foreign exchange. Accordingly, the Office of Foreign Assets Control ("FAC") is amending the Cuban Assets Control Regulations, 31 CFR Part 515 (the "Regulations"), to implement these measures by revising existing provisions that heretofore have

generally authorized travel–related transactions, cash remittances, and the shipment of gift parcels to Cuba. Specifically, § 515.533 no longer authorizes exportation to Cuba of gift parcels pursuant to General License GIFT, § 771.18 of the Export Administration Regulations, 15 CFR Parts 768–799 (the ''EAR''), except those containing only food, vitamins, seeds, medicines, medical supplies and devices, hospital supplies and equipment, equipment for the handicapped, clothing, personal hygiene items, veterinary medicines and supplies, fishing equipment and supplies, soap–making equipment, or certain radio equipment and batteries for such equipment. The complete list of eligible items is set forth in § 771.18 of the EAR.

Section 515.560 of the Regulations is revised to limit the categories of travelers to Cuba who are generally authorized to engage in travel–related transactions to journalists and officials of the United States or foreign governments or international organizations traveling on official business. ''Fully–hosted'' travelers are no longer authorized to travel aboard charter flights between the United States and Cuba. Section 515.416 is revised to set forth the criteria by which specific licenses may be issued for travel–related transactions for ''professional research.'' Travel transactions by close relatives of Cuban nationals may only be authorized on a case–by–case basis by specific license, and only under circumstances of extreme hardship. Specific licenses for travel–related transactions may still be issued for other strictly humanitarian purposes, for clearly defined educational or religious activities, for activities of recognized human rights organizations investigating human rights violations, or for activities related to professional research, telecommunications, or the exportation, importation or transmission of information or informational materials.

Section 515.563, which previously provided general authorization for family remittances for the support of close relatives in Cuba, is revised to permit transfers of funds to Cuba only if authorized on a case–by–case basis for humanitarian purposes upon a demonstration of extreme hardship. However, payments not exceeding $500 to facilitate a close relative's lawful immigration to the United States remain generally licensed. All other general authorizations contained in the Regulations for remittances are revoked. In particular, § 515.564 is revised to specify that remittances to Cuba for purposes of facilitating a Cuban national's travel to the United States for purposes other than immigration may only be made pursuant to a specific license. Similarly prohibited are remittances to Cuba in connection with intellectual property protection (§ 515.528) and public performances (§ 515.565).

Because the Regulations involve a foreign affairs function, Executive Order 12866 and provisions of the Administrative Procedure Act, 5 U.S.C. 553, requiring notice of proposed rulemaking, opportunity for public participation, and delay in effective date are inapplicable. Because no notice of proposed rulemaking is required for this rule, the Regulatory Flexibility Act, 5 U.S.C. 601–612, does not apply.

List Of Subjects in 31 CFR Part 515

Administrative practice and procedure, Cuba, Exports, Foreign trade, Intellectual property, Remittances, Travel restrictions.

For the reasons set forth in the preamble, 31 CFR part 515 is amended as set forth below:

PART 515—CUBAN ASSETS CONTROL REGULATIONS

1. The authority citation for part 515 continues to read as follows:

Authority: 50 U.S.C. App. 1–44; 22 U.S.C. 6001–6010; 22 U.S.C. 2370(a); Proc. 3447, 3 CFR, 1959–1963 Comp., p. 157; E.O. 9193, 3 CFR, 1938–1943 Comp., p. 1174; E.O. 9989, 3 CFR, 1943–1948 Comp., p. 748; E.O. 12854, 58 FR 36587, July 7, 1993.

Subpart D—Interpretations

2. Section 515.416 is revised to read as follows:

§ 515.416 Professional research and similar activities.

(a) Section 515.560(b) sets forth the criteria by which specific licenses for transactions related to travel to, from, and within Cuba may be issued for persons who are engaging in professional research and similar activities of a noncommercial, academic nature.

(1) Persons are considered to be engaged in *professional research* for purposes of this section only if they are full–time professionals who travel to Cuba to do research in their professional areas, their research is specifically related to Cuba and will constitute a full work schedule in Cuba, and there is a substantial likelihood of public dissemination of the product of their research. No transactions related to tourist or recreational travel within Cuba are authorized in connection with professional research, except those that are consistent with a full schedule of research activities.

(2) *Similar activities* include attendance by professionals with an established interest in Cuba at professional meetings where research on Cuba is shared, and travel for noncommercial research purposes specifically related to Cuba by persons who are working to qualify themselves academically as professionals (e.g., certain graduate degree candidates). Study visits to Cuba in connection with pre–college or undergraduate college course work are not within the scope of the term *professional research and similar activities.*

(b) Categories of travel which do not qualify as professional research or similar activities and for which specific license requests will be denied include recreational travel; tourist travel; travel in pursuit of a hobby; general study tours; general orientation visits; student class field trips; youth camps; research for personal satisfaction only; travel by fishing or bird–watching groups and similar affinity groups; and any travel for an authorized research purpose, if the schedule of activities includes free time, travel, or recreation in excess of that consistent with a full work schedule of professional research and similar activities.

(c) A group does not fall within the scope of the term *professional research and similar activities* merely because some members of the group could qualify individually for specific licensing under this category. For example, a specific license authorizing travel–related transactions by a fish biologist who travels to Cuba to engage in professional research does not authorize other persons who might travel with the fish biologist but whose principal purpose in travel is to engage in recreational or trophy fishing. The fact that such persons may engage in certain activities with, or under the direction of, the professional fish biologist, such as measuring or recording facts about their catch, does not bring these individuals' activities within the scope of professional research and similar activities.

(d) A person will not qualify as engaging in professional research or similar activities merely because that person is a professional who plans to travel to Cuba. For example, a professor of history interested in traveling to Cuba for the principal purpose of learning or practicing Spanish or attending general purpose lectures devoted to Cuban culture and contemporary life would not qualify for a specific license. A doctoral candidate in economics traveling to Cuba to undertake

research for a dissertation on the Cuban economy may qualify for a specific license for activities directly related to the research, but would not be authorized to stay an extra week in Cuba in order to attend a seminar on Cuban arts and crafts.

Subpart E—Licenses, Authorizations, and Statements of Licensing Policy

§ 515.522 [**Removed and reserved**]

3. Section 515.522 is removed and reserved.

4. Introductory paragraph (a) of § 515.528 is amended by adding the following before the colon: ", provided any payment to Cuba or a Cuban national is deposited into a blocked, interest-bearing account at a domestic bank"

5. Section 515.533 is amended by adding a new paragraph (d) to read as follows:

§ 515.533 Transactions incident to exportations to designated countries.

* * * * *

(d) This section does not authorize any exportation under General License GIFT, 15 CFR 771.18, except gift parcels that contain only food, vitamins, seeds, medicines, medical supplies and devices, hospital supplies and equipment, equipment for the handicapped, clothing, personal hygiene items, veterinary medicines and supplies, fishing equipment and supplies, soap-making equipment, or certain radio equipment and batteries for such equipment, as specifically set forth in § 771.18, and that otherwise comply with the requirements of that section.

6. Paragraph (g) of § 515.560 is amended by adding after the word "provided" in the last sentence thereof the words "that the travel is not aboard a direct flight between the United States and Cuba and" and by revising paragraphs (a) and (b) to read as follows:

§ 515.560 Certain transactions incident to travel to and within Cuba.

(a) *General license.* The transactions in paragraph (c) of this section are authorized in connection with travel to Cuba by:

(1) Persons who are officials of the United States Government or of any foreign government, or of any intergovernmental organization of which the United States is a member, and who are traveling on official business; or

(2) Journalists regularly employed in that capacity by a news reporting organization.

(b) *Specific Licenses.* Specific licenses authorizing the transactions in paragraph (c) of this section may be issued when extreme hardship is demonstrated in cases involving extreme humanitarian need to persons and their close relatives, or other persons living in the same household, who are traveling to visit close relatives in Cuba. Specific licenses may also be issued to persons demonstrating a compelling need to travel to Cuba for humanitarian reasons, for professional research and similar activities as defined in § 515.416, for clearly defined educational or religious activities, for activities of recognized human rights organizations investigating human rights violations, or for purposes related to the exportation, importation, or transmission of information or informational materials.

(1) For purposes of this section, the term *close relative* means spouse, child, grandchild, parent, grandparent, great grandparent, uncle, aunt, brother, sister, nephew, niece, first cousin, or spouse,

widow, or widower of any of the foregoing. The term *close relative* also means mother–in–law, father–in–law, daughter–in–law, son–in–law, sister–in–law, or brother–in–law.

(2) Nothing in this section authorizes transactions in connection with tourist travel to Cuba. Travel to Cuba that is characterized as falling within the criteria specified in paragraph (b) is prohibited unless specifically licensed.

* * * * *

7. The introductory text of paragraph (a) and paragraph (a)(1) of § 515.563 is revised to read as follows, and paragraph (c) is removed.

§ 515.563 Family remittances to nationals of Cuba.

(a) Specific licenses may be issued on a case–by–case basis authorizing remittances to a close relative of the remitter or of the remitter's spouse who is a national of Cuba and who is resident in Cuba or in the authorized trade territory, provided they are not made from blocked accounts. Such remittances will be authorized only:

(1) In circumstances where extreme humanitarian need is demonstrated, including terminal illness or severe medical emergency.

* * * * *

8. Paragraph (d) of § 515.564 is removed and paragraph (c) is revised to read as follows:

§ 515.564 Certain transactions incident to travel to, from and within the United States by certain Cuban nationals.

* * * * *

(c) Remittances by persons subject to U.S. jurisdiction to Cuba or a Cuban national, directly or indirectly, for transactions on behalf of a Cuban national, are only authorized pursuant to paragraph (a) of this section when made for the purpose of enabling the payee to emigrate from Cuba to the United States, including the purchase of airline tickets and payment of visa fees or other travel–related fees. Such remittances may not exceed $500, and, except for purposes of processing a letter of invitation or similar document on behalf of a Cuban national, may be transferred only after the Cuban national has received a valid visa issued by the State Department or other approved U.S. immigration documentation. Any amount remitted to Cuba directly or indirectly in conjunction with the processing of a letter of invitation or similar document must be deducted from the $500 limit. Specific licenses may be issued to permit remittances by persons subject to U.S. jurisdiction to Cuba or a Cuban national, directly or indirectly, for transactions to facilitate non–immigrant travel by a Cuban national to the United States under circumstances where extreme humanitarian need is demonstrated, including terminal illness or severe medical emergency.

§ 515.565 [**Amended**]

9. Paragraph (b) of § 515.565 is removed, paragraph (c) is redesignated as paragraph (b), and the words "or (b)" are removed.

§ 515.566 [**Amended**]

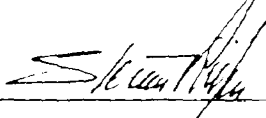
10. Section 515.566 is amended by changing the reference in paragraph (a)(3) from "this section" to "this part", and by amending paragraph (c)(4)(ii) by removing the words "exceeded

the annual ceiling on remittances to any one household or payee established in this section'' and adding in their place ``violated the terms of any authorization for remittances contained in or issued pursuant to this part''.

§ 515.569 [**Amended**]

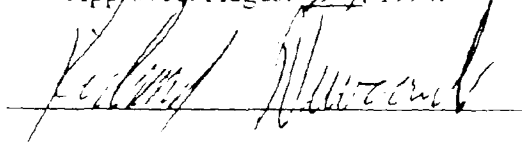
11. In § 515.569, the first sentence of paragraph (c) is amended by adding the words ``or pursuant to'' before ``§ 515.563.'', and paragraph (d) is amended by removing the words ``remittances authorized for the traveler's household by § 515.563(a)(1) and''.

Dated: August 25, 1994.



Steven I. Pinter,
Acting Director, Office of Foreign Assets Control.

Approved: August 25, 1994.



R. Richard Newcomb,
Acting Deputy Assistant Secretary (Law Enforcement).

[FR Doc. 94-30??? Filed 12-??-94; ??:?? am]

BILLING CODE 4810-25-F

federal financing bank NEWS
WASHINGTON, D.C. 20220
Press 202-622-2960
FFB 202-622-2450

August 26, 1994

FEDERAL FINANCING BANK

Charles D. Haworth, Secretary, Federal Financing Bank (FFB), announced the following activity for the month of July 1994.

FFB holdings of obligations issued, sold or guaranteed by other Federal agencies totaled $113.7 billion on July 31, 1994, posting a decrease of $1,913.7 million from the level on June 30, 1994. This net change was the result of a decrease in holdings of agency debt of $1,047.7 million, in holdings of agency assets of $906.1 million, and an increase in holdings of agency-guaranteed loans of $40.1 million. FFB made 22 disbursements during the month of July. FFB also received 29 prepayments in July.

Attached to this release are tables presenting FFB July loan activity and FFB holdings as of July 31, 1994.

FEDERAL FINANCING BANK
JULY 1994 ACTIVITY

BORROWER	DATE	AMOUNT OF ADVANCE	FINAL MATURITY	INTEREST RATE
AGENCY DEBT				
RESOLUTION TRUST CORPORATION				
Note 23 /Advance #1	7/1	$28,602,316,188.30	10/3/94	4.407% S/A
GOVERNMENT - GUARANTEED LOANS				
GENERAL SERVICES ADMINISTRATION				
Atlanta CDC Office Bldg.	7/6	$194,146.00	9/1/95	5.736% S/A
Foley Square Office Bldg.	7/6	$9,312,764.00	12/11/95	5.951% S/A
Oakland Office Building	7/6	$1,917.00	9/5/23	7.710% S/A
HCFA Services	7/8	$78,117.00	6/30/95	5.564% S/A
ICTC Building	7/11	$181,402.00	11/2/26	7.860% S/A
HCFA Services	7/14	$78,117.00	6/30/95	5.626% S/A
Memphis IRS Service Cent.	7/14	$6,320,410.08	1/3/95	5.111% S/A
ICTC Building	7/20	$6,524,880.59	11/2/26	7.613% S/A
Oakland Office Building	7/21	$1,283,193.43	9/5/23	7.654% S/A
Chamblee Office Building	7/22	$13,687.16	4/1/97	6.528% S/A
Foley Square Courthouse	7/22	$7,100,892.00	12/11/95	5.920% S/A
Foley Services Contract	7/22	$92,145.00	12/11/95	5.920% S/A
HCFA Headquarters	7/26	$6,521,526.00	6/30/95	5.609% S/A
Foley Square Office Bldg.	7/28	$8,605,675.00	12/11/95	5.982% S/A
RURAL ELECTRIFICATION ADMINISTRATION				
Brazos Electric #332	7/1	$3,333,000.00	12/31/19	7.665% Qtr.
Lewis River Tele. #378	7/7	$148,000.00	12/31/12	7.394% Qtr.
Randolph Electric #359	7/7	$1,000,000.00	12/31/25	7.574% Qtr.
Guam Telephone Auth. #371	7/13	$6,380,000.00	12/31/14	7.647% Qtr.
Tex-La Electric #389	7/15	$1,600,000.00	3/31/03	6.946% Qtr.
New-Mac Electric #384	7/18	$1,142,000.00	12/31/26	7.588% Qtr.
Randolph Electric #359	7/25	$1,000,000.00	12/31/25	7.526% Qtr.

S/A is a Semi-annual rate: Qtr. is a Quarterly rate.

FEDERAL FINANCING BANK
(in millions)

Program	July 31, 1994	June 30, 1994	Net Change 7/1/94-7/31/94	FY '94 Net Change 10/1/93-7/31/94
Agency Debt:				
Department of Transportation	$ 664.7	$ 664.7	$ 0.0	$ 664.7
Export-Import Bank	4,383.4	4,383.4	0.0	-1,411.2
Resolution Trust Corporation	27,854.6	28,902.3	-1,047.7	-3,833.1
Tennessee Valley Authority	4,375.0	4,375.0	0.0	-1,950.0
U.S. Postal Service	9,473.1	9,473.1	0.0	-258.4
sub-total*	46,750.8	47,798.5	-1,047.7	-6,788.0
Agency Assets:				
FmHA-ACIF	6,438.0	7,233.0	-795.0	-2,470.0
FmHA-RDIF	3,675.0	3,675.0	0.0	0.0
FmHA-RHIF	24,991.0	25,091.0	-100.0	-1,045.0
DHHS-Health Maintenance Org.	25.3	30.9	-5.6	-5.6
DHHS-Medical Facilities	35.8	41.2	-5.4	-15.6
Rural Electrification Admin.-CBO	4,598.9	4,598.9	0.0	0.0
Small Business Administration	1.1	1.2	-0.1	-1.7
sub-total*	39,765.1	40,671.2	-906.1	-3,537.9
Government-Guaranteed Loans:				
DOD-Foreign Military Sales	3,874.5	3,887.9	-13.4	-208.8
DEd.-Student Loan Marketing Assn.	0.0	0.0	0.0	-4,790.0
DEPCO-Rhode Island	0.0	0.0	0.0	-30.4
DHUD-Community Dev. Block Grant	114.3	115.1	-0.8	-17.1
DHUD-Public Housing Notes	1,746.5	1,746.5	0.0	-54.5
General Services Administration +	1,960.8	1,914.6	46.2	375.1
DOI-Virgin Islands	21.9	22.2	-0.2	-0.9
DON-Ship Lease Financing	1,479.6	1,479.6	0.0	-48.7
Rural Electrification Administration	17,371.9	17,357.3	14.6	-281.3
SBA-Small Business Investment Cos.	58.2	58.8	-0.6	-32.2
SBA-State/Local Development Cos.	529.9	535.7	-5.8	-46.5
DOT-Section 511	15.2	15.2	0.0	-1.8
DOT-WMATA	0.0	0.0	0.0	-177.0
sub-total*	27,172.9	27,132.8	40.1	-5,314.1
grand-total*	$113,688.8	$115,602.5	$-1,913.7	$-15,640.0

*figures may not total due to rounding
+does not include capitalized interest

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE AT 2:30 P.M.
August 26, 1994

CONTACT: Office of Financing
202/219-3350

TREASURY TO AUCTION CASH MANAGEMENT BILL

The Treasury will auction approximately $7,000 million of 16-day Treasury cash management bills to be issued September 6, 1994.

Competitive tenders will be received at all Federal Reserve Banks and Branches. Noncompetitive tenders will not be accepted. Tenders will not be accepted for bills to be maintained on the book-entry records of the Department of the Treasury (TREASURY DIRECT). Tenders will not be received at the Bureau of the Public Debt, Washington, D. C.

Additional amounts of the bills may be issued to Federal Reserve Banks as agents for foreign and international monetary authorities at the average price of accepted competitive tenders.

This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR Part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about the new security are given in the attached offering highlights.

oOo

Attachment

HIGHLIGHTS OF TREASURY OFFERING
OF 16-DAY CASH MANAGEMENT BILL

August 26, 1994

Offering Amount	$7,000 million
Description of Offering:	
Term and type of security	16-day Cash Management Bill
CUSIP number	912794 L7 7
Auction date	August 31, 1994
Issue date	September 6, 1994
Maturity date	September 22, 1994
Original issue date	September 23, 1993
Currently outstanding	$53,850 million
Minimum bid amount	$1,000,000
Multiples	$1,000,000
Minimum to hold amount	$10,000
Multiples to hold	$1,000
Submission of Bids:	
Noncompetitive bids	Not accepted
Competitive bids	(1) Must be expressed as a discount rate with two decimals, e.g., 7.10%. (2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is $2 billion or greater. (3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.
Maximum Recognized Bid at a Single Yield	35% of public offering
Maximum Award	35% of public offering
Receipt of Tenders:	
Noncompetitive tenders	Not accepted
Competitive tenders	Prior to 1:00 p.m. Eastern Daylight Saving time on auction day
Payment Terms	Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date

PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 29, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 13-WEEK BILLS

Tenders for $12,275 million of 13-week bills to be issued September 1, 1994 and to mature December 1, 1994 were accepted today (CUSIP: 912794P32).

RANGE OF ACCEPTED
COMPETITIVE BIDS:

	Discount Rate	Investment Rate	Price
Low	4.58%	4.70%	98.842
High	4.62%	4.74%	98.832
Average	4.61%	4.73%	98.835

Tenders at the high discount rate were allotted 18%.
The investment rate is the equivalent coupon-issue yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$48,770,681	$12,274,611
Type		
Competitive	$42,634,700	$6,138,630
Noncompetitive	1,364,550	1,364,550
Subtotal, Public	$43,999,250	$7,503,180
Federal Reserve	3,467,880	3,467,880
Foreign Official Institutions	1,303,551	1,303,551
TOTALS	$48,770,681	$12,274,611

An additional $70,349 thousand of bills will be issued to foreign official institutions for new cash.

LB-1044

AUCTION RESULTS

PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 29, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 26-WEEK BILLS

Tenders for $12,245 million of 26-week bills to be issued September 1, 1994 and to mature March 2, 1995 were accepted today (CUSIP: 912794Q72).

RANGE OF ACCEPTED
COMPETITIVE BIDS:

	Discount Rate	Investment Rate	Price
Low	4.92%	5.11%	97.513
High	4.93%	5.13%	97.508
Average	4.93%	5.13%	97.508

$10,000 was accepted at lower yields.
Tenders at the high discount rate were allotted 34%.
The investment rate is the equivalent coupon-issue yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$48,691,578	$12,245,005
Type		
Competitive	$42,450,514	$6,003,941
Noncompetitive	1,243,115	1,243,115
Subtotal, Public	$43,693,629	$7,247,056
Federal Reserve	3,300,000	3,300,000
Foreign Official Institutions	1,697,949	1,697,949
TOTALS	$48,691,578	$12,245,005

An additional $91,851 thousand of bills will be issued to foreign official institutions for new cash.

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR RELEASE AT 2:30 P.M.
August 30, 1994

CONTACT: Office of Financing
202/219-3350

TREASURY'S WEEKLY BILL OFFERING

The Treasury will auction two series of Treasury bills totaling approximately $23,200 million, to be issued September 8, 1994. This offering will result in a paydown for the Treasury of about $2,450 million, as the maturing weekly bills are outstanding in the amount of $25,648 million.

Federal Reserve Banks hold $6,562 million of the maturing bills for their own accounts, which may be refunded within the offering amount at the weighted average discount rate of accepted competitive tenders.

Federal Reserve Banks hold $2,448 million as agents for foreign and international monetary authorities, which may be refunded within the offering amount at the weighted average discount rate of accepted competitive tenders. Additional amounts may be issued for such accounts if the aggregate amount of new bids exceeds the aggregate amount of maturing bills.

Tenders for the bills will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D. C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR Part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about each of the new securities are given in the attached offering highlights.

oOo

Attachment

LB-1046

HIGHLIGHTS OF TREASURY OFFERINGS OF WEEKLY BILLS
TO BE ISSUED SEPTEMBER 8, 1994

August 30, 1994

Offering Amount	$11,600 million	$11,600 million
Description of Offering:		
Term and type of security	91-day bill	182-day bill
CUSIP number	912794 P4 0	912794 Q8 0
Auction date	September 6, 1994	September 6, 1994
Issue date	September 8, 1994	September 8, 1994
Maturity date	December 8, 1994	March 9, 1995
Original issue date	June 9, 1994	March 10, 1994
Currently outstanding	$13,192 million	$16,531 million
Minimum bid amount	$10,000	$10,000
Multiples	$ 1,000	$ 1,000

The following rules apply to all securities mentioned above:

Submission of Bids:

Noncompetitive bids . . . . Accepted in full up to $1,000,000 at the average discount rate of accepted competitive bids

Competitive bids . . . .
(1) Must be expressed as a discount rate with two decimals, e.g., 7.10%.
(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is $2 billion or greater.
(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.

Maximum Recognized Bid at a Single Yield . . . . 35% of public offering

Maximum Award . . . . 35% of public offering

Receipt of Tenders:

Noncompetitive tenders . . . . Prior to 12:00 noon Eastern Daylight Saving time on auction day

Competitive tenders . . . . Prior to 1:00 p.m. Eastern Daylight Saving time on auction day

Payment Terms . . . . Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date

MEASURING PERMANENT RESPONSES TO CAPITAL GAINS TAX CHANGES IN PANEL DATA

by

Leonard E. Burman and
William C. Randolph
Congressional Budget Office
U.S. Congress

OTA Paper 68 August 1994

Department of the Treasury

Assistant Secretary for Tax Policy

Office of Tax Analysis

.ng Amount . . . .

Description of Offering:

Term and type of security . . .
CUSIP number . . . .
Auction date . . . .
Issue date . . . .
Maturity date . . . .
Original issue date . . . . . .
Currently outstanding . . . . .
Minimum bid amount . . . . . .
Multiples . . . .

The following rules apply to al

Submission of Bids:

Noncompetitive **bids** . . . . . .

Competitive **bids** . . . . . .

MEASURING PERMANENT RESPONSES TO CAPITAL GAINS TAX CHANGES IN PANEL DATA*

by

Leonard E. Burman and
William C. Randolph
Congressional Budget Office
U.S. Congress

OTA Paper 68 **August 1994**

OTA Papers and Briefs are circulated so that the preliminary findings of tax research conducted by staff members and others associated with the Office of Tax Analysis may reach a wider audience. The views expressed are those of the authors, and do not reflect Treasury policy. Comments are invited, but OTA Papers and Briefs should not be quoted without permission from the authors. Additional copies of this publication may be purchased from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161

Office of Tax Analysis
U.S. Treasury Department, Room 1064
Washington, DC 20220

---

* **Forthcoming, American Economic Review. This paper was written while Randolph was a staff member of the Office of Tax Analysis, U.S. Treasury Department.**

Measuring Permanent Responses to Capital Gains Tax Changes in Panel Data

By LEONARD E. BURMAN AND WILLIAM C. RANDOLPH*

This paper uses panel data and information about differences in state tax rates to separate the effects of transitory and permanent tax rate changes on capital gains realizations behavior. The effect of permanent change is found to be substantially smaller than the effect of transitory change. The estimated difference is even larger than past differences between estimates from careful micro data studies, which have primarily measured the transitory effect, and time series studies, which have primarily measured (at best) the permanent effect. Our results thus resolve a longstanding conflict between micro data and time series studies of how marginal tax rates affect capital gains realizations behavior.

"Observe due measure, for right timing is in all things
the most important factor" --Hesiod (700 BC)

For more than forty years, policy analysts and economists have debated about how capital gains realizations respond to changes in capital gains tax rates. (See, e.g., Lawrence H. Seltzer, 1951) The issue has received attention in part because, if realizations of capital gains are responsive enough, the tax rate on capital gains could be cut at no cost to the Treasury. But it is also an important issue for tax reform because some argue that the welfare cost of the capital gains tax could be large relative to the tax revenues collected if realizations are very sensitive to tax rates. (Patric H. Hendershott et al., 1991)

The debate has been fueled by an array of disparate statistical estimates of the elasticity of capital gains realizations with respect to the marginal tax rate on capital gains. The evidence from time series appears entirely inconsistent with the evidence from individual tax return data. Time series studies have generally found that capital gains are relatively unresponsive to tax rates. Estimates based on micro data, however, generally suggest that realizations are highly elastic.

These empirical estimates are viewed with great skepticism by many who have studied the issue. Some authors of time series studies (Alan J. Auerbach, 1989; Jonathan Jones, 1989; Robert Gillingham and John S. Greenlees, 1992) have discounted their findings because they are subject to intractable aggregation biases and are extremely sensitive to sample period and seemingly minor changes in specification. Estimates from micro data studies have been even less robust.

---

*Burman: Congressional Budget Office, U.S. Congress, Washington, DC 20515; Randolph: Office of Tax Analysis, U.S. Treasury, Washington, DC 20220. We are grateful to B.K. Atrostic, Jerry Auten, Charley Ballard, Joe Cordes, Glenn Hubbard, Jody Magliolo, Randy Mariger, Jim Nunns, Larry Ozanne, R.P. Trost, Jenny Wahl, and seminar participants at George Washington, Georgia State, Maryland, Michigan, and Northeastern, and three anonymous referees for helpful comments and suggestions. Jim Cilke and Gordon Wilson developed the tax calculators. Views expressed do not necessarily represent the views or policies of the Congressional Budget Office or the Department of the Treasury.

More fundamentally, some authors of micro data studies have recognized that their estimates may systematically overstate the long-term response to tax changes. Indeed, the seminal empirical study of the effect of tax rates on realizations of capital gains raised this caveat:

> An individual whose tax rate varies substantially from year to year will tend to sell more when his rate is low. To the extent that low rates in 1973 are only temporarily low, our estimates will overstate the sensitivity of selling to the tax rate. *We have no way of knowing how important this is*. (Martin Feldstein et al., 1980, p. 785. Emphasis added.)

Such timing behavior is very important. The Tax Reform Act of 1986 (TRA) created a natural experiment to test the hypothesis that timing matters. TRA was passed by Congress at the end of September, 1986. It turned a "permanent" 20 percent maximum tax rate, in effect since 1981, into a temporary rate, to be replaced by a higher maximum capital gains rate of 28 percent in 1987. In response, long-term capital gains on corporate stock in December 1986 were nearly seven times their level in December 1985. (Burman et al., 1993)

Timing behavior probably explains why micro data studies have produced such large elasticity estimates.[1] As the transitory component of individuals' taxable income varies, it provides them with opportunities to time capital gains realizations in years when tax rates are relatively low. In a particular year, those with the lowest tax rates, other things constant, would be those with the largest capital gains realizations. As a result, a regression based on micro data is likely to measure a negative correlation between marginal tax rates and capital gains realizations. But, without more information, it is impossible to determine how much of the measured correlation represents purely transitory timing behavior. Much of the policy debate, however, has centered on the permanent or long-term response to statutory tax changes.[2]

To distinguish permanent from transitory tax effects, we define a "permanent tax rate" as the tax rate on long-term capital gains, purged of individual and aggregate transitory effects. We estimate the relationship between capital gains and permanent tax rates in a panel of tax returns using an instrumental variables estimator that also accounts for the endogeneity of tax rates and self-selection. Our instrument for permanent tax rates is the maximum combined federal and state tax rate on long-term capital gains. This instrument, which only varies among states, removes individual transitory effects because it is uncorrelated with transitory variations in individuals' income. We remove aggregate transitory effects by using time dummies.

Our estimates imply that the elasticity of capital gains realizations with respect to permanent tax changes is much smaller than the transitory response. Our point estimates of permanent tax effects are smaller in absolute value than most estimates from time series. Our estimates of transitory tax effects are larger than estimates from previous studies based on micro data.

---

[1]See Gerald E. Auten and Charles T. Clotfelter (1982), Joseph E. Stiglitz (1983), Jane G. Gravelle (1987), Auerbach (1988), Auten et al. (1989), Joel Slemrod and William Shobe (1990), and Donald W. Kiefer (1990) for more discussion on this point.

[2]Auerbach (1989) and Gravelle (1991) have questioned the large elasticities found in most micro data studies on conceptual grounds. They argue that such large elasticities would imply that even modest changes in tax rates could cause realizations to exceed accruals.

I. The Decision to Realize Capital Gains

There are two inherent problems in measuring taxpayer responses to capital gains tax changes: standard theoretical models do not explain why people realize significant amounts of taxable capital gains, and some variables that would enter almost any theoretical model are not observed in available data. Nonetheless, the typical empirical model may be interpreted as a reduced form, given data limitations, to test the most general implications of theory. Our analysis extends the basic empirical model to permit identification of a key policy parameter, the effect of permanent changes in tax rates.

The capital gains tax is relatively easy to avoid. Tax on an asset's gain or loss is not due until the asset is sold, and may be avoided entirely if an asset is held until death or donated to charity. Stiglitz (1983) showed that, by borrowing, hedging, accelerating losses, and deferring gains, capital gains taxes can be avoided altogether if capital markets are perfect and transactions are costless. He concluded that the existence of substantial taxable capital gains realizations implies that the underlying assumptions of his model must be violated in practice.

George M. Constantinides (1984) showed that realizing gains on stocks as soon as they qualify for preferential long-term tax rates may be optimal for very volatile stocks with low transaction costs. Yves Balcer and Kenneth L. Judd (1987) showed that, if borrowing and liquidity constraints are binding and options markets do not exist, capital gains would be realized following a LIFO strategy to maximize the benefits of deferral. However, none of these models would explain the $100 to $200 billion in taxable gains reported in a typical year.

Kiefer (1990) and Burman and Randolph (1992) developed models in which capital gains realizations occur because capital markets are limited--there are liquidity constraints and no options markets--and individuals believe they can beat the market by trading. The latter study also showed that transaction costs could be important. As well as characterizing a long-run equilibrium in which significant amounts of capital gains could be realized, these analyses also shed light on the transition path from one steady state to another after tax laws change. Conventional wisdom holds that the short-run response to a permanent cut in capital gains tax rates would be larger than the long-run response because of an immediate "unlocking" effect. Taxpayers holding assets to avoid capital gains tax suddenly flood the market with these assets when the tax rate is lowered because the tax cost of selling the assets is reduced. However, this conventional view ignores the fact that the cost of selling assets is also an increasing function of accrued gain as a fraction of asset value. On average, this fraction would be higher immediately after a capital gains tax cut than it would be in the new steady state. The high level of accrued gains will initially increase the cost of asset sales relative to the steady state, and will therefore dampen adjustment in the short run. If the initial level of unrealized accruals is high enough, the short-run increase in realizations of capital gains could actually be smaller than the long-run increase.

The response to temporary reductions in capital gains tax rates is clearer. A temporarily low capital gains tax rate provides taxpayers with an opportunity to gain from timing. A temporary tax cut reduces the tax cost of selling now, but leaves the tax cost of selling in the future unchanged. In contrast, a permanent tax cut reduces the tax cost of selling at any time. Thus, realizations of capital gains will be higher under a transitory rate cut than under a permanent cut, as illustrated by the response to TRA. (Paul J. Bolster et al., 1989; Burman et al., 1993)

In micro data, variations in capital gains tax rates include both permanent and transitory components. The permanent component results from expected differences in earnings capacity,

sources of income and deductions, and because capital gains tax rates vary across states. It may change when tax laws change. The transitory component results from tax planning and temporary changes in income and deductions. The tax law may also cause aggregate transitory changes if the statutory change is anticipated or if a new tax law is phased in over several years. An empirical model should allow for the possibility that people respond differently to changes in the permanent and transitory components.

II. Empirical Model of Permanent and Transitory Tax Effects

An individual decides whether to sell specific portfolio assets and, incidentally, whether to realize capital gains. Capital gains enter the decision because the tax price of selling an asset is the product of the capital gains tax rate and the share of asset value that is a capital gain. Assets with relatively larger accumulated gains are more costly to sell than assets with smaller accumulated gains. Unfortunately, our panel of tax returns from 1979 to 1983 only includes total capital gains and losses with no detail about sales of specific assets. Thus, like all previous empirical studies of capital gains, we estimate a reduced form relationship between total long-term capital gains and factors that may affect the decision to sell assets with capital gains.

For taxpayers who choose to realize capital gains, we model the relationship between capital gains and tax rates as follows:

$$\ln g = X\gamma_0 + \gamma_1\tau_p + \gamma_2(\tau_t - \tau_p) + \gamma_3(\tau_t - \tau_{t-1}) + \varepsilon_2 , \tag{1}$$

where g is realized capital gains by an individual at time t, X is a vector of predetermined and exogenous variables, τ_p is the permanent tax rate, τ_t is the current tax rate in year t, γ_0, γ_1, γ_2, and γ_3, are fixed parameters, and ε_2 is a random error term. This semi-log functional form has been used in most empirical capital gains research. It implies that the elasticity of capital gains realizations with respect to the marginal tax rate is an approximately linear function.[3]

The decision of an individual to realize capital gains depends on the costs and benefits of realizing gains, the size and composition of the portfolio, and preferences. Taxes affect the costs and benefits of selling. The cost of selling depends on the effective marginal tax rate on capital gains and on the size of the average accrued gain. Equation (1) separates the marginal tax rate into permanent and transitory components. The permanent tax rate is the tax rate purged of its individual and aggregate transitory components. It is the expected (normal) tax rate in a typical year given federal and state tax laws and normal levels of income for each individual. The remaining transitory component represents the tax cost of selling when the tax rate is unusually high, or holding when the tax rate is unusually low. The lagged tax rate, is also included as a proxy for the unobservable size of accrued gains. For example, if the previous year's tax rate was unusually high, then accrued gains should be larger than usual because realizations would have been postponed.

Other variables summarizing individual differences are included in X. The cost of selling depends on transaction costs, so the composition of the portfolio is important. Lagged data from individual tax forms provide indirect information about whether the portfolio is likely to include real estate or business property, which is relatively costly to sell.[4] Those data, as well as lagged

---

[3]In estimation, we also tested the assumption that the elasticity is approximately constant. This alternative does not affect the empirical results substantially.

[4]The data are discussed in Section III.

data on sources of capital income, also allow us to create proxies for wealth, which represents the potential size of accrued unrealized gains, and for the share of wealth held as corporate stock.

Sales and purchases of assets are a part of life-cycle consumption decisions. Thus, permanent and transitory income, age, marital status, and family size may be important determinants. Panel data from tax returns allow us to estimate permanent and transitory income, and age data are matched from social security records. In addition, regional dummies are included to control for regional differences in investment preferences. Time dummies are included to control for the aggregate economic factors that affect investment opportunities. These dummies also control for the average effect of tax law changes, as occurred in 1981.

We account for the decision to realize a capital gain as well as the level of capital gains. Our full empirical specification in Equations (2)-(4) represents (1) as a generalized tobit model, and also accounts for the endogeneity of current marginal tax rates.[5] The tax terms are rearranged algebraically to simplify estimation.[6]

$$I^* = X\alpha_0 + \alpha_1\tau_p + \alpha_2\tau_t + \alpha_3\tau_{t-1} + \varepsilon_1 \,, \tag{2}$$

$$\ln g = \begin{Bmatrix} X\beta_0 + \beta_1\tau_p + \beta_2\tau_t + \beta_3\tau_{t-1} + \varepsilon_2 & \text{if } I^* > 0 \\ 0 & \text{otherwise} \end{Bmatrix} , \tag{3}$$

and

$$\tau_t \equiv f(Z, g) \,, \tag{4}$$

where I^* is a latent indicator of the decision to realize capital gains, the α and β terms are unknown parameters, and ε_1 and ε_2 are normally distributed error terms, uncorrelated with X, τ_p, or τ_{t-1}, such that $E(\varepsilon_i\varepsilon_j')=\sigma_{ij}$ for $i,j=1,2$. The combined federal and state marginal tax rate function, f, is a known nonlinear function of capital gains and Z, a vector including income items from various sources, deductions, exemptions, transfers, carried over tax losses and credits, and taxpayer filing status.

A. Estimation Procedure

We extend the instrumental variables procedure developed by Lung-Fei Lee et al. (1980) to allow for the presence of an unobserved variable, τ_p, and an endogenous variable, τ_t, in both the criterion function, (2), and the level equation, (3). The procedure is similar to the two-step regression estimation method developed by James J. Heckman (1976), except that fitted values are used in place of τ_p and τ_t. The fitted value, τ_p, is created by regressing τ_t on X, τ_{t-1}, and τ_s, the maximum combined federal and state tax rate in each individual's state. The fitted value, $\hat{\tau}_t$, is created by regressing τ_t on X, τ_{t-1}, τ_s, and τ_0, a "first-dollar" marginal tax rate on capital

[5] A separate appendix shows that correcting for endogeneity and sample selection is especially important in this type of model. Failure to properly account for these problems may explain much of the volatility in previous research on capital gains. The appendix is available upon request.

[6] The γ parameters in (1) have a simple relationship to the β's in (3): $\gamma_1=\beta_1+\beta_2+\beta_3$; $\gamma_2=\beta_2+\beta_3$; $\gamma_3=-\beta_3$.

gains. The first-dollar marginal tax rate is computed by setting g and the other sources of income and deductions that are jointly determined with g equal to zero.[7]

The parameters of (2) are estimated by probit maximum likelihood with the fitted τ_p and τ_t used in place of the actual values. The level equation, (3), is estimated by least squares using the sample of realizers, including the estimated inverse Mills ratio as a regressor to control for sample selectivity.[8] For estimation of (3), values for τ_p and τ_t are reestimated for the sample of realizers including the inverse Mills ratio as an additional variable in the fitted equations. The standard errors are corrected using a formula derived by Lee et al.[9]

B. *Consistency of the IV Estimator*

Previous micro-data studies, which lacked appropriate instruments for τ_p, could only have produced consistent estimates of tax effects if transitory and permanent responses are the same. Under this condition, our estimation procedure would produce consistent estimates using almost any exogenous instruments for the permanent and transitory tax rates. However, if transitory and permanent responses are different, then appropriate instruments for τ_p and τ_t are essential to estimate permanent and transitory tax effects consistently.

The estimation problem is unusual and interesting because we need to estimate the effects of two unobservable components of the tax rate. If τ_t is defined as

$$(5) \qquad \tau_t = \tau_p + \mu_t ,$$

where μ_t is transitory deviations in tax rates, then both τ_p and μ_t enter (1) as explanatory variables.[10] This problem is similar in form to an errors-in-variable model. However, in the standard errors-in-variables model, only the systematic component, τ_p, would enter the model as an explanatory variable. To consistently estimate the effect of τ_p, we need an exogenous instrument that is correlated with τ_t, but uncorrelated with μ_t, conditional on X and τ_{t-1}. Although much of the variation in τ_p is related to the other exogenous variables, especially permanent income, wealth, and the portfolio mix, differences in state tax law provide an

[7]The first-dollar marginal tax rate is computed by setting long-term capital gains and other income and deduction items that are likely to be endogenous equal to zero and then computing the marginal tax rate on a defined long-term capital gain. This instrument retains a substantial amount of variation independent of the other explanatory variables because marginal tax rates are a known nonlinear function of numerous exogenous factors that do not directly affect capital gains, including consumer and mortgage interest deductions, contributions to pensions and IRAs, property taxes, certain health expenses, business and employment expenses, paid alimony, and many other deductions and adjustments to income.

[8]The inverse Mills ratio is computed based on the fitted values from the probit step.

[9]The standard error estimates may be understated because the formula does not account for the use of instrumental variables in the probit equation. To check the standard errors, we randomly split the sample into 10 parts and estimated the parameters for each subsample. The standard errors of the sample mean of the 10 estimates were very close to those produced by the formula.

[10]We ignore sample selection in this discussion to focus on the key estimation problem. The IV results for the linear model, (1), are extended to the full model with truncation, (2)-(3), in a separate appendix.

exogenous source of variation that is easily measured.[11] Moreover, the variation in state taxes is closely related to an important policy question: how do realizations differ under different tax laws? Because state income taxes tend to be less graduated than the federal tax schedule, most gains are realized by taxpayers in the top state tax brackets. Thus, the top combined federal and state tax rate (τ_s) captures most of the important differences in statutes, and does not vary among individuals within a state. It is thus unlikely to be correlated with the transitory component, μ_t.[12]

To consistently estimate the transitory effect (μ_t), we need a second exogenous instrument that is correlated with τ_t, but uncorrelated with τ_p, conditional on X, τ_{t-1}, and τ_s. Our instrument has been used in various forms in most previous micro data studies of capital gains: the first-dollar tax rate (τ_0). Because marginal tax rates are a highly nonlinear function of many variables that do not directly affect capital gains (see footnote 7), this instrument captures much of the variation in τ_t, but is purged of its endogenous components. Further, τ_0 is unlikely to be correlated with τ_p, conditional on τ_{t-1}, τ_s, and the variables included in X.

The standard errors-in-variables model assumes that the random component (μ_t) is uncorrelated with the X variables--an unwarranted assumption in our model. Transitory tax differences may well be correlated with such X variables as transitory income. As a result of this correlation and the nonstandard form of our estimator, the coefficients on the X variables may be inconsistent, reflecting a combination of the direct effect on gains (γ_0) and indirect effects through correlation with μ_t. While this may make interpretation of the effects of other variables more difficult, it does not affect the estimates of permanent and transitory tax effects.

Under our assumptions, it can be shown that the estimates of permanent and transitory tax coefficients in (1) will approach the following limits:[13]

$$(6) \qquad \text{plim}(\gamma_1) = (1-\theta_1)\gamma_1 + \theta_1\gamma_2 , \qquad \text{where } \theta_1 \equiv \frac{\text{cov}(\tau_s, \mu_t \,|X, \tau_{t-1})}{\text{cov}(\tau_s, \tau_t \,|X, \tau_{t-1})} ,$$

and

$$(7) \qquad \text{plim}(\gamma_2) = \theta_2\gamma_1 + (1-\theta_2)\gamma_2 , \qquad \text{where } \theta_2 \equiv \frac{\text{cov}(\tau_0, \tau_p \,|X, \tau_s, \tau_{t-1})}{\text{cov}(\tau_0, \tau_t \,|X, \tau_s, \tau_{t-1})} .$$

[11]Others have used state variation to identify permanent effects of statutory changes in a panel or cross-section in different contexts. See Daniel Feenberg (1987) for an application to charitable contributions and David Neumark and William Wascher (1991) for estimating the effects of minimum wages. William T. Bogart and William M. Gentry (1993) also use state data to estimate capital gains tax effects, but their state-level aggregate data averages out individual differences.

[12]The instrument could be endogenous if the choice of state depends on capital gains tax rates. While we consider it unlikely that state tax rates on capital gains are very important to residential decisions, we test for this possible source of bias in our estimation.

[13]Probability limits for all the parameters are derived in a separate appendix. The expression cov(x,y | z) is defined to be the partial covariance between x and y given z, i.e., after the linear influence of z is removed from x and y.

Equations (6) and (7) show that the probability limits for the permanent and transitory coefficient estimates are weighted averages of the true values of the coefficients. If, as assumed, the state tax rate instrument, τ_s, is correlated with τ_p, and uncorrelated with μ_t, conditional on the other variables, (6) implies that the estimated permanent coefficient is consistent because $\theta_1=0$. Similarly, (7) implies that, if the first-dollar instrument, τ_0, is correlated with μ_t, and uncorrelated with τ_p, conditional on the other variables, then the estimated transitory coefficient, γ_2, will also be consistent because $\theta_2=0$.

Under the null hypothesis that the permanent and transitory tax coefficients are the same, (6) and (7) imply that the estimates are consistent even if θ_1 and θ_2 are nonzero. Under the alternative hypothesis that $\gamma_1 \neq \gamma_2$, the estimated difference between γ_1 and γ_2 is biased toward zero if θ_1 or θ_2 is nonzero because both must lie between zero and one. Thus, even if the assumptions for consistency are violated, our estimates provide a conservative test of the hypothesis that $\gamma_1 = \gamma_2$, which is the key assumption required for the validity of previous micro data studies.

C. *Alternative Estimators*

Two studies (Auten and Clotfelter, 1982, and U.S. Department of the Treasury, 1985) attempted to measure the permanent tax rate directly from panel data by using three-year averages of marginal tax rates on capital gains. The fundamental problem with this approach is that a three-year average of federal income tax rates would be correlated with the transitory component of the tax rate. Thus, such a proxy cannot be used to estimate separately the effects of permanent and transitory tax rates since it is, itself, a combination of the two.

Slemrod and Shobe (1990) used a fixed-effects model to control for differences in permanent tax rates and other unobservable fixed effects that may affect parameter estimates. This approach can produce consistent estimates of the coefficients of transitory tax rates and other non-fixed factors, but does not allow identification of the response of capital gains to permanent tax rates, as was recognized by the authors.[14]

Bogart and Gentry (1993) use aggregate state data to estimate permanent capital gains tax effects. This approach mitigates the problem of limited sample size common to aggregate time series models, and the data set includes more years than our study. However, aggregate data precludes dealing with most of the econometric problems that we have found to be empirically important and suffers from some of the same problems that affect aggregate time series studies.

---

[14]Because the combined federal and state tax rates vary over time as well as among individuals, we could conceivably estimate an individual fixed effect in our model. We did not do this for two reasons. First, modelling fixed effects would make it difficult or impossible to control for sample selectivity, which Auten et al. (1989) found to cause substantial biases. Second, because only a minority of mostly small states changed their tax rates on capital gains between 1980 and 1983 (Bogart and Gentry, 1993), only about 3 percent of the independent variation in the state tax instrument remains after controlling for both time and individual fixed effects. The sources of this variation are individuals who moved between 1980 and 1983, the 14 states that changed tax rates between 1980 and 1983, and the interaction effect between the change in federal tax rates in 1981 and the net capital gains tax rate. Since the precision of instrumental variables estimates depends on the correlation between permanent tax rates and the instrument, removing almost all of the variation in the instrument would yield uninformative results. Moreover, to the extent that the remaining variation corresponds to movers, who may have reasons for realizing capital gains independent of tax effects, interpreting the estimated coefficient as primarily a permanent tax effect may be unwarranted.

III. Data

The data are from a panel of individual income tax returns for about 11,000 taxpayers for the years 1979 to 1983. (U.S. Department of the Treasury, 1979-1983) In addition to detailed tax return data, the panel includes the ages of taxpayers for each return. The panel sample was stratified to oversample high-income taxpayers; thus, a much larger proportion of the sample (53.4 percent) had capital gains than in the population at large (18.5 percent). The Treasury department edited the data for consistency and developed programs to calculate marginal tax rates. (James M. Cilke and Roy A. Wyscarver, 1987) Some observations were discarded because the data were internally inconsistent.

Summary statistics for the data and instruments used in estimation are shown in Table 1. Weighted and unweighted statistics differ because the sample was stratified. We use unweighted data for estimation, but test for the possibility that endogenous stratification biases the estimates.[15]

Our data were originally prepared by Auten et al. (1989), but we have made several improvements. We created the instrument for permanent tax variation (τ_s) by computing the combined federal and state marginal tax rate on capital gains for a taxpayer with $100 million of taxable income. We also modified the first-dollar tax rate instrument (τ_0) by setting several possibly endogenous components of income and deductions equal to zero. This was done for long- and short-term capital gains and losses, capital loss carryovers, interest, dividends, business losses, charitable contributions, and the deduction for taxes paid and investment interest expense. Auten et al. did not consider the deduction items other than charitable contributions to be endogenous.

The sample period for estimation is 1980 to 1983 so that lagged values could be used. Observations on individuals were included in estimation whenever the current and lagged data were valid, which yielded a total of 42,406 observations. The dependent variable is net long-term capital gains before carryover of prior year losses as reported on Schedule D. The tax rate measure is the combined federal and state marginal rate, based on applicable tax law for each year and each taxpayer's income and deductions.[16] To smooth out kinks in the tax schedule and to represent the lumpiness of capital gains transactions, the marginal tax rate on capital gains was computed for a defined transaction, rather than for a dollar of capital gains. The capital gain on the defined transaction is the maximum of $1,000 or the square root of imputed wealth.[17]

[15] The sample was stratified based on income, which includes capital gains realizations and other possibly endogenous variables.

[16] Because of the way the data were coded by the IRS, state of residence is available for all returns only in 1981. In other years, we used the actual state if it was available, or the state in 1981, otherwise.

[17] As a sensitivity test, we also estimated the model using a marginal tax rate computed with a defined transaction of $1,000. This made almost no difference for the estimated effect of permanent tax rates, but increased slightly the estimated effect of transitory tax rates.

TABLE 1-DESCRIPTIVE STATISTICS FOR VARIABLES USED IN MODEL ESTIMATION

Variable Description	Population-Weighted		Unweighted	
	Mean	Coefficient of Variation	Mean	Coefficient of Variation
Net Long-Term Capital Gains	3.0	31.67	245.4	7.00
Percentage with Net Positive Gains	18.5	. . .	53.4	. . .
Marginal Tax Rate on Capital Gains	11.9	0.54	15.8	0.66
First-Dollar Tax Rate Instrument (τ_0)	11.1	0.54	13.1	0.73
Maximum Tax Rate Instrument (τ_s)	23.3	0.15	23.4	0.15
Imputed Permanent Income	28.8	0.96	125.7	1.64
Current Income (Exogenous Parts)	28.8	2.07	283.2	3.30
Imputed Wealth (Gross Assets)	125.3	0.83	286.5	6.70
Imputed Corporate Stock	11.3	4.81	118.3	8.61
Business Losses Lagged	1.6	15.19	101.8	3.96
Rent Losses Lagged	0.4	13.25	10.1	8.15

Notes: Dollar amounts in thousands of 1981 dollars. Marginal tax rates are in percentages. Statistics are for pooled years, 1980-1983.

The computed marginal tax rate is the change in tax liability divided by the amount of the defined capital gain.[18]

Other regressors are discussed above in Section II, and summarized in Table 1. Wealth was imputed by using a tobit model to regress the logarithm of total wealth, as reported in a 1982 sample of estate tax returns, on age and log capital income reported on 1981 income tax returns. The estimated wealth regression was used to impute wealth for taxpayers in our panel sample for each year based on lagged values of the regressors. Corporate stock was imputed the same way. Lagged business losses were computed as the sum of losses on rental property, losses reported on partnership returns, and losses reported by personal services corporations.

Permanent income was imputed by using the panel sample to regress the logarithm of a 5-year average (1979-1983) of real positive income on taxpayer characteristics.[19] The regression estimates were used to impute annual permanent income based on lagged values for the regressors. Current income, listed in Table 1, is defined as positive income excluding endogenous sources such as capital gains.[20] In the regression model, transitory income is the logarithm of the ratio of current to permanent income.

Family size is the number of personal and dependent exemptions claimed on the tax return. Marital status is based on tax filing status. Age was derived from social security records.

The sample period includes the Economic Recovery Tax Act (ERTA) of 1981, which reduced top tax rates on both ordinary income and capital gains by 29 percent and introduced many new tax preferences. The advantage of covering this period is that the change in tax law adds substantial variation to the statutory tax rates. The primary disadvantage is that the major tax change was far from a controlled experiment, and some of the response to the statutory change in capital gains tax rates may be transitory, although the aggregate change was controlled for by time dummies.

---

[18]Slemrod and Shobe (1990) argue that the marginal rate should be adjusted when the taxpayer has net capital losses to account for the fact that unused losses are at least partially deductible in future years. In our tax calculation, we consider only the current year, which implies a zero marginal tax rate on capital gains for taxpayers with nondeductible net losses. Given the small fraction of returns subject to the capital loss limitation, this difference is unlikely to affect empirical estimates. Moreover, since the capital loss limitation is essentially transitory, the estimates of permanent effects are unlikely to depend on the treatment of losses.

[19]Positive income includes all positive components of income (including net positive capital gains). It is an approximation of economic income used by the IRS and in several earlier studies.

[20]Current income and permanent income were scaled so that they had the same weighted population means. The unweighted mean for current income exceeds mean permanent income because the sample was stratified to oversample high-income taxpayers. Thus, people in the sample tend to have high transitory incomes. The wealth and stock variables were scaled to match the aggregates reported in the Survey of Consumer Finance for 1983, converted to 1981 dollars.

IV. Estimation Results

Estimates for equations (2) and (3) are shown in Tables 2 and 3. Table 2 shows estimates of tax rate coefficients, the corresponding elasticities, and results for three restricted models. Table 3 shows the coefficient estimates for the non-tax variables.

The first three columns in Table 2 show the marginal tax rate coefficients in the level equation (3) and the criterion function (2). To interpret these coefficient estimates, recall from footnote 6 that the total effect of changes in the permanent tax rate depends on the sum of the three tax rate coefficients, whereas the effect of transitory deviations depends only on coefficients of the current tax rate. Thus, the coefficient of the permanent tax rate in the full model is a measure of the difference in the effects of changes in the permanent and transitory tax rates.

The estimated current tax rate coefficient in the full model is negative and statistically significant at the 99 percent level in both the criterion function and level equation. The sign implies that individuals are more likely to realize capital gains (the criterion function) and realize more capital gains (the level equation) when they face temporarily low marginal tax rates. The size and significance of the coefficients imply that transitory changes in tax rates have a strong effect on taxpayer decisions about whether to sell appreciated assets and realize capital gains.[21]

The lagged tax rate coefficient is small and insignificant, which implies that lagged tax rates do not affect current capital gains decisions, holding current and permanent tax rates and other included variables constant. This result is inconsistent with the conventional wisdom that the response in the first year to a capital gains tax change is larger than the long-run response. It is, however, consistent with Kiefer's simulations, discussed in Section I.[22]

In contrast to the transitory effects, the estimated coefficient of the permanent tax rate is positive, nearly as large as the current tax rate coefficient, and significant at the 99 percent level in both the level equation and criterion function. This result implies that permanent changes in the tax rate have substantially smaller effects than transitory changes. These large and significant differences refute the basic assumption underlying the validity of previous micro data studies.

---

[21] Although our model includes measures of permanent and transitory income, the transitory tax rate component may also proxy for variation in transitory income not controlled for by other variables.

[22] Kiefer's simulations suggest a potentially larger "intermediate-term" effect, several years after a tax change. Unfortunately, there is not enough independent variation in tax rates in our data set to allow us to measure such effects with any precision.

TABLE 2–ESTIMATED COEFFICIENTS AND ELASTICITIES OF MARGINAL TAX RATE VARIABLES

Estimated Model	Marginal Tax Rate Coefficient: Current	Lagged	Permanent	Permanent Elasticity	Transitory Elasticity
Full Model					
Level Equation	−0.145	0.0013	0.116		
(Equation 3)	(0.014)	(0.011)	(0.036)	−0.18	−6.42
				(0.48)	(0.34)
Criterion Function	−0.084	0.003	0.088		
(Equation 2)	(0.005)	(0.006)	(0.016)		
Exclude Transitory and Lagged Tax Rates					
Level Equation	...	...	−0.020		
			(0.022)	−0.17	...
				(0.42)	
Criterion Function	...	...	0.007		
			(0.010)		
Exclude Permanent Tax Rate					
Level Equation	−0.144	0.039	...		
	(0.014)	(0.005)		...	−6.10
					(0.33)
Criterion Function	−0.083	0.036	...		
	(0.005)	(0.002)			
Exclude Permanent and Lagged Tax Rates					
Level Equation	−0.113	...	...		
	(0.010)			...	−4.19
					(0.22)
Criterion Function	−0.051	...	...		
	(0.003)				

Notes: Standard errors are in parentheses. Estimated coefficients of other variables included in the model are in Table 3. Elasticities are computed at an average tax rate of 18.0 and an average lambda of 2.52. See equation 8.

The last two columns show the elasticities. The elasticity (e) measures the effect of a small change in the permanent tax rate:

(8) $$e = \tau_p \left[(\beta_1 + \beta_2 + \beta_3) + (\alpha_1 + \alpha_2 + \alpha_3) \cdot \lambda(h + \sigma\rho) \right],$$

where $\lambda(h+\sigma\rho)$ is the reciprocal of the Mills ratio evaluated at the mean of the systematic part of the criterion function (h) plus the covariance between the error terms in the criterion function and the level equation ($\sigma\rho$).[23] The transitory elasticity is given by a similar equation, excluding the permanent and lagged tax rate coefficients. It is interpreted as the elasticity with respect to a change in the current tax rate, holding the permanent and lagged tax rates constant.

The estimated permanent elasticity is -0.18, which implies that a 1 percent decrease in permanent tax rates would increase expected realized net long term capital gains by approximately 0.18 percent at average levels for all variables in 1983. However, the relatively large standard error implies that we cannot reject the hypothesis that permanent changes in capital gains tax rates have no long-term effect on capital gains realizations.[24] The standard error is also large enough that long-run elasticities of 0.0 and -1.0 are both included in a 95-percent confidence interval.

The estimated transitory elasticity is -6.42, which is larger in absolute value than most previous elasticity estimates from micro data.[25] The high transitory elasticity suggests that the response to a temporary tax change would be extraordinary, with realizations expected to increase by more than six times the percentage change in the tax rate. This is consistent with the dramatic increase in realizations just after passage of the Tax Reform Act of 1986, as discussed in the introduction.

The second panel of the table shows what happens to estimates of the permanent elasticity when the current and lagged tax rates are excluded from the estimated model. Assuming that the transitory component of the tax rate is uncorrelated with the permanent (state) tax rate instrument, the estimates of the permanent tax rate coefficient and elasticity are still consistent when the current and lagged tax rates are excluded. The permanent elasticity estimate changes very little, from -0.18 to -0.17, but the precision increases slightly. The transitory elasticity cannot be determined from this specification.

The third panel shows the effect of excluding the permanent tax rate, but including the current and lagged tax rates, as in Auten et al. (1989). The current tax rate coefficients and implied transitory elasticity decrease slightly, and the lagged tax rate coefficients increase and become highly significant. This result makes sense because the average of tax rates over two years should be positively correlated with the omitted permanent tax rate. The omission would thus positively bias the current and lagged tax rate coefficient estimates. This result suggests that the lagged tax rate partially proxies for the omitted permanent tax rate.

---

[23]Derivation is available from the authors on request. Permanent and transitory elasticities were computed for 1983 means of the permanent tax rate and λ, which were 18.0 and 2.52, respectively.

[24]We refer to long-term changes because variation in the permanent tax rate instrument represents essentially cross-section variation in state marginal tax rates. While the combined state and federal marginal tax rates changed over time during our sample period, much of the possible influence of this source of variation was removed by including time dummy variables in our model.

[25]See, e.g., Slemrod and Shobe (1991), Auten et al. (1989), and Gillingham et al. (1989) for recent estimates.

The fourth panel shows the effect of omitting both the lagged and permanent tax rates, as in Gillingham et al. (1989). The transitory elasticity estimate becomes smaller, probably because the first-dollar tax rate instrument is positively correlated with the permanent tax rate. A positive correlation would cause a positive bias in the transitory elasticity estimate, which may explain why previous micro data studies have yielded smaller transitory elasticity estimates. This result is consistent with Slemrod and Shobe's (1990) finding that elasticity estimates were biased toward zero by failure to control for unmeasured fixed effects, such as the permanent tax rate.

The effects of other variables are summarized in Table 3, which reports estimated coefficients for the level equation, the criterion function, and the combined effects of implied changes in the values of both functions on the expected value of capital gains realizations.[26] For continuous variables, the estimates in Table 3 are reported as elasticities. For dummy variables, i.e., those followed by (D) in the table, the effects are reported as percentage changes in expected capital gains realizations implied by changing each dummy variable from zero to one.

The results seem generally consistent with life-cycle motives for saving and consumption, modified somewhat by the incentive to hold assets with gains until death. Capital gains realizations are significantly positively related to permanent income, but negatively related to transitory income, suggesting a consumption motive for realizations. Wealthier people are much more likely to realize capital gains, and realize larger gains than average. The composition of wealth also matters. A larger share of stocks in the portfolio--as measured by the stock/wealth variable--makes people significantly more likely to realize gains, but the average size of a gain is smaller, *ceteris paribus*. This result may be a consequence of the lower transaction costs for stocks than for other kinds of assets, such as real estate. The positive and significant relationship between gains and lagged business losses reflects the well-known relationship between tax shelters and capital gains, although rental losses (a subset of business losses) do not seem to have a very large independent effect on realizations.

Holding wealth and other variables constant, the pattern of realizations follows the expected life-cycle profile except for the oldest cohort. The level of realizations declines steadily through the peak earning years of 50-59, and then increases. The likelihood of realizing gains steadily increases, perhaps reflecting the fact that older people are more likely to own assets that yield capital gains. The percentage change in realizations is also U-shaped through age 69. However, the oldest taxpayers realize less capital gains than the 60-69 cohort, and are slightly less likely to realize. Although this difference is statistically insignificant, it is consistent with older taxpayers avoiding realizations to take advantage of the step-up in basis at death.

The Mills ratio coefficient equals the product of the standard error of the error term in the level equation, (3), and the correlation between the error terms in equations (2) and (3). The fact that the coefficient is nonzero implies that ignoring sample selectivity would lead to biased and inconsistent parameter estimates. The negative sign implies that the error terms are negatively correlated. Thus, the tobit model used in some previous studies, which assumes a correlation of one, would be inappropriate.

[26]Recall from Section II that these coefficients may not be estimated consistently.

TABLE 3 – ESTIMATED COEFFICIENTS OF NON–TAX VARIABLES INCLUDED IN MODEL

Right–Hand Variable[a]	Coefficients: Level Equation	Coefficients: Criterion Function	Elasticity or Percentage Change[b]	Right–Hand Variable[a]	Coefficients: Level Equation	Coefficients: Criterion Function	Elasticity or Percentage Change[b]
Intercept	3.78	–9.70	...	Age 60–69 (D)	–0.81	0.49	41.0%
	(1.25)	(0.30)			(0.16)	(0.04)	
Permanent Income (L)	0.17	0.15	0.55	Age 70 or Older (D)	–0.85	0.48	31.4%
	(0.06)	(0.02)			(0.17)	(0.05)	
Transitory Income (L)	–0.12	–0.10	–0.37	Southern Region (D)	0.23	0.009	29.1%
	(0.02)	(0.006)			(0.05)	(0.02)	
Wealth (L)	0.56	0.61	2.10	Western Region (D)	0.17	–0.019	12.4%
	(0.08)	(0.02)			(0.06)	(0.02)	
Stocks/Wealth (L)	–0.09	0.07	0.10	Northeast Region (D)	0.35	–0.13	1.6%
	(0.03)	(0.008)			(0.06)	(0.02)	
Business Losses Lagged (L)	0.03	0.05	0.16	Year 1981 (D)	0.17	0.15	72.3%
	(0.009)	(0.003)			(0.14)	(0.04)	
Rent Losses Lagged (L)	–0.002	0.006	0.01	Year 1982 (D)	–0.51	0.13	–17.3%
	(0.005)	(0.002)			(0.11)	(0.04)	
Family Size	0.009	–0.012	–0.06	Year 1983 (D)	–0.36	0.17	6.4%
	(0.02)	(0.006)			(0.08)	(0.03)	
Married (D)	0.19	0.03	30.9%	Inverse Mills Ratio	–2.68	...	...
	(0.07)	(0.02)			(0.18)		
Age 30–39 (D)	–0.03	0.20	62.2%	Standard error (Sigma 1)	3.43	...	...
	(0.15)	(0.04)					
Age 40–49 (D)	–0.61	0.41	44.9%				
	(0.15)	(0.04)					
Age 50–59 (D)	–0.87	0.47	28.7%	Observations	22,635	42,406	...
	(0.15)	(0.04)					

Notes: Standard errors are in parentheses.

[a] Logarithmic variables are indicated by (L). Dummy variables are indicated by (D).
[b] Numbers represent elasticities for continuous variables and percentage changes in expected long–term gains for dummy variables. All elasticities and percentage changes are evaluated at unweighted sample means of right–hand variables.

Sensitivity tests for alternative specifications and segments of the data set are reported in Table 4. The results all confirm our basic finding that permanent elasticities are much smaller than transitory elasticities. The permanent elasticity is not significantly different from zero in any specification.

The log-log model tests an approximately constant elasticity specification, which we view as inferior to the semi-log form. The results are similar to those under the semi-log form, but have higher standard errors. Weighted estimates are also consistent with our basic results. This result suggests that Joseph J. Minarik's (1981) finding that weighting could substantially alter elasticity estimates was a consequence of other estimation problems rather than endogenous sample stratification. We excluded taxpayers from high- and low-tax states to test for the possibility of endogeneity bias in our state tax rate instrument. This experiment raises the standard errors significantly because much of the variation in the instrument is sacrificed, but does not alter the key conclusions. Results are similar when the sample is restricted to 1982 and 1983 (after enactment of ERTA). Even when truncation is ignored and the model is estimated by two-stage least squares, the elasticity estimates do not change much. Estimating the model by two-stage least squares based on a sample of realizers only, the transitory elasticity changed significantly, but the effect on the permanent elasticity estimate is small and insignificant.

V. Conclusion

It has long been suspected that differences between transitory and permanent responses to capital gains tax changes were at the heart of the conflicting empirical evidence from cross-section and time-series data. Using state tax rates to distinguish transitory from permanent tax effects, and correcting other econometric problems with previous studies, we find that the difference is large and statistically significant. The difference in estimated response is even larger than the differences between past empirical results from careful micro-data studies, which measured a combination of permanent and transitory effects, and time-series studies, which are likely to have measured primarily permanent effects of changes in tax rates.

Our analysis has some limitations. First, the capital gains realizations elasticity is only one of many factors that affect the proper taxation of capital gains. For example, our analysis ignores the effects of capital gains taxes on the cost of capital and the allocation of capital among kinds of investments, and it says nothing about arguments for taxing capital gains on equity grounds. Second, this paper has followed all previous empirical research in estimating a reduced form model. Although this was necessitated by data limitations, it was also important to show that permanent and transitory tax effects could be estimated separately using a model otherwise similar to previous research. Any explicit structural model would require assumptions about the nature of preferences and individuals' optimization problems and the estimation method itself would be a radical departure from all prior research. That might lay open such an analysis to the criticism that the structure of the model was generating the results. The drawback of estimating a reduced form, however, is that the estimated parameters are functions of the tax law and macroeconomic environment and may thus change over time.

The distinction between transitory and permanent tax effects may explain some other empirical anomalies. For example, the empirical evidence on the tax-sensitivity of charitable contributions seems to exhibit a similar divergence between time series and micro data estimates. The methodology developed here may help to resolve such disparities.

TABLE 4-SENSITIVITY ANALYSIS

Sensitivity Test	Permanent Elasticity		Transitory Elasticity		Sample Size
	Estimate	Std. Error	Estimate	Std. Error	
Log-log model	-0.17	0.39	-3.32	0.14	42,406
Weighted estimates	-0.06	N/A	-5.63	N/A	42,070
Exclude high and low-tax states	0.33	1.46	-5.34	0.34	24,188
Post-ERTA (1982 and 1983)	0.73	0.63	-9.28	0.37	21,062
Ignore truncation (2SLS)					
All observations	0.11	0.74	-6.91	0.36	42,406
Realizers only	-0.27	0.49	-4.63	0.32	22,635

Notes: Unless specified, all estimates are for the semi-log model.

[a] Standard errors are unknown. Excludes returns without valid weights.

REFERENCES

Auerbach, Alan J., "Capital Gains Taxation in the United States: Realizations, Revenue and Rhetoric," *Brookings Papers on Economic Activity*, 1988, (2), 595-631.

___, "Capital Gains Taxation and Tax Reform," *National Tax Journal*, September 1989, *42*, 391-401.

Auten, Gerald E., Burman, Leonard E. and Randolph, William C., "Estimation and Interpretation of Capital Gains Realization Behavior: Evidence From Panel Data," *National Tax Journal*, September 1989, *42*, 353-374.

___ and Clotfelter, Charles T., "Permanent Versus Transitory Effects and the Realization of Capital Gains," *Quarterly Journal of Economics*, November 1982, *97*, 613-632.

Balcer, Yves and Judd, Kenneth L., "Effects of Capital Gains Taxation on Life-Cycle Investment and Portfolio Management," *The Journal of Finance*, July 1987, *42*, 743-758.

Bogart, William T. and Gentry, William M., "Capital Gains Taxes and Realizations: Evidence from Interstate Comparisons," National Bureau of Economic Research (Cambridge, MA) Working Paper 4254, January 1993.

Bolster, Paul J., Lindsey, Lawrence B. and Mitrusi, Andrew, "Tax-Induced Trading: The Effect of the 1986 Tax Reform Act on Stock Market Activity," *The Journal of Finance*, June 1989, *44*, 327-344.

Burman, Leonard E. and Randolph, William C., "Theoretical Determinants of Aggregate Capital Gains Realizations," mimeo, Congressional Budget Office and U.S. Treasury, September 1992.

___, Clausing, Kimberly and O'Hare, John, "Tax Reform and Realizations of Capital Gains in 1986," mimeo, Congressional Budget Office, Harvard University, and Joint Committee on Taxation, March 1993.

Cilke, James M. and Wyscarver, Roy A., "The Individual Income Tax Simulation Model," in *Compendium of Tax Research 1987*, Washington, DC: Government Printing Office, 1987.

Constantinides, George M., "Optimal Stock Trading With Personal Taxes," *Journal of Financial Economics*, March 1984, *13*, 65-89.

Feenberg, Daniel, "Are Tax Price Models Really Identified? The Case of Charitable Giving," *National Tax Journal*, December 1987, *60*, 629-633.

Feldstein, Martin, Slemrod, Joel and Yitzhaki, Shlomo, "The Effects of Taxation on the Selling of Corporate Stock and the Realization of Capital Gains," *Quarterly Journal of Economics*, June 1980, *95*, 777-791.

Gillingham, Robert and Greenlees, John S., "The Effect of Capital Gains Tax Rates on Capital Gains Tax Revenues: Another Look at the Evidence," *National Tax Journal*, June 1992, *45*, 167-178.

___, ____ and Zieschang, Kim D., "New Estimates of Capital Gains Realization Behavior: Evidence from Pooled Cross-Section Data," Office of Tax Analysis Paper 66, U.S. Department of the Treasury, May 1989.

Gravelle, Jane G., "A Proposal for Raising Revenue by Reducing Capital Gains Taxes," Congressional Research Service Report 87-562E, Library of Congress, June 30, 1987.

___, "Limits to Capital Gains Feedback Effects," Congressional Research Service Report 91-250 RCO, Library of Congress, March 15, 1991.

Heckman, James J., "The Common Structure of Statistical Models of Truncation, Sample Selection and Limited Dependent Variables and a Simple Estimator for Such Models," *Annals of Economic and Social Measurement*, Fall 1976, *5*, 475-492.

Hendershott, Patric H., Toder, Eric and Won, Yunhi, "Effects of Capital Gains on Revenue and Economic Efficiency," *National Tax Journal*, March 1991, *44*, 21-40.

Jones, Jonathan D., "An Analysis of Aggregate Time Series Capital Gains Equations," Office of Tax Analysis Paper 65, U.S. Department of the Treasury, May 1989.

Kiefer, Donald W., "Lock-In Effect Within a Simple Model of Corporate Stock Trading," *National Tax Journal*, March 1990, *43*, 75-95.

Lee, Lung-Fei, Maddala, G. S. and Trost, R. P., "Asymptotic Covariance Matrices of Two-Stage Probit and Two-Stage Tobit Methods for Simultaneous Equations Models With Selectivity," *Econometrica*, March 1980, *48*, 491-503.

Minarik, Joseph J., "Capital Gains," in H.J. Aaron and J.H. Pechman, eds., *How Taxes Affect Economic Behavior*, Washington, DC: The Brookings Institution, 1981, 241-277.

Neumark, David and Wascher, William, "Employment Effects of Minimum and Subminimum Wages: Panel Data on State Minimum Wage Laws," *Industrial and Labor Relations Review*, October 1992, *46*, 55-81.

Seltzer, Lawrence H., *The Nature and Tax Treatment of Capital Gains and Losses*, New York: National Bureau of Economic Research, 1951.

Slemrod, Joel and Shobe, William, "The Tax Elasticity of Capital Gains Realizations: Evidence from a Panel of Taxpayers," National Bureau of Economic Research (Cambridge, MA) Working Paper 3237, January 1990.

Stiglitz, Joseph E., "Some Aspects of the Taxation of Capital Gains," *Journal of Public Economics*, June 1983, *21*, 257-294.

U.S. Department of the Treasury, Internal Revenue Service, Statistics of Income Division, Special Panel of Tax Returns, 1979-1983.

U.S. Department of the Treasury, *Report to the Congress on the Capital Gains Tax Reductions of 1978*, Washington, DC: U.S. Government Printing Office, September 1985.

APPENDICES

These appendices derive conditions for consistency of the IV estimator for permanent and transitory tax effects discussed in Section II, derive a consistent estimator for the generalized tobit model with an endogenous regressor in both the criterion and level equations, discussed in Section III, derive elasticities for the simultaneous selection model, examine the simultaneous equations bias induced by using actual tax rates or proxy variables as regressors to estimate tax effects, as has been done in several influential earlier studies and examine the variation in tax rates in the panel.

Appendix A. Consistency of the IV Estimator

The linear capital gains model can be written as

$$g = H\Gamma + \epsilon \tag{A1}$$

where $H = [X \vdots \tau_p \vdots \mu]$, $\Gamma' = [\gamma_0' \vdots \gamma_1 \vdots \gamma_2]$, $\mu = \tau - \tau_p$, and it is assumed for simplicity that all variables are expressed as deviations from means. Note that the model has been expressed for convenience in terms of the permanent tax rate, τ_p, and the transitory component of the current marginal tax rate, μ. It is also assumed that there are n i.i.d. observations, and that H is of full column rank, conformable with Γ.[1]

The estimator, $\hat{\Gamma}$, can be written as

$$\hat{\Gamma} = (\hat{H}'\hat{H})^{-1}\hat{H}'g, \tag{A2}$$

where $\hat{H} = [X \vdots \hat{\tau}_p \vdots \hat{\mu}]$, $\hat{\tau}_p = W_1(W_1'W_1)^{-1}W_1'\tau$, $W_1 = [X \vdots \tau_s]$, $\hat{\mu} = \hat{\tau} - \hat{\tau}_p$, $\hat{\tau} = W_2(W_2'W_2)^{-1}W_2'\tau$, and $W_2 = [W_1 \vdots \tau_0]$. Note that $\hat{\mu}$ is orthogonal to X and $\hat{\tau}_p$, from which it follows that $\hat{\gamma}_0$ and $\hat{\gamma}_1$ are instrumental variables estimates, where $\hat{\tau}_p$ is the instrument for τ_p in equation (A1). As shown below, consistency of $\hat{\gamma}_0$ and $\hat{\gamma}_1$ depends on the covariance between X and τ_s with μ and ϵ. Consistency of $\hat{\gamma}_2$ depends on the covariance of τ_0 with τ_p and ϵ, conditional on X and τ_s.

---

[1]It is also assumed that the variables have finite moments up to at least the third order. In this appendix, the matrix X is not necessarily defined in the same way as in the main body of the paper. In the context of second-stage estimation of the generalized tobit model, for example, the estimated inverse Mill's ratio can be treated as a column of X.

A. The Probability Limit of $\hat{\Gamma}$

By using the fact that $\hat{\mu}$ is orthogonal to X and $\hat{\tau}_p$, and applying well known rules for a partitioned inverse, $\hat{\Gamma}$ can be rewritten as

$$\hat{\gamma}_0 = (X'M_pX)^{-1}X'M_pg \tag{A3}$$

$$\hat{\gamma}_1 = (\hat{\tau}_p'M_X\hat{\tau}_p)^{-1}\hat{\tau}_p'M_Xg \tag{A4}$$

$$\hat{\gamma}_2 = (\hat{\mu}'\hat{\mu})^{-1}\hat{\mu}'g, \tag{A5}$$

where $M_p = [I_n - \hat{\tau}_p(\hat{\tau}_p'\hat{\tau}_p)^{-1}\hat{\tau}_p']$ and $M_X = [I_n - X(X'X)^{-1}X']$. In the remainder of this appendix, equations (A3), (A4), and (A5) are used to derive the probability limits of $\hat{\gamma}_0$, $\hat{\gamma}_1$, and $\hat{\gamma}_2$ as $n \to \infty$. The derivations that follow also use the fact that $\hat{\tau}_p$ can be rewritten as

$$\hat{\tau}_p = X(X'X)^{-1}X'\tau + M_X\tau_s(\tau_s'M_X\tau_s)^{-1}\tau_s'M_X\tau,$$

and $\hat{\mu}$ can be rewritten as

$$\hat{\mu} = M_{W_1}\tau_0(\tau_0'M_{W_1}\tau_0)^{-1}\tau_0'M_{W_1}\tau,$$

where $M_{W_1} = [I_n - W_1(W_1'W_1)^{-1}W_1']$.

1. The probability limit of $\hat{\gamma}_0$

By combining (A1) and (A3), $\hat{\gamma}_0$ (the coefficient on X) can be written as

$$\hat{\gamma}_0 = (X'M_pX)^{-1}X'M_p(H\Gamma+\epsilon) = \gamma_0 + (X'M_pX)^{-1}[\gamma_1X'M_p\tau_p + \gamma_2X'M_p\mu + X'M_p\epsilon].$$

Because $\tau_p = \tau - \mu$ and $M_p\tau = 0$, $\hat{\gamma}_0$ can be rewritten as

$$\hat{\gamma}_0 = \gamma_0 + (\gamma_2 - \gamma_1)(X'M_pX)^{-1}X'M_p\mu + (X'M_pX)^{-1}X'M_p\epsilon. \tag{A6}$$

Under the assumptions that $var(X)$ is nonsingular, $var(\tau_s \mid X) > 0$, and by repeated application of Khintchine's theorem to the terms in equation (A6), it can be shown that as $n \to \infty$,

$$Plim(\hat{\gamma}_0) = \gamma_0 + k_1 var(X)^{-1}[(\gamma_2-\gamma_1)cov(X,\mu) + cov(X,\epsilon)] + k_2 var(\tau_s|X)^{-1}[cov(\tau_s,\mu|X) + cov(\tau_s,\epsilon\,|X)], \tag{A7}$$

where k_1 and k_2 are known (messy) nonzero functions of the second order moments. Furthermore, using the expressions for k_1 and k_2, it can be shown that if $cov(\tau_s,\mu|X) = cov(\tau_s,\epsilon\,|X) = 0$, and $cov(X,\epsilon) = 0$, equation (A7) reduces to

$$Plim(\hat{\gamma}_0) = \gamma_0 + (\gamma_2-\gamma_1)var(X)^{-1}cov(X,\mu). \tag{A8}$$

(We define the expression $cov(x,y \mid z)$ to be the partial covariance between x and y given z, i.e., after the linear influence of z is removed from x and y.)

Thus, if τ_s is uncorrelated with μ and ϵ, conditional on X, and X is uncorrelated with ϵ, then the probability limit of $\hat{\gamma}_0$ differs from γ_0 by the product of the difference between the transitory and permanent tax effects and a familiar term for omitted variable bias, where μ is the omitted variable.

2. *The probability limit of* $\hat{\gamma}_1$

By combining (A1) and (A4), $\hat{\gamma}_1$ (the coefficient of τ_p) can be written as

$$\hat{\gamma}_1 = (\hat{\tau}_p' M_X \hat{\tau}_p)^{-1}\hat{\tau}_p' M_X(H\Gamma+\epsilon) = (\hat{\tau}_p' M_X \hat{\tau}_p)^{-1}(\gamma_1 \hat{\tau}_p' M_X \tau_p + \gamma_2 \hat{\tau}_p' M_X \mu + \hat{\tau}_p' M_X \epsilon).$$

Under the assumption that $cov(\tau_s,\tau\,|X) \neq 0$, repeated application of Kintchine's theorem can be used to show that

$$Plim(\hat{\gamma}_1) = \gamma_1 + (\gamma_2-\gamma_1)\frac{cov(\tau_s,\mu|X)}{cov(\tau_s,\tau\,|X)} + \frac{cov(\tau_s,\epsilon\,|X)}{cov(\tau_s,\tau\,|X)}. \tag{A9}$$

Thus, $\hat{\gamma}_1$ is a consistent estimate for γ_1 if τ_s is uncorrelated with μ and ϵ conditional on X.

Note that under the assumption, $cov(\tau_s,\epsilon\,|X) = 0$, (A9) can be rewritten as a weighted average of γ_1 and γ_2:

$$Plim(\hat{\gamma}_1) \quad = \quad \gamma_1(1-\theta_1) \; + \; \gamma_2\theta_1, \tag{A10}$$

where $\theta_1 = \dfrac{cov(\tau_s,\mu \mid X)}{cov(\tau_s,\tau \mid X)}$.

3. The probability limit of $\hat{\gamma}_2$

By similar reasoning, under the assumption that $cov(\tau_0,\tau \mid X,\tau_s) \neq 0$, it can be shown that the probability limit of $\hat{\gamma}_2$ (the coefficient of μ_i) is

$$Plim(\hat{\gamma}_2) \quad = \quad \gamma_2 \; + \; (\gamma_1 - \gamma_2)\frac{cov(\tau_0,\tau_p \mid X,\tau_s)}{cov(\tau_0,\tau \mid X,\tau_s)} \; + \; \frac{cov(\tau_0,\epsilon \mid X,\tau_s)}{cov(\tau_0,\tau \mid X,\tau_s)}. \tag{A11}$$

Note that under the assumption, $cov(\tau_0,\epsilon \mid X,\tau_s) = 0$, (A10) can be rewritten as a weighted average of γ_2 and γ_1:

$$Plim(\hat{\gamma}_2) \quad = \quad \gamma_2(1-\theta_2) \; + \; \gamma_1\theta_2, \tag{A12}$$

where $\theta_2 = \dfrac{cov(\tau_0,\tau_p \mid X,\tau_s)}{cov(\tau_0,\tau \mid X,\tau_s)}$.

Appendix B. Consistent Estimation of Generalized Tobit Model With Endogenous Regressors in Both the Probit and Level Equations

The generalized tobit model in the paper is the following three equations

$$I^* = X\alpha_0 + \alpha_1\tau_p + \alpha_2\tau_t + \alpha_3\tau_{t-1} + \epsilon_1 , \tag{A13}$$

$$g = \begin{cases} X\beta_0 + \beta_1\tau_p + \beta_2\tau_t + \beta_3\tau_{t-1} + \epsilon_2 & \text{if } I^*>0 \\ 0 & \text{otherwise} \end{cases} , \tag{A14}$$

and

$$\tau_t \equiv f(X,Y,g) . \tag{A15}$$

To simplify exposition, we begin by treating τ_p as if it is known and exogenous, and focus on the endogeneity of τ_t. Assume that, for purposes of the first-stage probit estimates, the reduced form for τ_t is approximately linear in X, τ_p, τ_{t-1}, and τ_0.[2] This constructed instrument, τ_0, is a "first-dollar" marginal tax rate, computed with the endogenous sources of income, g and Y, set equal to 0:

$$\tau_0 \equiv f(X,0,0) \tag{A16}$$

(recalling that f is the tax function in equation (A15)).

Let Z be the matrix:

$$Z \equiv \left[X \; \vdots \; \tau_p \; \vdots \; \tau_{t-1} \; \vdots \; \tau_0 \right] . \tag{A17}$$

Then the linearized reduced form for τ_t is

$$\tau_t = Z\pi + u , \tag{A18}$$

where π is a parameter vector and u is an error term that is assumed to be uncorrelated with Z.

[2]The assumption of linearity is only for convenience. The IV procedure could produce consistent estimates even if the tax rates were highly non-linear.

Substituting the reduced form for τ_t in (A13) yields

$$I^* = X\alpha_0 + \alpha_1 \tau_p + \alpha_2(Z\pi) + \alpha_3 \tau_{t-1} + (\epsilon_1 + \alpha_2 u) \ . \tag{A19}$$

Following Lee, et al (1980), the conditional expectation of capital gains is

$$E(g|I^*>0) = X\beta_0 + \beta_1 \tau_p + \beta_2 E(\tau_t|I^*>0) + \beta_3 \tau_{t-1} + E(\epsilon_2|I^*>0) \ . \tag{A20}$$

Using the standard formula for truncated means of normal random variates, the conditional expectations may be written as:

$$E(\tau_t|I^*>0) = Z\pi + (\sigma_{u1} + \alpha_2 \sigma_{uu})\frac{\phi}{\Phi} , \tag{A21}$$

and

$$E(\epsilon_2|I^*>0) = (\sigma_{12} + \alpha_2 \sigma_{u2})\frac{\phi}{\Phi} , \tag{A22}$$

where ϕ and Φ are the standard normal density and distribution functions, respectively, evaluated at $X\alpha_0 + \alpha_1 \tau_p + \alpha_2(Z\pi) + \alpha_3 \tau_{t-1}$.

The difference from the model of Lee, et al (1980), appears in the σ_{uu} term that appears in the conditional mean for τ_t. This term is unambiguously positive, which implies that the conditional mean for τ_t is almost surely different from the unconditional mean, even if the covariances between different error terms are zero. This implies that correcting for selectivity is essential to finding consistent parameter estimates even if the error terms in equations (A13) and (A14) are uncorrelated, i.e., even if $\sigma_{12}=0$.

A similar potential bias from ignoring selectivity would occur because τ_p is unobserved. The IV estimator described in section II replaces τ_p with $\hat{\tau}_p$ in both the probit and level equations. Thus, the preceding analysis applies, using $\hat{\tau}_p - \tau_p - X(X'X)^{-1}X'\mu_t$ in place of u and with α_1 substituted for α_2. The potential selectivity bias discussed above is thus compounded. Fortunately, the solution is the same in both cases.

Appendix C. Computing Permanent Elasticities in the Selection Model

Let g_i be net long-term capital gains for individual i, and let E be the expectation operator (conditional on $\tau_{i,p}$ and X_i, and $\tau_{i,t}=\tau_{i,t-1}=\tau_{i,p}$). Then the long-term elasticity of gains with respect to permanent tax rates, e_i, is

$$e_i \equiv \frac{\partial Eg_i}{\partial \tau_{i,p}} \frac{\tau_{i,p}}{Eg_i} . \tag{A23}$$

For the semi-log model, it may be shown that the expression in (A23) is:

$$e_i = \tau_{i,p} \left[(\beta_0 + \beta_1 + \beta_2) + (\alpha_0 + \alpha_1 + \alpha_2) \cdot \lambda(h_i + \sigma\rho) \right] , \tag{A24}$$

where $\lambda(\cdot)$ is the reciprocal of the Mills-ratio function (ϕ/Φ), h_i is the systematic part of the criterion function, equation (A13), and $\sigma\rho$ is the covariance between the errors in the two equations.[3] The first part of (A24) is the response of the level of capital gain conditional on realizing a capital gain. The second part is the sum of the direct effect of tax rates on the probability of realizing and the indirect effect through the covariance in errors between the criterion and level equations.

For the log-log model, the elasticity is:[4]

$$e_i = \frac{\tau_{i,p}}{1 + \tau_{i,p}} \left[(\beta_0 + \beta_1 + \beta_2) + (\alpha_0 + \alpha_1 + \alpha_2) \cdot \lambda(h_i + \sigma\rho) \right] . \tag{A25}$$

The elasticity of aggregate realizations with respect to the permanent tax rate is the weighted sum of the individual elasticities, evaluated at the permanent tax rates.[5] The correct weights are the sample weights multiplied by the amount of capital gains. In practice, the results are virtually identical

[3]See Appendix D for the proof.

[4]Recall that the tax terms have the form $\log(1+\tau_{i,p})$ and that $\tau_{i,p}$ is measured in percents.

[5]One might be tempted to compute the individual elasticities at the actual tax rates rather than the expected permanent tax rates. This procedure would bias estimates because tax rates are endogenous and correlated with the level of capital gains. There is also a selectivity bias.

if (A24) and (A25) are evaluated at the gains-weighted means of permanent tax rates and λ.[6] Because the first part of each expression is conditional on realizing a capital gain, the appropriate average tax rate is the average estimated permanent tax rate for realizers, which is 19 percent in 1983. For the second part, we use the unconditional average permanent tax rate, which is 18 percent. The weighted average values of λ, which depend on estimated parameters, are 3.1 for the semi-log model and 2.9 for the log-log model.

Appendix D. Derivation of Elasticity Formula

The formula for elasticity is complicated somewhat because the dependent variable in the selection model is in logarithms. This appendix derives the general formula for the log-selection model, which was applied in Appendix C.

A. *Expectation in a Generalized Tobit Model with Log Dependent Variable*

The model may be written in general form as:

$$\ln Y_i = f(X_i) + v_{1i} \quad \text{if } h(X_i) + u_{2i} \geq 0$$
$$= 0 \qquad \text{otherwise},$$

for $i=1,\ldots,N$. Assume that, conditional on X_i, both v_{1i} and u_{2i} are independent, identically distributed random variables such that $v_{1i} \sim N(0,\sigma_1^2)$, $u_{2i} \sim N(0,1)$, and $E(v_1,u_{2i}) = \sigma_{12}$. The correlation between v_{1i} and u_{2i} is $\rho = \sigma_{12}/\sigma_1$. We can rewrite the nonstandard normal random variable, v_{1i}, in terms of the standard normal, u_{1i}, as $v_{1i} = \sigma_1 u_{1i}$.

[6] Computing the elasticities for the main specifications using micro-simulation changed only the third significant digit of the estimates. We report elasticities at the mean because they are easier to reproduce, requiring only a calculator and the parameter values reported below.

The expectation of Y_i conditional on X_i is:

$$EY_i = E\left[e^{f(x_i)+\sigma u_{1i}} \mid u_{2i} \geq -h(x_i)\right] \cdot (1 - \Phi(-h(x_i))) , \tag{A26}$$

(treating the value of EY_i as 0 if $h(x)+u_{2i} < 0$).

The complication in equation (A26) is the conditional expectation. The following lemma derives its value.

Lemma:

$$E(e^{\sigma u_1} \mid u_2 \geq c) = e^{\sigma^2/2} \frac{1-\Phi(c-\sigma\rho)}{1-\Phi(c)} . \tag{A27}$$

Proof:

Let u_1 and u_2 be jointly standard normal with correlation ρ. Their joint density is:

$$g(u_1,u_2) = \frac{1}{2\pi\sqrt{1-\rho^2}} \exp\left\{\frac{-1}{2(1-\rho^2)}\left(u_1^2 - 2\rho u_1 u_2 + u_2^2\right)\right\}. \tag{A28}$$

The conditional mean of $e^{\sigma u_1}$ given $u_2 \geq c$ is

$$E(e^{\sigma u_1} | u_2 \geq c) = \frac{\int_c^{\infty}\int_{-\infty}^{\infty} e^{\sigma u_1} g(u_1,u_2)\, du_1\, du_2}{1 - \Phi(c)}, \tag{A29}$$

where Φ is the univariate normal distribution function.

Finding the solution to (A29) involves integrating out u_1 and then recognizing that the remaining terms in u_2 are proportional to a normal density. The numerator of (A29) may rewritten as:

$$N = \frac{1}{2\pi\sqrt{1-\rho^2}} \int_c^{\infty} \int_{-\infty}^{\infty} e^{q(u_1,u_2)}\, du_1\, du_2, \tag{A30}$$

where

$$q\,(u_1,u_2) \equiv \sigma u_1 - \frac{1}{2(1-\rho^2)}\left(u_1^2 - 2\,\rho\, u_1 u_2 + u_2^2\right).$$

Rearrange q so that it is in the form

$$q\,(u_1,u_2) = (u_1 - \mu)^2 + r(u_2),$$

where μ does not depend on u_1 and $r(u_2)$ depends only on u_2. Then

$$q\,(u_1,u_2) = -\frac{1}{2(1-\rho^2)}\left(u_1^2 - 2\,\rho u_2 u_1 - 2\sigma(1-\rho^2)u_1 + u_2^2\right)$$

$$= -\frac{u_1^2 - 2\left[\rho u_2 + \sigma(1-\rho^2)\right]u_1 + \left[\rho u_2 + \sigma(1-\rho^2)\right]^2 - \left[\rho u_2 + \sigma(1-\rho^2)\right]^2 + u_2^2}{2\,(1-\rho^2)}$$

$$= -\frac{1}{2(1-\rho^2)}\left[u_1 - \rho u_2 - \sigma(1-\rho^2)\right]^2 - \frac{1}{2(1-\rho^2)}\left[u_2^2 - (\rho u_2 + \sigma(1-\rho^2))^2\right].$$

Substitute into (A30) and rearrange:

$$N = \int_c^\infty \frac{\exp\left[-\frac{1}{2(1-\rho^2)}\left(u_2^2 - \left(\rho u_2 + \sigma(1-\rho^2)\right)^2\right)\right]^2}{\sqrt{2\pi}} \times$$

$$\left(\int_{-\infty}^\infty \frac{\exp\left[-\frac{1}{2(1-\rho^2)}\left(u_1 - \rho u_2 - \sigma(1-\rho^2)\right)^2\right]}{\sqrt{2\pi(1-\rho^2)}}\, du_1\right) du_2 \, .$$

The integrand inside the parentheses is (by design) the normal density for mean $\left[\rho u_2 + \sigma(1-\rho^2)\right]$ and variance $1 - \rho^2$. Thus, the integral is 1.

N, therefore, simplifies to:

$$N = \int_c^\infty \frac{\exp\left[-\frac{1}{2(1-\rho^2)}\left[u_2^2 - \left(\rho u_2 + \sigma(1-\rho^2)\right)^2\right]\right]}{\sqrt{2\pi}} du_2.$$

Complete the square on the bracketed expression:

$$N = \int_c^\infty \frac{\exp\left[-\tfrac{1}{2}\left((u_2 - \sigma\rho)^2 - \sigma^2\right)\right]}{\sqrt{2\pi}}\, du_2$$

$$= e^{\sigma^2/2} \int_c^\infty \frac{\exp\left[-\tfrac{1}{2}(u_2 - \sigma\rho)^2\right]}{\sqrt{2\pi}} du_2$$

$$= e^{\sigma^2/2}\left[1 - \Phi\,(c - \sigma\rho)\right] .$$

Substituting this for the numerator of (A29) completes the proof.

Substituting (A27) into (A26), the unconditional expectation of Y may be rewritten as:

$$E\ Y_i = e^{f(x_i)}\ e^{\sigma_1^2/2}\ \frac{1 - \Phi(-h(x_i) - \sigma_1 \rho)}{1 - \Phi(-h(x_i))}\ (1 - \Phi(-h(x_i)) \tag{A31}$$

$$= e^{\sigma_1^2/2}\ e^{f(x_i)}\ \Phi\ (h(x_1)\ +\ \sigma_1 \rho).$$

B. Elasticity

The elasticity is defined as

$$\epsilon_i = \frac{\partial EY_i}{\partial x_i} \cdot \frac{x_i}{EY_i}. \tag{A32}$$

The partial derivative, from (A31), is:

$$\frac{\partial EY_i}{\partial X_i} = \frac{\partial f}{\partial x_i} EY_i + \frac{\partial h}{\partial x_i} \frac{\phi(h(x_i) + \sigma_1 \rho)}{\Phi(h(x_i) + \sigma_1 \rho)} EY_i\ .$$

Substituting into (A32) yields

$$\epsilon_i = \left[\frac{\partial f}{\partial x_i} + \frac{\partial h}{\partial x_i} \cdot \lambda_i\right] x_i\ ,$$

where λ_i is the inverse Mills ratio:

$$\lambda_i = \frac{\phi(h(x_i) + \sigma_1 \rho)}{\Phi(h(x_i) + \sigma_1 \rho)}.$$

Appendix E. Identification and Bias in a Simplified Model of Endogenous Taxable Income

While virtually all past studies of capital gains have recognized the endogeneity of tax rates, the corrections for endogeneity have not followed standard econometric procedure. This appendix shows how these unconventional approaches are likely to bias estimates of capital gains responses.[7]

A. Identification

A simple model of capital gains realizations is used to illustrate problems with previous solutions to the endogeneity problem. The model ignores sample selection and the excluded permanent tax rate, which are discussed in the paper. Suppose that the marginal tax rate on capital gains is a non-linear function of the exogenous variables, X, but that it is approximately linear in capital gains, g, and other endogenous income, which is grouped together in one variable, Y. The system of equations may be written as

$$g = \beta_1\tau_t + \beta_2 X_1 + \eta_1 = Z_1\beta + \eta_1 , \qquad \text{(A33)}$$

$$Y = \gamma_1\tau_t + \gamma_2 X_2 + \eta_2 = Z_2\gamma + \eta_2 , \qquad \text{(A34)}$$

where $Z_i \equiv [\tau_t \ \ X_i]$, for i=1,2, and

$$\tau_t \equiv f(X,Y,g) \approx \tau_0(X) + \delta \cdot (g + Y) . \qquad \text{(A35)}$$

Suppose that g and Y are always observable, and that permanent tax rates are observed and are part of the vectors X_1 and X_2, which are subsets of X. The variables in (A33)-(A35) are conformable data matrices with N observations, so g, Y, τ_t, η_1, η_2, and τ_0 are $N\times 1$, X_1 is $N\times k_1$, X_2 is $N\times k_2$, and X is $N\times k$, where $k \geq \max(k_1,k_2)$. The error terms have asymptotic covariance

[7]Technically, we are not examining bias but the difference between the probability limit of alternative estimators and the actual parameter values: the magnitude of the inconsistency. We use the terms "bias" or "asymptotic bias" as convenient shorthand.

$\sigma_{ij} = E(\eta_i \eta_j)$, for i=1,2, and j=1,2, and are uncorrelated with X. The parameter vectors have conforming dimensions. In addition, define a matrix, Z_0 as

$$Z_0 = \left[\tau_0(X) \vdots X\right], \qquad \text{(A36)}$$

where τ_0 is the first-dollar marginal tax rate.

Suppose also that the moments of the Z matrices converge to positive definite matrices, i.e.,

$$\operatorname*{plim}_{N\to\infty} \frac{Z_i' Z_i}{N} = Q_i \ , \quad \text{for } i = 0,1,2 \ . \qquad \text{(A37)}$$

Under these conditions, consistent estimation is straightforward. Because $\tau_0(X)$ is a known non-linear function and is correlated with τ_r, but not with η_1 or η_2, τ_0 is a good instrument for τ_r. All of the model's parameters are identifiable for two reasons. First, non-linearity of τ_0 would be sufficient by itself. Second, many of the elements of X that enter the tax calculation (i.e., exogenous factors that determine transitory tax rates) do not enter equations (A33) and (A34), so the parameters of the model could be identified even if tax rates were linear.

The key coefficients, β_1 and β_2, can be estimated by two-stage least squares using τ_0 as an instrument for τ_r. This estimator is analogous in this simple model to the estimator described in the paper.

B. Previous Studies

Instead of two-stage least squares, many past studies have used a proxy variable in place of τ_r. The proxy tax rate was either a "first-dollar" tax rate, which is a marginal tax rate computed by setting realized capital gains, but not other income, equal to zero, or a marginal tax rate computed by setting capital gains equal to an estimated value, conditional on exogenous taxpayer characteristics.

The class of proxy variables used in previous studies may be written as

$$\hat{\tau}_r \equiv f(X, Y, h(X)) \ . \qquad \text{(A38)}$$

When $h(X)$ equals 0, $\hat{\tau}_r$ is the first-dollar tax rate used in previous studies. When $h(X)$ is a function whose expected value equals actual capital gains, g, $\hat{\tau}_r$ is a "fitted last-dollar tax rate." Because parts

of other income, Y, are endogenous, $\hat{\tau}_t$ is correlated with the error term, η_1, in equation (A33), it follows that such proxies will produce inconsistent estimates regardless of the choice of $h(X)$.[8]

1. *Least squares bias*

The problems in using the proxy variables can be illustrated by examining the naive least squares estimator of the tax rate coefficient in the capital gains equation, β_1. The asymptotic bias in this estimator, $\hat{\beta}_1$, is

$$\operatorname*{plim}_{N\to\infty} \hat{\beta}_1 - \beta_1 = q_1 \operatorname*{plim}_{N\to\infty} \left(\frac{\tau_t' \eta_1}{N} \right), \tag{A39}$$

where q_1 is the top left element of Q_1^{-1} This scalar is positive because Q_1 is positive definite.

The reduced form for τ_t is, from equations (A33)-(A35),

$$\tau_t = \frac{k\tau_0(X)}{\delta} + k(X_1\gamma_1 + X_2\gamma_2) + k\eta_1 + k\eta_2 , \quad \text{where } k \equiv \frac{\delta}{1 - \delta(\beta_1 + \gamma_1)} \tag{A40}$$

The constant factor, k, is positive because δ is non-negative (marginal tax rates are assumed to be a non-decreasing function of income) and β_1 and γ_1 are negative (endogenous income falls with tax rates). Substituting this reduced form into (A39) yields the asymptotic covariance between τ_t and η_1:

[8] There are other problems with such proxies. First, the use of a proxy variable in place of actual tax rates causes coefficient estimates to be biased toward zero. Second, the use of first-dollar tax rates in place of actual tax rates would cause coefficient estimates to be biased away from zero. However, if estimation were otherwise appropriate (i.e., the first-dollar rate were really exogenous, selectivity were properly accounted for, and the model were properly specified), then elasticity estimates based on first-dollar tax rates would be consistent (except for the proxy-variable bias just noted).

$$\operatorname*{plim}_{N\to\infty} \frac{\tau_t' \eta_1}{N} = k(\sigma_{11} + \sigma_{12}) \; . \qquad \text{(A41)}$$

The bias is non-zero almost surely. If the absolute value of the variance of η_1 exceeds the covariance between the two equations' errors (which seems likely), the bias will be positive (i.e., towards zero).

Figure 1 illustrates this bias for the case of $\sigma_{12}=0$ (or capital gains is the only endogenous source of income). Suppose that two taxpayers were identical, except that they had different unobserved η_1 values. On the figure, the taxpayer with the lower η_1 corresponds to gain function, GG, and taxable income function II. The taxpayer with the high η_1 has higher gains at every marginal tax rate, represented by the shift from GG to G'G'; taxable income is correspondingly higher represented by I'I'. Because the tax schedule is progressive (marginal tax rates are upward sloping with respect to income), the equilibrium tax rate is higher for the taxpayer with higher η_1 than for the other. In this example, equilibrium gains actually increase from G to G' as equilibrium tax rates increase from τ to τ'. A regression line drawn through the two points would slope upward. It is clear that this positive correlation has nothing to do with the behavioral response of taxpayers to capital gains tax changes. In fact, gains are negatively related. Thus, the least squares bias reverses the sign of the relationship in this example.

2. *Estimates based on proxy tax rate*

Most studies of capital gains realization behavior have used a proxy tax rate, such as $\hat{\tau}_t$ defined in (A38). From (A35), the proxy tax rate is

$$f(X,Y,h(X)) = \tau_0(X) + \delta \cdot (h(X) + Y) \; . \qquad \text{(A42)}$$

Substituting in the reduced form for Y, $\hat{\tau}_t$ may be written as

$$\hat{\tau}_t = \tau_0(X)(1+\gamma_1 k) + \delta\left[h(X) + \gamma_1 k X_1 \beta_2 + X_2\gamma_2(1+\gamma_1 k)\right] + \delta k \eta_1 \gamma_1 + \delta(1+\gamma_1 k)\eta_2 \ . \qquad (A43)$$

The asymptotic bias of an estimator based on proxies from its "true"[9] value is proportional to

$$\operatorname*{plim}_{N\to\infty} \frac{\hat{\tau}_t' \eta_1}{N} = \delta\left[\gamma_1 k(\sigma_{11} + \sigma_{12}) + \sigma_{12}\right] \qquad (A44)$$

If σ_{12} is zero (or negative, but small), the asymptotic bias will be negative because γ_1 is assumed to be negative. Thus, using the first-dollar tax rate is likely to bias realization elasticity estimates away from zero causing estimated elasticities to be too large in absolute value.

3. *Average tax rate as measure of permanent tax rate*

As a proxy for the permanent marginal tax rate, Auten and Clotfelter used a 3-year moving average of actual capital gains tax rates, including the actual current year tax rate. This procedure results in biased and inconsistent estimates of permanent tax effects for the same reason that "naive" least squares, discussed above, results in inconsistent estimates of the transitory tax effect. Assuming, as above, that the other regressors are not correlated with the disturbance terms, the Auten-Clotfelter procedure is roughly equivalent to using $\tau_t/3$, $\tau_{t-1}/3$, and $\tau_{t-2}/3$ as regressors. Because the lagged tax rates are assumed to be predetermined, they would be part of X_1, and the analysis of bias simply proceeds substituting $\tau_t/3$ for τ_t in Equations (A33)-(A35). It can be shown that the resulting bias would be proportional to $k(\sigma_{11} + \sigma_{12})/3$. Thus, the bias would have the same sign as the "naive" least squares bias that results from ignoring endogeneity. Under plausible assumptions, the magnitude of the bias would be about a third of the bias in the naive model. Because the least squares bias can be severe, reducing the bias by two-thirds could still result in seriously flawed estimates, even if estimation were otherwise appropriate.

In a long enough panel, if tax law remained constant, the endogeneity bias could be limited or avoided--for example by excluding the current year from tax rate averages. However, with currently

[9]The "true" parameter is not β_1 from Equation (1) if a first-dollar tax rate is used ($h(X)=0$). In that case, the parameter would reflect the relationship between capital gains and the first dollar rate. However, this, by itself, does not bias elasticity estimates. (See footnote 8.)

available data sets, using average tax rates to proxy for permanent effects would result in potentially serious biases because of the endogeneity of current tax rates just discussed and because averages of a few years' tax rates are insufficient to identify the separate effect of permanent from transitory tax changes.

Appendix F. Variation in Tax Rates in the Panel

The central identification problem--estimation of the permanent effect--would disappear if there were no transitory variation in capital gains tax rates. In this case, all differences in tax rates would represent permanent tax effects and econometric evidence from micro data would only reflect the effects of permanent tax changes. The effect of transitory tax changes could not be identified, but it would be irrelevant.

The data, however, show that there is considerable transitory variation. Tax rates for individual taxpayers traced over five years (1979 to 1983) vary substantially, and the variance increases over time, even after controlling for the effect of the major tax legislation in 1981, as illustrated in Figure 2.

To create Figure 2, taxpayers were divided into ten groups that correspond to deciles of the unconditional sample distribution of first-dollar capital gains tax rates in 1979.[10] Each decile group was then followed through 1983 to examine how closely the group's conditional distribution in following years corresponded to the unconditional distribution of first-dollar capital gains tax rates for each year. In the figure, the distribution of each group is represented by its quartiles. A tendency for the conditional quartiles to approach the unconditional quartiles quickly would indicate a high degree of intertemporal variation in first-dollar tax rates for each taxpayer. However, if the conditional distributions remained relatively fixed, this would suggest that most variation in tax rates represents permanent differences among taxpayers.

For each of the ten decile groups, the figure displays three lines that show how the first, second (median), and third quartiles of their conditional distributions are related to the percentiles of the unconditional distribution in each of the five years from 1979 through 1983. For example, consider taxpayers in the first decile of the unconditional distribution in 1979, represented by the left-most panel of Figure 2. By construction, the median for the first decile in 1979 corresponds to percentile 5 of the unconditional distribution; the first and third quartiles of the conditional distribution correspond to percentiles 2 and 7 of the unconditional distribution. However, after five years, the first, second, and third quartiles of the conditional distribution for the first group equaled percentiles 5, 13, and 28 of the unconditional distribution. Similarly, the figure shows that the three conditional quartiles for taxpayers

[10]The sample used to construct Figure 2 only includes taxpayers who realized net positive long-term capital gains at least once between 1979 and 1983. The first-dollar tax rate is the marginal tax rate on the first dollar of long-term capital gains, i.e., computed with capital gains set to zero.

who were in the 5th decile in 1979 equaled percentiles 42, 45, and 47 of the unconditional distribution, but changed to equal percentiles 30, 50, and 63 of the unconditional distribution by 1983.[11]

The graph shows that there was substantial intertemporal variation in first-dollar capital gains tax rates between 1979 and 1983. In all ten decile groups, the conditional distributions noticeably increased in dispersion over the five year period. Further, the tendency of conditional medians to drift toward the unconditional medians shows that taxpayers with low tax rates in 1979 were likely to have had tax rates below their permanent levels; taxpayers with high rates in 1979 were likely to have been experiencing unusually high rates in that year.

While providing strong evidence of transitory volatility in tax rates, Figure 2 also illustrates that there are systematic differences in the permanent tax rates of different taxpayers. The distribution of the bottom five deciles remains below the population distribution for all fives years, and the top five deciles remain above the population distribution. Were tax rates purely random (transitory), the conditional distributions would have equalled the population distribution in 1980 through 1983.

---

[11] By comparing quartiles of conditional distributions to percentiles of the unconditional distributions, we have deliberately abstracted from intertemporal variations that would have resulted from general shifts in the marginal tax-rate schedule due, for example, to statutory changes in marginal tax rates in 1981 and 1982. As a result, Figure 2 provides a better picture of the degree to which dispersion of marginal tax rates in a cross section sample results from intertemporal variation because general shifts that are not represented by the figure would not result in cross-section variation in tax rates.

Figure 1
Least Squares Endogeneity Bias

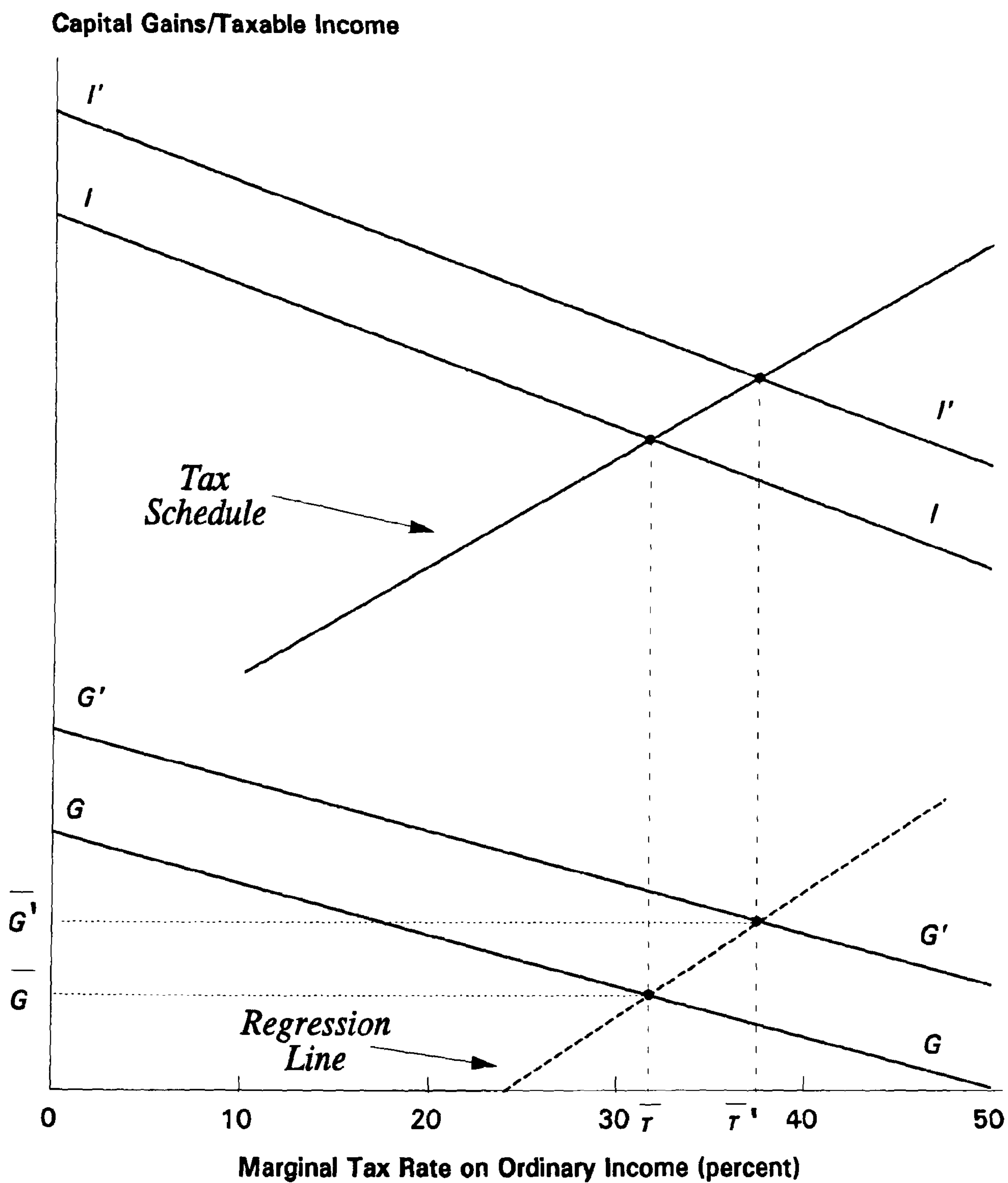
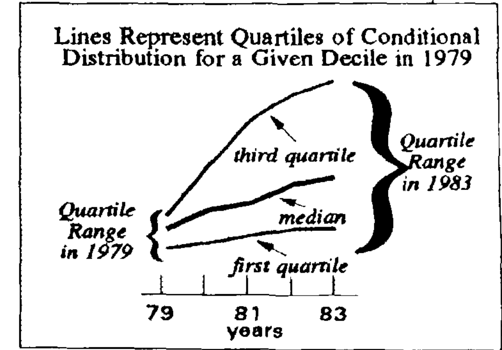


Figure 2. Intertemporal Variation of First-Dollar Marginal Tax Rates on Gains

Quartiles in 1979 to 1983 Conditional on Decile in 1979



The graph is based on a weighted sample of taxpayers who realized gains in at least one year between 1979 and 1983. Taxpayers were sorted according to their first-dollar marginal tax rate on capital gains in 1979. The lines show how the distribution of marginal tax rates changed over the five years of the panel.

OTA Papers

DYNAMIC INCOME, PROGRESSIVE TAXES, AND
THE TIMING OF CHARITABLE CONTRIBUTIONS*

by

William C. Randolph
Congressional Budget Office
U.S. Congress

OTA Paper 69 August 1994

Department
of the
Treasury

Assistant Secretary for Tax Policy

Office of Tax Analysis

DYNAMIC INCOME, PROGRESSIVE TAXES, AND THE TIMING OF CHARITABLE CONTRIBUTIONS*

by

William C. Randolph
Congressional Budget Office
U.S. Congress

OTA Paper 69 **August 1994**

OTA Papers and Briefs are circulated so that the preliminary findings of tax research conducted by staff members and others associated with the Office of Tax Analysis may reach a wider audience. The views expressed are those of the authors, and do not reflect Treasury policy. Comments are invited, but OTA Papers and Briefs should not be quoted without permission from the authors. Additional copies of this publication may be purchased from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161

Office of Tax Analysis
U.S. Treasury Department, Room 1064
Washington, DC 20220

---

* **Thanks to Gerald Auten, Leonard Burman, Eric Engen, William Gale, David Harris, David Johnson, James Nunns, Mark Wilhelm, and many other colleagues and seminar participants for comments and suggestions. Most research for this paper was conducted while the author worked for the Office of Tax Analysis, U.S. Treasury. All views are the author's, and do not represent official views or positions of the Congressional Budget Office or the U.S. Treasury.** **Address: Congressional Budget Office, 2nd and D Streets, S.W., Washington, DC, 20515; Tel: (202) 226-2859; INET: BILLR.TAD@CBO.GOV**

Abstract

The permanent income hypothesis suggests that empirical studies have underestimated how much permanent income affects charitable giving if people smooth their giving when transitory income changes. But the studies may have also overestimated the effect of permanent changes in tax prices. This is because changes in transitory income also change the relative tax prices of current and future giving when marginal tax rates increase with income, which may cause people to substitute between current and future giving. I first examine these issues using a simple demand model. I then study the issues empirically using a ten-year panel of tax-return data (1979-1988) that spans two major tax-law changes. The data allow me to separately estimate the effects of permanent income, transitory income, current tax prices, expected future tax prices, and other variables. Compared to price elasticities from previous studies, I find that giving is much less elastic with respect to permanent changes in tax prices, but more elastic with respect to transitory price changes. I also find that giving is much more elastic with respect to permanent income, but less elastic with respect to transitory income changes. The results imply that people smooth their giving when transitory income changes, but time their giving to exploit transitory price changes.

1. Introduction

Governments have historically supported philanthropic causes through a variety of direct spending and transfer programs, and by providing incentives designed to encourage private philanthropy through matching grants and special provisions of the tax system. Since its beginning, the U.S. income tax has provided incentives for private philanthropy by allowing people to deduct charitable gifts from taxable income. This deduction is widely thought to encourage giving because it decreases the amount of other consumption people must forgo at the margin, the "tax price," for each additional dollar they give to charity.

To measure the incentive effects, empirical studies have modelled giving by individuals as a commodity. The key results are summarized in terms of elasticities of demand for giving with respect to changes in after-tax income and tax prices. Clotfelter (1985) surveyed more than a dozen empirical studies of individual giving. The studies typically found that giving is income inelastic, but highly price elastic. Steinberg (1990) surveyed at least twenty more recent studies, and found that the results were not very robust to changes in data and model design. In a recent study, Auten, Cilke, and Randolph (1992) compared the predictions of a standard model of charitable giving to observed changes in giving by people in different income groups following two major tax changes in the 1980's. They found that the predictions were very different from the actual changes. For many income groups, predicted changes actually had the wrong sign.

In this paper, I present evidence that the price and income elasticity estimates from previous studies were biased because they did not distinguish fully between direct and indirect effects of permanent and transitory income. Differences between the direct effects are implied by Friedman's (1957) permanent income model. If people smooth their consumption, giving would be less

sensitive to transitory than permanent income. Some studies, including Schwartz (1970), Feldstein and Clotfelter (1976), Reece (1979), and Clotfelter (1980), have tried to separately measure the direct effects of permanent and transitory income, but the results have been weak. Previous studies have not, however, accounted for differences between the indirect price effects of permanent and transitory income. The effects are likely to differ because permanent and transitory income have different effects on the current and expected future tax prices of giving. Marginal tax rates increase with income, so a person with relatively high permanent income will tend to face a relatively low tax price both in current and future years. However, a person with a relatively high transitory income will tend to face a tax price that is currently low relative to future years, when transitory income is expected to be lower.

Casual observation and some econometric evidence suggests that people are willing to substitute giving between current and future years to take advantage of changes in relative current and future tax prices. For example, in studies of the 1980's changes in tax laws, Clotfelter (1990) and Auten, Cilke, and Randolph (1992) observed one-time increases in charitable giving during 1981 and 1986. During those years, people appeared to accelerate future giving to avoid the pending statutory increases in tax prices. Broman's (1989) econometric analysis of behavior surrounding the tax reductions passed in 1981 also suggests that people anticipated the changes by substituting current for future giving. As another example of substitution, charitable giving is sometimes used for end-of-year tax planning. In December, when people know whether taxable income for the past year is higher or lower than usual, they can either accelerate future giving to take advantage of a temporarily low tax price or defer giving to avoid paying a temporarily high tax price.

As I show in the first part of this paper, if part of the tax-price variation in data used for past studies resulted from transitory income variation, and if people smooth their consumption, but are willing to substitute between current and future giving in response to changes in relative tax prices, the existing elasticity estimates will tend to understate the effects of changes in permanent income and overstate the effects of permanent price changes. Likewise, the elasticity estimates will tend to overstate the effects of changes in transitory income and understate the effects of transitory price changes.

I first use a simple demand model to examine the basic empirical identification problem. I then estimate an empirical model of charitable giving based on a ten-year panel (1979-1988) of tax return data. The data allow me to separately estimate the direct income effects and indirect price effects of permanent and transitory income. I take advantage of the longitudinal aspect of the data and changes in the degree of marginal tax rate progressivity that followed the tax-law changes in 1981 and 1986. In contrast to previous studies, rather than depending on cross-sectional variation of income along a given nonlinear tax-price schedule, the parameters are identified by statutory changes in the tax schedule.[1] The estimation method is similar to the method that Burman and Randolph (1993) used to estimate the effects on capital gains realizations of permanent and transitory changes in marginal tax rates.

My results differ substantially from the results of previous studies. Giving appears to be much less sensitive to permanent price changes and much more sensitive to transitory price changes. Giving also appears to be much more sensitive to permanent income and less sensitive to transitory

---

[1] Feenberg (1987) analyzed the potential problems caused by depending too heavily on nonlinearity of a particular tax schedule to identify charitable giving models.

income. These results suggest that previous studies have estimated the average effects of transitory and permanent price and income variations. The results also raise questions about the effectiveness of tax incentives in affecting the level, rather than just the timing, of charitable giving by individuals.

2. The Direct and Indirect Effects of Income

In this section, I use a simple demand model to show how permanent and transitory changes in income can affect individual charitable giving when marginal tax rates increase with income. Suppose that an individual chooses how much to consume personally and how much to give to charity in each of two periods. Income is exogenous and subject to tax, but giving is deductible. For simplicity, interest and discount rates are zero. The individual's decision problem is represented by equation (1),

$$\begin{aligned}&\text{Maximize} \quad U(g_1, g_2, x_1, x_2)\\&\text{subject to:}\\&g_1 + g_2 + x_1 + x_2 \leq y_1 - T(y_1 - g_1) + y_2 - T(y_2 - g_2),\\&g_t,\ x_t,\ y_t \geq 0, \quad t = 1,2\end{aligned} \tag{1}$$

where g_t and x_t are the levels of charitable giving and personal consumption in period t, respectively. Exogenous levels of pre-tax income are given by y_1 and y_2. The tax function, $T(\cdot)$, is twice-differentiable, and marginal tax rates are assumed to be positive and non-decreasing, so that $T(y)$, $T'(y)$, and $T''(y) \geq 0$ for all y.[2]

---

[2] Differentiability simplifies the analysis considerably. Neither it nor the assumption of non-decreasing marginal tax rates is necessary for the results of this section.

The problem can be expressed in a more standard form by rearranging the budget constraint:

$$P_1 g_1 + P_2 g_2 + x_1 + x_2 \leq Y_1 + Y_2,$$
where:
$$Y_t = y_t - T(y_t) + [T(y_t) - T(y_t - g_t) - g_t T'(y_t - g_t)],$$
$$P_t = 1 - T'(y_t - g_t), \quad t = 1,2. \tag{2}$$

Although the budget constraint is a nonlinear function of giving in each period, the individual's decision has a standard form in terms of marginal tax prices, P_1 and P_2, and "modified" after-tax income, Y_1 and Y_2. Modified after-tax income equals after-tax income when giving is zero plus an implicit premium that results from the fact that inframarginal amounts of giving are deducted at higher rates than the marginal tax rate.

First ignoring nonlinearity of the budget constraint, demand exhibits Slutsky and other familiar properties in terms of P_t and Y_t for t = 1, 2. I use this fact along with the nonlinear dependence of the budget constraint on giving to derive the different effects of temporary and permanent changes in pre-tax income. The effects on giving can be decomposed into direct effects through changes in income and indirect effects through changes in tax prices.

First, consider a permanent change in income. Pre-tax income can be decomposed into permanent, y^*, and temporal, y_t^T, components, so that $y_t = y^* + y_t^T$ for t = 1, 2. The effect on g_1 of a change in the permanent component is given by equation (3).

$$\frac{dg_1}{dy^*} = \frac{P_1 \cdot \dfrac{\partial G^1(P_1,P_2,Y^*)}{\partial Y^*} - \left(\dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_1} + \dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_2}\right) \cdot T''}{1 - \left(\dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_1} + \dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_2}\right) \cdot T''}, \tag{3}$$

where $G^1(P_1,P_2,Y^*)$ and $H^1(P_1,P_2,u^*)$ are the ordinary and compensated demand functions for g_1, respectively, and Y^* is "permanent" modified after-tax income, i.e., $(Y_1+Y_2)/2$.[3]

The first term in the numerator, $P_1 \cdot \partial G^1 / \partial Y^*$, accounts for the direct effect of a permanent change in income. The second term in the numerator appears because marginal tax rates change with income. It shows that a permanent change in income will affect giving indirectly by changing the tax prices in both periods. This second term, including the minus sign, is non-negative because $T'' \geq 0$ and $\partial H^1/\partial P_1 + \partial H^1/\partial P_2 \leq 0$ according to the Slutsky properties.[4] A permanent increase in income, for example, would increase giving by increasing resources and permanently decreasing the tax price.

For comparison, consider the effect of a temporary change in y_1^T without a change in y_2^T. The effect on giving in period 1 is now expressed by equation (4).

$$\frac{dg_1}{dy_1^T} = \frac{\dfrac{P_1}{2} \cdot \dfrac{\partial G^1(P_1,P_2,Y^*)}{\partial Y^*} - \left(\dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_1} + \dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_2} \right) \cdot T''}{1 - \left(\dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_1} + \dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_2} \right) \cdot T''}$$

$$+ \frac{\dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_2} \cdot \left[1 - \left(\dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_1} - \dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_2} \right) \cdot T'' \right]^{-1} \cdot T''}{1 - \left(\dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_1} + \dfrac{\partial H^1(P_1,P_2,u^*)}{\partial P_2} \right) \cdot T''} \tag{4}$$

---

[3] Equation (3) and the expressions in the rest of this section were simplified by assuming that y_1 equals y_2 initially, and preferences are weakly separable between giving and other consumption. Preferences are also symmetric in g_1 and g_2, i.e., $U(g_1,g_2,x_1,x_2) = U(g_2,g_1,x_1,x_2)$.

[4] The denominator in equation (3) is greater than or equal to 1 because marginal tax rates are increasing in income. It reduces all marginal effects in the numerator proportionally to account for curvature of the budget constraint.

Equation (4) differs from (3) in two significant ways. First, the direct effect in (3), $P_1 \cdot \partial G^1 / \partial Y^*$, is reduced by half in (4) because the individual would choose to spread the change in y_1^T over two periods. Second, there is an additional term in (4) that accounts for the fact that a temporary change in income will have an additional indirect effect by changing the price of g_1 relative to g_2. This term has the same sign as $\partial H^1 / \partial P_2$ because $T'' \geq 0$ and $\partial H^1/\partial P_1 - \partial H^1/\partial P_2 \leq 0$ according to the Slutsky properties. Thus, if g_1 and g_2 are demand substitutes, so that $\partial H^1 / \partial P_2$ is positive, the indirect price effect will be larger in absolute magnitude if the change in y_1 is temporary, as in equation (4), than if the change is permanent, as in equation (3).

Such behavior may be important for empirical analysis, especially for the analysis of cross-section data, from which we can't easily tell whether observed income differences are permanent or transitory. To see this, first suppose we could observe giving in period 1 by two otherwise identical individuals who have a small difference between their levels of pre-tax permanent income. Based on the demand problem above, the difference between their levels of g_1 can be expressed as a function of differences in their period 1 levels of modified after-tax income and tax prices according to (5).

$$\frac{dg_1}{dy_1} = \frac{\partial G^1(P_1,P_2,Y^*)}{\partial Y^*} \cdot \frac{dY_1}{dy_1} + \left[\frac{\partial G^1(P_1,P_2,Y^*)}{\partial P_1} + \frac{\partial G^1(P_1,P_2,Y^*)}{\partial P_2}\right] \cdot \frac{dP_1}{dy_1} \tag{5}$$

when $dy_1 = dy^*$ and $dy_1^T = dy_2^T = 0$

According to (5), the marginal effect of the observed difference in Y_1 is $\partial G^1 / \partial Y^*$, which is the same as the marginal effect of a change in modified after-tax permanent income. The marginal effect of the observed difference in P_1 is $\partial G^1/\partial P_1 + \partial G^1/\partial P_2$, which is the same as the marginal effect of a proportional, "permanent", change in P_1 and P_2.

For comparison, suppose that the income difference is purely transitory, so that the two individuals have the same pre-tax lifetime wealth, i.e., $dy_1^T = -dy_2^T$ and $dy^*=0$. Now the observed difference in g_1 is given by equation (6).

$$\frac{dg_1}{dy_1} = 0 \cdot \frac{dY_1}{dy_1} + \left[\frac{\partial G^1(P_1,P_2,Y^*)}{\partial P_1} - \frac{\partial G^1(P_1,P_2,Y^*)}{\partial P_2} \right] \cdot \frac{dP_1}{dy_1}, \tag{6}$$

$$\text{when } dy_1 = dy_1^T = -dy_2^T \text{ and } dy^* = 0$$

Compared to equation (5), there will be no direct effect of the change in y_1 through its effect on Y_1 because the change in pre-tax income is purely transitory. The indirect effect of y_1 through its effect on P_1 will also differ from the corresponding effect in equation (5) because the intertemporal price effect, $\partial G^1 / \partial P_2$, is subtracted instead of added. This is because a purely transitory change in income changes P_1 and P_2 inverse proportionally, whereas a permanent change in income changes P_1 and P_2 in direct proportion. If g_1 and g_2 are substitutes and giving is a normal good, so that $\partial G^1 / \partial P_1$ is negative and $\partial G^1 / \partial P_2$ is positive, the marginal price effect in (6) will be larger in absolute value than the marginal price effect in (5). The observed effect of the price difference would therefore overstate the effect of a permanent change in tax prices. The observed effect of the income difference would understate the effect of a permanent change in income.

Suppose that we could observe a large number of such almost identical individuals in a cross-section sample, but the sample is a mixture of people who have differences in permanent and transitory income; we can't tell which. Based on such data, a linear regression of observations of g_1 on Y_1 and P_1 would yield regression coefficient estimates that would be weighted averages of the marginal income and price effects shown in equations (5) and (6).[5] The weights would be unknown, because they would be functions of the unknown extent to which cross-sectional income and price differences are permanent or transitory. We could not use the estimated coefficients to identify the permanent and transitory marginal effects. Used as they are, the estimates would produce biased policy predictions. They would understate the effect of tax-policy induced permanent changes in after-tax income and overstate the effect of tax-policy induced permanent changes in tax prices.

3. Empirical Model

I address these intertemporal issues empirically by using a ten-year panel of individual tax-return data that spans a period in which there were significant statutory changes in income tax rates and longitudinal variations in income for individuals in the sample. As an empirical strategy, I generalize the standard model of charitable giving, in which giving depends only on current income and prices, to include expected future income and prices. This allows me to examine whether there are differences between the effects of transitory and permanent changes in income and prices.

Rather than extending the Cobb-Douglas type demand function typically used in previous studies by simply adding regression terms for expected future income and prices, I extend the model

---

[5] This assumes that the estimation method would account for the fact that Y_1 and P_1 are endogenous functions of g_1.

by using a more flexible demand specification based on the expenditure-share form of the flexible "almost ideal" demand (AID) model of Deaton and Muellbauer (1980).[6]

$$\omega_{it} = \frac{P_{it} g_{it}}{Y_{it}} = \delta_{0t} + \delta_{0i} + X_{it}\beta + \delta_1 Log(\frac{P_{it}}{P_{it}^*}) + \delta_2 Log(P_{it}^*) \quad (7)$$

$$+ \delta_3 Log(\frac{Y_{it}}{Y_{it}^*}) + \delta_4 log(Y_{it}^*) + \delta_5 [Log(\frac{P_{it}}{P_{it}^*})]^2 + \delta_6 Log(P_{it}) \cdot Log(P_{it}^*) + \epsilon_{it},$$

$$\text{where } Y_{it} = y_{it} - T_{it} - (1 - P_{it}) g_{it}$$

According to (7), individual i in year t decides how much to "spend" on charity. The dependent variable, ω_{it}, is the share of current income spent on charity. It equals the current tax price of giving, P_{it}, times the amount of giving, g_{it}, divided by current modified after-tax income, Y_{it}. As in Section 2, though expressed differently, modified after-tax income equals after-tax income before giving is deducted plus the implicit premium realized by givers when inframarginal giving is deductible at higher tax rates than the marginal tax rate.

The giving decision is affected by current income, Y_{it}, expected-future income, Y_{it}^*, the current tax price, P_{it}, and the expected-future tax price, P_{it}^*. The model thus allows people to base giving decisions on current income and tax prices, and whether current income and tax prices are high or low relative to future years.

---

[6] Because other consumer expenditures are not observed in tax-return data, to derive (7) from an expenditure share equation, I substituted current income, Y, for total expenditure and added expected future income, Y*, to the right side in a way similar to Y. This implicitly assumes that total expenditure and giving may depend on both current and expected future income.

Following the analysis in Section 2, I expect a proportional change in Y and Y* to affect giving more than a change in Y only, and a proportional change in P and P* to affect giving less than a change in P only. The functional form, however, also allows the opposite. This flexibility is important because giving may be more, rather than less, sensitive to transitory income changes. For example, people may smooth their other consumption by adjusting charitable giving instead of borrowing or saving. Likewise, people may be less rather than more sensitive to temporary price changes because it takes them time to adjust to price changes, as suggested by Clotfelter (1980).

Other potentially important terms are also included in the model. Observed individual characteristics are included in the vector X_{it}. These include a person's age and age-squared, which allows for a life-cycle pattern of giving behavior unaccounted for by the other variables. A life-cycle pattern of giving might exist if people's discount rates differ from market interest rates, if people schedule consumption around raising children, or if there is a precautionary motive behind the schedule of life-cycle consumption or giving decisions. X_{it} also includes a dummy variable for marital status. An additional variable, the count of total tax exemptions, is also included to allow the size of a consumer unit to affect the level of giving.

To allow for unobserved individual characteristics that may affect giving, the model includes an individual-specific intercept, δ_{0i}. The intercept is also allowed to vary over time by including δ_{0t}, which is controlled for by including time dummy variables. This allows for the effects of aggregate changes in interest rates, other macroeconomic conditions, or government social policies that may affect individual charitable giving. For example, during a recession, the need for charity may

increase, and those still doing well may respond by giving more. Giving may also change because people substitute privately for aggregate changes in government social programs (Kingma, 1989).

4. The Data

The data were selected from a ten-year panel of U.S. federal tax return data, from 1979 through 1988 (U.S. Department of the Treasury, 1979-1988). This panel follows the tax returns of more than 12,000 people who were listed as the primary tax-return filers in each year. The original panel sample was stratified to over-sample tax returns of people who reported relatively high incomes in 1981. This ensures that the sample includes a relatively large number of high-income taxpayers, who account for a substantial fraction of total giving by individuals. For example, about a third of all deductible contributions in 1990 were made by people with incomes exceeding $100,000 in 1991 dollars (Auten, Cilke, and Randolph, 1992).

One advantage of tax-return data is that it provides detailed information about many components of income. The detail provides a means for studying charitable giving, and allows precise measurement of marginal tax rates, total federal taxes, and tax prices of charitable giving. Another important advantage is that the panel is ten years long, and spans two major tax-law changes in 1981 and 1986. Ten years of annual income for each taxpayer allow me to estimate the effects of permanent and transitory income on giving. Combined with the tax law changes, the longitudinal income data also allow me to estimate the effects of current and future tax prices.

The sample for estimation includes only panel members who filed tax returns in all ten years. As in previous charity studies based on tax return data, the sample excludes people who did not

report amounts of giving because they did not itemize deductions.[7] Observations for the years 1981, 1982, 1986, and 1987 were also excluded for estimation. They were the years the major tax changes were passed and the years immediately following. By excluding those years, I focus the estimation on measuring the degree to which the direct income effects and indirect price effects of permanent and transitory income differ during "normal" years like those covered by many past studies of charitable giving. This allows me to examine whether the previous results are biased.[8]

All dollar amounts were converted to constant 1991 dollars. Pre-tax income was measured by starting with each taxpayer's Adjusted Gross Income (AGI) for each year. AGI was then modified to adjust for changes in its legal definition over the years. The most important modification was to add the portion of net long term capital gains excluded from AGI before 1987.[9] One critical variable is the ten-year (real) average of pre-tax income, which is used to create instruments for estimation.

Total taxes and marginal tax rates were computed based on federal tax rates and taxable income in each year. The tax price is defined, as in Section 2, as the value of other consumption forgone at the margin per dollar of charitable giving. However, the price measure is complicated

---

[7] This may cause selection bias if, for example, people who are more likely to itemize deductions are also likely to give more than others, conditional on all other variables in the model. However, this potential problem is probably not serious because other unrelated decisions, especially whether to own and mortgage a home, are the main determinants of whether people itemize tax deductions.

[8] As a sensitivity test, discussed in Section 8, the model was re-estimated using all ten years, but it made little difference in the results.

[9] Many other modifications were made to AGI to measure pre-tax income. The modifications are the same as those described in detail in Auten, Cilke, and Randolph (1992).

by the fact that cash and non-cash gifts have different prices, and the panel data do not report separate amounts for cash and non-cash gifts. For cash gifts, the price equals 1 minus the marginal tax rate for ordinary income. For gifts of appreciated assets such as corporate shares, the tax price is reduced further to account for taxes not paid on the unrealized appreciation. To account for these price differences, following Feldstein (1975) and other studies, I calculate the tax price as follows.

$$P_{it} = 1 - T_{it}' - f_{it} \cdot a \cdot \iota_t \cdot T_{it}', \qquad (8)$$

where T_{it}' is the marginal tax rate on ordinary income, ι_t is the fraction of net long term capital gains included in AGI, f_{it} is the fraction of total giving made up of appreciated assets, and "a" is the gain-to-value ratio for gifts of appreciated assets, multiplied by the expected present value of capital gains tax payments that would have been made in the future had the donated assets been sold instead. The constant, a, was set equal to 0.5, which was estimated by Feldstein (1975) and Feldstein and Clotfelter (1976), and has been used in several studies since (Clotfelter, 1985). I estimated the appreciated assets fraction, f_{it}, for six different income classes in each year based on analysis in Auten, Cilke, and Randolph (1992). For years included in the panel, its value ranged from 0.05 in 1980 for incomes below $20,000 to 0.48 in 1980 for incomes exceeding $1 million (1991 dollars).

Means of selected variables are shown in Table 1. The total of 53,703 observations represents six years of data (1979, 1980, 1983, 1984, 1985, and 1988) for the 75 percent of the original sample of 12,000 taxpayers who itemize tax deductions. Differences between unweighted and sample-weighted means result from the original sample stratification. As shown, the sample

over-represents people with high incomes, who also tend to be older and give more than others on average.[10]

5. Estimation

The main challenges for estimation are that Y and P are endogenous functions of giving and Y* and P* are unobserved. I use an instrumental variables method, similar to that used by Burman and Randolph (1994), to decompose the observed variation in Y and P into exogenous transitory and permanent components. To simplify the discussion, equation (7) is rewritten as (9).

$$\omega_{it} = \delta_1\left[\mathrm{Log}(P_{it}) - \mathrm{Log}(P_{it}^*)\right] + \delta_2\mathrm{Log}(P_{it}^*) + \delta_3\left[\mathrm{Log}(Y_{it}) - \mathrm{Log}(Y_{it}^*)\right] + \delta_4\log(Y_{it}^*) + \ldots \tag{9}$$

I call $\mathrm{Log}(P_{it}^*)$ and $\mathrm{Log}(Y_{it}^*)$ the "permanent" components of prices and income as a convenient shorthand, but they are really not permanent. They are expectations that can change over time when tax laws change or other information is acquired. Similarly, I call the differences of current levels from expected future levels of incomes and prices the "transitory" components.

To estimate the model, I need at least four exogenous instruments: at least two that are correlated with the permanent components, but not with the transitory components, and at least two that are correlated with the transitory components, but not with the permanent components.[11] As

---

[10] An extensive descriptive data analysis of essentially the same data can be found in Auten, Cilke, and Randolph (1992).

[11] When the individual-specific effect, δ_{0i}, is treated as a random effect for estimation, i.e., part of the error structure, the instruments must not be correlated with it. When δ_{0i} is treated as a fixed effect, the requirement is weaker, but the instruments for the permanent components

instruments that should satisfy these requirements, I use the logarithm of current pre-tax income, the logarithm of its ten-year average, and the products of these two variables with two dummy variables that indicate major statutory changes in tax rates. The first dummy variable indicates whether the year of an observation is between the tax-law changes in 1981 and 1986. The second dummy variable indicates whether the year is after the tax reform in 1986. These dummy-variable interactions allow future expectations of after-tax income and tax prices to be different under different tax laws for particular levels of current and average pre-tax income.

Conditional on other variables in the model, I expect the ten-year average of pre-tax income to be correlated with expectations because it is correlated with individual characteristics that would cause persistent differences between incomes and, therefore, after-tax incomes and tax prices. Further, I expect interactions of the tax-period dummy variables with average pre-tax income to be correlated with expected future after-tax incomes and tax prices because the changes in tax laws should change how the expectations depend on average pre-tax income. Likewise, the differences between current and average pre-tax income, and its interactions with the tax-period dummy variables, should be correlated with the transitory components of after-tax incomes and tax prices.

These instruments might not separate perfectly the permanent and transitory components. For example, the instrument based on differences between current and average pre-tax incomes may be correlated over time for each individual, conditional on the other variables. In that case, the instruments for the transitory components would have persistent components that are correlated with expected future incomes and tax prices. If so, results in Burman and Randolph (1994) imply that

---

must have some variation independent of the fixed effect over the sample period.

the estimates of transitory income and price effects would be biased toward the corresponding permanent effects. My tests would therefore be conservative because they would be biased (if at all) against rejecting the hypothesis maintained in previous studies that the permanent and transitory effects are equal.[12]

Details of the estimation method are in the Appendix. I use a two-stage least squares algorithm in which there are four first-stage regressions: one for each of the permanent and transitory components of income and prices. Current values of income and prices are used as dependent variables in first stage regressions for permanent and transitory components, but the regressions for the permanent income and permanent price components are estimated by excluding any instruments that depend on the difference between current and average pre-tax income. This decomposes the observed variations in after-tax incomes and prices into two parts. One part is determined by variation in the instruments that results from variation in average pre-tax income and its interactions with changes in tax laws. The other part is determined by variation in the instruments that results from longitudinal variation of individuals' differences between current and average income and its interactions with changes in tax laws.

6. Estimated Effects of Income and Prices

The estimated parameters for equation (7) are shown in Table 2. These estimates are based on the random-effects model, in which the individual-specific effect, δ_{0i} , is assumed to be random

---

[12] Under the null hypothesis that the permanent and transitory effects are equal, there would be no bias even if the instruments do not fully separate permanent from transitory components.

and uncorrelated with the other regressors. According to the results, the hypothesis that permanent and transitory income have equal effects on giving can be confidently rejected. Permanent and transitory income would have equal effects if the coefficients of Log(Y*) and Log(Y/Y*) were equal. However, the coefficients differ by 0.049, which is about ten times the standard error of the difference (0.0048, not shown). Likewise, the coefficients of all price terms are significantly different from zero. This implies that the effects of current and expected future tax prices are significantly different. The importance of these differences can be measured by comparing elasticities.

The elasticities of giving with respect to permanent and transitory income are given by equation (10).

$$e_{g,Y^*} = \frac{Y^*}{g}\frac{\partial g}{\partial Y^*}\bigg|_{d(Y/Y^*)=0} = \frac{\delta_4}{\omega} + 1$$

$$e_{g,Y} = \frac{Y}{g}\frac{\partial g}{\partial Y}\bigg|_{dY^*=0} = \frac{\delta_3}{\omega} + 1 \qquad \textbf{(10)}$$

The permanent income elasticity, e_{g,Y^*}, is the elasticity of giving with respect to a change in income when Y and Y* are changed proportionally. The transitory income elasticity, $e_{g,Y}$, is the elasticity of giving with respect to a change in current modified after-tax income, Y, holding permanent modified after-tax income, Y*, constant.

The elasticities of giving with respect to permanent and transitory changes in tax prices are expressed as follows, evaluated at P = P*.

$$e_{g,P^*} = \left.\frac{P^*}{g}\frac{\partial g}{\partial P^*}\right|_{d(P/P^*)=0} = \frac{\delta_2 + 2\,\delta_6 \, \text{Log}\, P}{\omega} - 1$$

$$e_{g,P} = \left.\frac{P}{g}\frac{\partial g}{\partial P}\right|_{dP^*=0} = \frac{\delta_1 + \delta_6 \, \text{Log}\, P}{\omega} - 1 \tag{11}$$

The permanent price elasticity, e_{g,P^*}, is the elasticity of giving with respect to a proportional change in current and expected future tax prices. The transitory price elasticity, $e_{g,P}$, is the elasticity with respect to a change in the current tax price, holding the expected future tax price constant.[13] The permanent price elasticity and permanent income elasticities could be used, for example, to make long term predictions about the effects of statutory tax policy changes that permanently affect tax prices and modified after-tax income.

The first two columns in Table 3 show the income and price elasticities that are implied by estimates from Table 2. Column 1 shows the estimated elasticities evaluated at the unweighted sample means of the dependent variable (0.04) and tax price (0.56) over all years of the sample. Column 2 shows the estimated elasticities evaluated at means weighted by population weights and (real) dollars of giving by each taxpayer.[14] Elasticities evaluated at the weighted means are more appropriate than those at the unweighted means for making predictions about changes in aggregate giving following changes in incomes or prices.

---

[13] The 2 appears before δ_6 for the permanent price elasticity because both P and P^* are changed proportionally, whereas only P changes for the transitory price elasticity.

[14] The weighted means over all years were 0.089 for the dependent variable and 0.66 for the tax price.

The estimated permanent income elasticities are 1.27, unweighted, and 1.12, weighted. In comparison, the estimated transitory income elasticities are only 0.05, unweighted, and 0.57, weighted. Whether weighted or unweighted, the hypothesis that the permanent income elasticity equals the transitory income elasticity can be rejected at less than the 1 percent level. Unweighted, the difference between permanent and transitory income elasticities is 1.22 with a standard error of 0.12. Weighted, the difference is 0.55 with a standard error of 0.05. The fact that the permanent income elasticity is larger than the transitory income elasticity suggests that people smooth their giving relative to transitory changes in income.

These income elasticity estimates are much different from the results typical of previous studies. For example, Clotfelter (1990) reports that an income elasticity of 0.78 is representative of previous results. The fact that 0.78 falls between the estimated permanent and transitory income elasticities is consistent with the hypothesis that previous studies have estimated an average of the permanent and transitory income elasticities because observed income variation results from a mixture of permanent and transitory variation.

The differences between permanent and transitory price elasticity estimates in Table 3 are just as striking. At the unweighted sample means, the estimated permanent price elasticity is -0.06, and is not significantly different from zero. At weighted means, the permanent price elasticity is -0.49 with a standard error of 0.06. This estimate is substantially smaller in absolute value than the price elasticity of -1.27 reported by Clotfelter (1990) as being representative of previous studies.

The transitory price elasticity estimate, which equals -2.35, unweighted, and -1.57, weighted, is substantially larger in absolute value than the permanent price elasticity. The hypothesis that the transitory price elasticity equals the permanent price elasticity can be rejected at

less than the 1 percent level. Unweighted, the difference between permanent and transitory price elasticities is 2.29 with a standard error of 0.17. Weighted, the difference is 1.07 with a standard error of 0.08. This provides strong evidence against the assumption made in past studies that transitory and permanent price effects are equal. People are apparently willing to substitute their giving between current and future years to take advantage of changes in relative current and future tax prices that occur when transitory changes in income temporarily move them up or down the marginal tax-rate schedule.

To measure how these results can affect policy predictions compared to previous results, consider the effects of a proportional change in all marginal tax rates. According to my estimates and those from previous studies, a decrease in marginal tax rates would tend to decrease giving because tax prices would increase, and the price elasticity is negative. However, after-tax income would also increase, which would tend to increase giving because income elasticities are positive. The net effect would depend on the relative permanent price and permanent income elasticities, the marginal tax rates, and the degree of progressivity of marginal tax-rates. The importance of these factors is summarized by the following expression for the elasticity of giving with respect to a permanent proportional change in all marginal tax rates, the "surtax" elasticity.

$$e_{g,\lambda} = e_{g,P^*} \cdot e_{P^*,\lambda} + e_{g,Y^*} \cdot e_{Y^*,\lambda} \tag{12}$$

where:

$$e_{P^*,\lambda} = -\tau(1-\tau)^{-1}, \quad e_{Y^*,\lambda} = -\left[\frac{\omega(\tau-\bar{\tau}) + \bar{\tau}(1-\tau)}{(1-\tau)(1-\bar{\tau})}\right],$$

where τ and $\bar{\tau}$ are the marginal and average tax rates, respectively, and λ is the proportional change in tax rates.

Under different assumptions about marginal and average tax rates, Table 4 compares surtax elasticities based on price and income elasticity estimates typical of previous studies with surtax elasticities based on parameter estimates from Table 2.[15] In the first panel, which is based on price and income elasticities typical of previous studies, for all values of marginal and average tax rates, a proportional decrease in marginal tax rates is predicted to decrease giving. For example, a 1.0 percent decrease in marginal tax rates would decrease giving by 0.54 percent when the marginal tax rate is 40 percent and the average tax rate is 20 percent. Note that the surtax elasticity increases as marginal tax rates increase and as marginal tax rates become more progressive.

The second panel shows surtax elasticities based on my estimation results. For many values of the marginal and average tax rates, the sign of the surtax elasticity actually changes relative to the top panel. At higher marginal tax rates and degrees of progressivity, the tax elasticities have the same sign, but are substantially smaller than the corresponding elasticities in the top panel. These large differences in policy predictions relative to the top panel are the combined results of a larger permanent income elasticity and smaller permanent price elasticities implied by the parameter estimates in Table 2. They demonstrate that failure to distinguish between transitory and permanent income and price effects can lead to substantially biased policy predictions.

---

[15] For the simulations, ω was held constant at its giving-weighted mean of 0.089.

7. Estimated Effects of Other Variables

The estimated coefficients for other variables are shown in Table 2. The estimated coefficients of age and age-squared imply that people increase their giving expenditure as they grow older, and at an increasing rate, other things constant. Evaluated at the unweighted sample mean of the dependent variable, the relationship between giving and age is not statistically different from zero before age 50. After that, an extra year adds about 1 percent to the amount of giving at age 50, 3 percent at age 60, 4 percent at age 70, and 6 percent by age 90.[16] Figure 1 illustrates the age pattern. The thickest solid line shows the implied pattern for a hypothetical person for which the dependent variable equals 0.04 at age 50, other variables constant.[17]

Giving may increase with age because age may proxy for life-cycle wealth accumulation. However, the simplest life-cycle hypothesis implies a wealth profile that increases and then decreases, whereas the life-cycle pattern of giving increases monotonically, and at an increasing rate. Such an age pattern of giving is consistent with the precautionary savings behavior that would occur if people are risk averse and uncertain about future income or how long they will live. If people are uncertain about their own ability to consume in the future and they can't perfectly insure by purchasing annuities, for example, it may be prudent to defer charitable contributions toward the end of the life cycle. Charitable giving, in contrast to food, housing, children, and transportation, might

---

[16] These estimated percentages are all significantly different from zero at less than the 1 percent level.

[17] The step function in Figure 1 is the pattern implied by alternative estimates for a model that was specified in terms of ten-year age brackets instead of age and age-squared. The result suggests that the estimated age pattern is not the forced result of using a quadratic function to summarize the profile. All other estimation results were essentially unaffected by this experiment.

be relatively easy to defer. Another possible explanation of the age pattern is that there is a vintage effect that occurs because the age variable has both longitudinal and cohort-based sources of variation. For example, older cohorts may be more generous than younger cohorts. It is not possible, however, to separate the life-cycle pattern from cohort differences from these data.

Marital status apparently makes no difference, regardless of whether the person is married filing separately with no other dependents (Married=1, Exemptions=1) or married filing jointly with no other dependents (Married=1, Exemptions=2). Giving apparently increases with the addition of exemptions, but at a rate substantially less than proportional to the increase in exemptions. For example, following an increase in exemptions, the estimated percentage increase in giving is only about 5 percent of the percentage increase in exemptions when there are 2 exemptions. The corresponding increase is still only about 10 percent when there are 4 exemptions.[18] This less than proportional increase would result, for example, if giving is a quasi-public good within a household.[19]

The coefficients of the year dummy variables show that there was a significant increase in giving during the middle years of the panel (1983 through 1985) followed by a decline, holding all other variables constant. For the middle years, the average increase in the dependent variable was

---

[18] These are evaluated at the sample mean of 0.04 for the dependent variable. The estimated percentage change equals the coefficients of Exemptions, multiplied by the number of exemptions, divided by 0.04.

[19] Economic inferences should be made cautiously because the information on a tax return does not necessarily represent the finances of a household. Further, extra exemptions are not necessarily children. Throughout the first part of the sample period, people could claim an extra exemption if they were over age 65 or blind. I conducted a sensitivity test using an alternative variable that excluded the blind and over-65 exemptions. The results were unchanged.

about 0.012, which is a 30 percent increase relative to the unweighted sample mean of the dependent variable over all years. Although the exact cause of this increase can not be identified, it may have resulted from a behavioral response to the recession of the early 1980s, or aggregate reductions in certain government social programs during the middle years. An increase in private giving to offset reductions in social programs would, for example, be consistent with the crowding-out behavior studied by Kingma (1989) and others.

The variances of the individual-specific intercept and the regression error imply that the unobserved individual-specific differences account for a substantial portion of the observed variation in giving. The total variance of the dependent variable is 0.0071. Almost 50 percent (0.0035) of this variance is explained by the unobserved individual-specific differences. In contrast, all other regressors together account for only about 10 percent of the total variance of the dependent variable. This demonstrates that the unobserved differences are important. It is not possible, however, to infer from these results whether the unmeasured differences result from innate taste differences or some other variables not included in the regression, such as education, unmeasured wealth, or family background.[20]

8. Sensitivity Experiments.

Columns 3 and 4 in Table 3 show the results of two sensitivity experiments designed to examine, further, how my price and income elasticity estimates differ from previous studies. The experiments allow me to determine how much of the difference from previous results is caused by

---

[20] Section 9, which presents fixed-effects estimates for reduced models, addresses the possibility that the unobserved differences are correlated with other regressors.

the distinction I make between permanent and transitory incomes and prices, and how much of the change is caused by differences in data, functional form, and estimation methods.

In the first experiment, shown in column 3, the expected future price, Log(P*), was omitted from the estimated model. The only tax price variables included were Log(P) and Log(P)-squared. Otherwise, the estimation method was the same as for the full model. As shown, the income elasticity estimates are about the same as those for the full model in column 2, but the current price elasticity estimate is between the permanent and transitory price elasticity estimates from the full model and close to the results from previous studies. This results because variation in the current tax price is a mixture of permanent and transitory price variation.

For the experiment shown in column 4, all expected future tax price and permanent income terms were excluded from the model. This restricted model is closest to the standard model from previous studies. The restricted estimates are very close to the income elasticity of 0.78 and price elasticity of -1.27 that Clotfelter (1990) characterized as representative of estimates from previous studies. Such closeness is remarkable, partly because the source of tax price variation for my study is almost entirely different from the source of tax price variation in previous studies. In the past, the main source of tax price variation in microdata studies has been cross-sectional variations along the nonlinear marginal tax rate schedule caused by cross-section variations in taxable income. Here, by construction of my estimation method, the tax price instruments only exhibit variation independent of income variation because there were statutory tax changes after 1981 and 1986. Without the tax-period dummy variable interactions as instruments, the income and tax-price parameters would not be separately identified.

The results of these experiments strongly suggest that the full-model estimates differ from the results of previous studies because the full model distinguishes between permanent and transitory income and tax price variations. The differences in estimates do not appear to have resulted from other differences in the empirical model, data, or estimation method.

The results from additional sensitivity experiments are shown in Table 5. For each experiment, the top panel shows the implied elasticities evaluated at the giving-weighted means. To diagnose whether any sensitivity or robustness carries over to values away from the mean, the bottom panel also shows elasticities evaluated at a tax price of 0.4. The first row of each panel shows the estimates based on the full-model parameter estimates from Table 2 for comparison.

Experiment 1 shows the estimates based on two-stage least squares when the unobserved individual-specific effects are ignored.[21] Experiment 2 also ignores the unobserved individual-specific effects, but uses a Tobit method to account for the 4 percent of observations that had zero amounts of charitable giving. Note that use of the Tobit method makes little difference. In both experiments, however, the sign of the permanent price elasticity changes relative to the full model when evaluated at the giving-weighted means, although the elasticity changes very little when evaluated at the lower tax price, as in the bottom panel. The sensitivity at the mean, but not at a lower tax price, suggests that the functional form might not be flexible enough. Any potential problem, however, appears to be of second-order importance. The results at the mean are still

[21] These estimates are actually from an intermediate stage of estimation for the generalized two-stage least squares estimation method used for the full-model results in Table 2. The parameter estimates are shown in Appendix Table A.2.

consistent with my central results that giving by individuals is most responsive to transitory rather than permanent variation in tax prices.

Experiment 3 replaces the quadratic function in age with a step function that changes at ten-year intervals. The estimated step function is shown in Figure 1. Experiment 4 uses an alternative exemptions variable that excludes exemptions that could be taken by taxpayers for being blind or over age 65 in the first part of the sample period. Neither of these experiments affects the key estimation results.

The fifth experiment included all years in the sample for estimation. For this experiment, I made no attempt to properly model expectations of future statutory tax changes that were known by people at the ends of 1981 and 1986. Surprisingly, the elasticity estimates change very little relative to the estimates based on fewer years, in spite of the fact that future expectations are measured incorrectly in 1981 and 1986. This robustness probably results from the fact that the model includes annual time-dummy variables, which would partly control for the effects of one-time shifts in expectations. Consistent with this explanation, the dummy variable coefficient for 1986 (not shown) indicates there was a 14 percent increase in giving during 1986 relative to 1985, other things constant. This suggests that people accelerated giving during 1986 in anticipation of the pending increases in the tax prices of giving.

For all estimates reported so far, the instruments based on pre-tax income include capital gains. If capital gains and charitable giving are simultaneously determined, conditional on the other variables, there may be an endogeneity bias in the parameter estimates. To test for this possibility, in experiment 6, capital gains were excluded from the instrument based on current pre-tax income. As shown, when evaluated at the giving-weighted mean, only the permanent price elasticity estimate

is changed. However, at the lower tax price in the bottom panel, there is virtually no difference from the full model results. The results of experiment 6 suggest that if capital-gains endogeneity is a problem for the estimates, it is only of second-order importance, influencing only the shape of the permanent price elasticity as a function of tax prices.

9. Random-Effects Versus Fixed-Effects Estimates

The estimates presented so far were produced under an assumption that the unobserved individual- specific effect in (7) is random and not correlated with the other right-hand variables and instruments. In principle, this assumption can be tested by comparing the random-effects estimates with fixed-effects estimates. To do this, fixed effects can be removed by first-differencing the data over time, or by subtracting individual-specific means from all variables before estimation. For the full model in (7), unfortunately, this estimation strategy also eliminates important variation in the instruments for Y^* and P^*. The instruments for Y^* and P^* are nearly collinear over the sample period after the individual-specific means are removed. As a result, I can not estimate or control separately the effects of Y^* and P^* using a fixed-effects method.

Nevertheless, it is important to examine the fixed- versus random-effects issue because studies by Clotfelter (1980) and Broman (1989) used panel data to show that current-year price elasticity estimate becomes substantially smaller when the panel data are first-differenced., which would remove fixed effects from the model. Clotfelter's (1980) analysis suggested that the elasticity estimate is smaller because people adjust to price changes slowly. Broman (1989), however, provided evidence that people actually adjust to price changes quickly. Her study implies that the price elasticity estimates for the first-differenced model are smaller because first-differencing

eliminates a bias caused by unobserved fixed effects. According to Broman's results, not only did the unobserved fixed effects bias previous price elasticity estimates, but they also biased the estimated adjustment parameter in Clotfelter's (1980) model.

Table 6 shows random-effects and fixed-effects estimates for two reduced models. The first model, shown in columns 1 and 2, excludes Y^* and P^*, similar to previous panel studies.[22] The second model, shown in columns 3 and 4, includes Y^* but excludes P^*. Consistent with results of the previous panel studies, the price elasticity estimate changes from -1.29 for the random-effects model in column 1 to -0.76 for the fixed-effects model in column 2. This result suggests that there is an omitted-variables bias in the reduced model. The bias is caused by correlation of the unobserved individual-specific effect with other variables in the model. According to the full model in (7), the random effects estimates in column 1 are biased because the individual-specific means of Y^* and P^* are part of the unobserved individual-specific effect in the reduced regressions. The individual-specific means of Y^* and P^* are correlated with the instruments used to estimate the effects of Y and P.

The fixed-effects method used for column 2, however, does not eliminate all omitted-variables bias because Y^* and P^* also change over time in a way that is positively correlated with changes in Y and P. Evidence of the bias can be seen by comparing columns 2 and 3. Column 3 shows that when changes in Y^* are added to the reduced fixed-effects model from column 2, the current-year price elasticity increases in absolute value from -0.76 to -1.39. Further, the income

---

[22] Broman (1989) included an expected future price term, but only to capture the effect of expected statutory changes after 1981. Otherwise, current values of Y and P were assumed to equal expected future values.

elasticity estimate changes from 0.70 for current income to 1.66 for permanent income and 0.56 for transitory income.

The fixed-effects estimates are biased in these reduced models because there were statutory changes in tax rates during the sample period. In the absence of statutory changes, Y^* and P^* tend to be negatively correlated because marginal tax rates increase with income. During the sample period, however, both Y^* and P^* increased because marginal tax rates were reduced. Once the individual-specific means are removed from the data for fixed-effects estimates in columns 2 and 3, the positive correlation between changes in Y^* and P^* remains. Because the changes in Y^* and P^* are also positively correlated with changes in P, the price elasticity estimate in column 2 has a positive bias. For these same reasons, the permanent income elasticity estimate in column 3 is biased upward because P^* is excluded from the model. For the random-effects method in column 4, which also excludes P^*, most of the positive bias in the permanent income elasticity estimate in column 3 disappears because Y^* and P^* are not positively correlated when there are no statutory changes, and individual-specific means are not removed before estimation.

10. Conclusions:

My results imply that intertemporal income variations combine with progressive marginal tax rates to affect the way people plan their charitable contributions. Consistent with the permanent income hypothesis about consumption in general, people appear to smooth their annual giving relative to transitory changes in income. For price variation, however, the effect is just the opposite. Because marginal tax rates increase with income, transitory income variations change the relative current and future tax prices of giving. People appear to respond by substituting between current

and future giving. In other words, they time their contributions to take advantage of transitory price changes, treating current and future giving as substitutes.

The results imply that by ignoring the separate effects of permanent and transitory income, previous studies have typically underestimated the effect of changes in permanent income and overestimated the effect of permanent changes in tax prices. Compared to the previous studies, I find that giving is a substantially less price elastic and more income elastic in terms of permanent changes in prices and income. Giving also appears to be more price elastic and less income elastic than past studies in terms of transitory changes in prices and income.

For tax policy predictions, it is often the permanent behavioral effects that matter most. Except during a transition period, the effects of a permanent change in tax policy are determined by the behavioral effects of permanent changes in incomes and tax prices. As I have shown, the policy predictions can differ substantially when based on estimates of the permanent elasticities rather than the elasticities from previous studies, which only predict the effects of changes in current income and prices.

REFERENCES

Amemiya,Takeshi, Advanced Econometrics, Cambridge, Massachusetts: Harvard University Press, 1985.

Auten, Gerald A., Cilke, James and Randolph, William C., "The Effects of Tax Reform on Charitable Contributions," National Tax Journal, September 1992, 45, 267-290.

Broman, Amy, "Statutory Tax Rate Reform and Charitable Contributions: Evidence from a Recent Period of Reform," Journal of the American Taxation Association, Fall 1989, 10, 7-20.

Burman, Leonard E. and Randolph, William C., "Measuring Permanent Responses to Capital Gains Tax Changes in Panel Data," mimeo, U.S. Congressional Budget Office, 1993 and forthcoming, American Economic Review.

Clotfelter, Charles T., "Tax Incentives and Charitable Giving: Evidence from a Panel of Taxpayers," Journal of Public Economics, 13, June 1980, 13, 319-340.

Clotfelter, Charles T., Federal Tax Policy and Charitable Giving, Chicago and London: The University of Chicago Press, 1985.

Clotfelter, Charles T., "The Impact of Tax Reform on Charitable Giving, a 1989 Perspective," in Joel Slemrod, ed., Do Taxes Matter? The Impact of the Tax Reform Act of 1986, Cambridge, Massachusetts, and London: The MIT Press, 1990, 203-235.

Deaton, Angus S., and John Muellbauer, "An Almost Ideal Demand System," American Economic Review, June 1980, 70, 312-326.

Feenberg, Daniel, "Are Tax Price Models Really Identified: the Case of Charitable Giving," National Tax Journal, December 1987, 40, 629-633.

Feldstein, Martin, "The Income Tax and Charitable Contributions: Part I-Aggregate and Distributional Effects," National Tax Journal, 1975, 28, 81-100.

Feldstein, Martin and Clotfelter, Charles T., "Tax Incentives and Charitable Contributions in the United States: A Microeconometric Analysis," Journal of Public Economics, 1976, 5, 1-26.

Friedman, Milton, A Theory of the Consumption Function, Princeton: Princeton University Press, 1957.

Fuller, Wayne A. and Battese, G. E., "Transformations for Estimation of Linear Models with Nested-error Structure," Journal of the American Statistical Association, 1973, 68, 626-632.

Kingma, Bruce R., "An Accurate Measurement of the Crowd-out Effect, Income Effect, and Price Effect for Charitable Contributions," Journal of Political Economy, 1989, 97, 1197-1205.

Reece, William S., "Charitable Contributions: New Evidence on Household Behavior," American Economic Review, 1979, 69, 142-151.

Schwartz, Robert A., "Personal Philanthropic Contributions," Journal of Political Economy, 1970, 23, 1264-1291.

Steinberg, Richard, "Taxes and Giving: New Findings," Voluntas, 1990, 1, 61-79.

U.S. Department of the Treasury, Internal Revenue Service, Statistics of Income Division, Special Panel of Tax Returns, 1979-1988.

Appendix

Estimation steps for the full model are described as follows, where $Z = (\text{Log}(y), d_2\text{Log}(y), d_3\text{Log}(y))$ and $Z^* = (\text{Log}(\bar{y}), d_2\text{Log}(\bar{y}), d_3\text{Log}(\bar{y}))$. Current pre-tax income is y, and $\bar{y}$ is its ten-year average for each individual. The tax-law period dummy variables, d_2 and d_3, indicate whether the year is between 1982 and 1986 (inclusive) or after 1986, respectively.

First step: First, regress Log(Y) and Log(P) on X, the dummy variables for years, and Z*. Use this regression to create fitted values to be used in place of Log(Y*) and Log(P*). Second, regress Log(Y) and Log(P) on X, the dummy variables for years, Z*, and Z - Z*. Use this regression to create fitted values to be used in place of Log(Y) and Log(P). Estimates from the first step appear in Table A.1.

Second step (2SLS): Use 2SLS to estimate the share equation parameters. The endogenous right hand variables are Log(P/P*), Log(Y/Y*), $[\text{Log}(P/P^*)]^2$, and Log(P) Log(P*), which are constructed by substituting fitted values of Log(Y*) and Log(P*) from the first step, above. The excluded exogenous variables are constructed by substituting the fitted values of Log(Y), Log(P), Log(Y*), and Log(P*) from the first step into Log(P/P*), Log(Y/Y*), $[\text{Log}(P/P^*)]^2$, and Log(P) Log(P*). Estimates from the second step appear in Table A.2.

Third step (G2SLS): Estimated share equation residuals from the second step are used to estimate the variances of the noise error term, ϵ_{it}, and the individual-specific random effect, δ_{0i}. For this

step, each variable that was used in the second step is first transformed by subtracting a fraction of each panel member's mean across years. The transformed variables are then used to repeat the 2SLS step and obtain operational G2SLS estimates.[23]

[23] The estimates are "operational" because they use consistent estimates of the variance terms in place of actual values. The data transformation was originally derived by Fuller and Battese (1973) for the two-way variance components regression model.

Table 1: Means of Selected Variables

Variable	Unweighted means	Sample-population weighted means
Charitable giving	44,842	1,694
After-tax income (before giving)	472,183	52,551
Tax price of giving	0.60	0.73
Age	52	44
Marital status	0.86	0.82
Exemptions	3.3	3.2
Total observations	53,703	53,703

Table 2: Charity Share Equation Parameter Estimates
(standard errors in parentheses) /a

Variable	Coefficient	Variable	Coefficient
Intercept	-0.075 (0.01)	Log(Y*)	0.011 (0.0007)
Age	-0.0011 (0.0003)	Log(Y/Y*)	-0.038 (0.001)
Age squared	2.0E-05 (2.3E-06)	Log(P*)	0.066 (0.009)
Married	-0.0019 (0.0014)	Log(P/P*)	-0.040 (0.006)
Exemptions	0.00097 (0.0003)	Log(P/P*) ^2	0.087 (0.008)
Dummy, 1980	0.0067 (0.001)	Log(P) Log(P*)	0.024 (0.004)
Dummy, 1983	0.013 (0.001)	Var(delta) /b	0.0035
Dummy, 1984	0.012 (0.001)	Var(epsilon)	0.0029
		Total error variance	0.0064
Dummy, 1985	0.012 (0.001)	Var(dependent variable)	0.0071
Dummy, 1988	-0.0012 (0.0019)	Observations	53,703

Notes:
/a Estimates from generalized two-stage least squares
/b Variance of individual-specific random effect

Table 3: Estimated Income and Tax Price Elasticities
(based on parameter estimates from Table 2; standard errors in parentheses)

	Unweighted means /a	Giving-weighted means /b		
	Full model (1)	Full model (2)	Excluding P* (3)	Excluding P*, Y* (4)
Income (point elasticities)				
Permanent, d(Y/Y*) = 0	1.27 (0.02)	1.12 (0.01)	1.17 (0.02)	
Current				0.82 (0.09)
Transitory, dY* = 0	0.05 (0.03)	0.57 (0.01)	0.60 (0.01)	
Tax price (point elasticities)				
Permanent, d(P/P*) = 0	-0.06 (0.10)	-0.49 (0.06)		
Current			-1.37 (0.09)	-1.29 (0.07)
Transitory, dP* = 0	-2.35 (0.13)	-1.57 (0.06)		

Notes:
/a Mean share = 0.04; mean tax price = 0.56
/a Mean share = 0.089; mean tax price = 0.66

Table 4: Comparison of Elasticities of Giving With Respect to a Proportional Change in all Marginal Tax Rates

Progressivity of marginal tax rates /a	Marginal tax rate		
	20%	40%	60%
Based on typical results from previous studies /b			
1.0	0.12	0.33	0.73
1.5	0.19	0.54	1.33
2.0	0.22	0.62	1.50
Based on full-model parameter estimates /c			
1.0	-0.19	-0.39	-0.55
1.5	-0.09	-0.08	0.30
2.0	-0.04	0.03	0.54

Notes:

/a Ratio of marginal tax rate to average tax rate

/b Income elasticity = 0.78; Price elasticity = -1.27

/c Permanent income elasticity = 1.12; Price elasticities are -0.38, -0.53, and -0.75 at marginal tax rates of 20, 40, and 60 percent, respectively

Table 5: Additional Sensitivity Experiments, Elasticity Estimates

Sensitivity experiment	Income elasticities		Price elasticities	
	Permanent	Transitory	Permanent	Transitory
Evaluated at giving-weighted means /a				
Full model (for comparison)	1.12	0.57	-0.49	-1.57
1. Two-stage least squares	1.19	0.60	0.39	-1.55
2. Tobit (otherwise same as 1)	1.20	0.60	0.36	-1.56
3. Age pattern as a step function	1.14	0.57	-0.46	-1.55
4. Alternative definition of exemptions	1.12	0.57	-0.50	-1.56
5. Include all years of panel	1.16	0.53	-0.28	-1.63
6. Capital gains excluded	1.09	0.58	-0.83	-1.65
Evaluated at a lower tax price /b				
Full model (for comparison)	1.12	0.57	-0.76	-1.70
1. Two-stage least squares	1.19	0.60	-0.66	-2.07
2. Tobit (otherwise same as 1)	1.20	0.60	-0.66	-2.07
3. Age pattern as a step function	1.14	0.57	-0.75	-1.70
4. Alternative definition of exemptions	1.12	0.57	-0.76	-1.69
5. Include all years of panel	1.16	0.53	-0.62	-1.80
6. Capital gains excluded	1.09	0.58	-0.81	-1.64

Notes:
/a share = 0.089; tax price = 0.66
/b share = 0.089; tax price = 0.40

Table 6: Random vs. Fixed Effects Estimates
(reduced models; standard errors in parentheses)

Variable	Random effects (1)	Fixed effects (2)	Fixed effects (3)	Random effects (4)
Intercept	0.16 (0.01)			-0.14 (0.02)
Age /a	-0.00044 (2.6E-04)	0.00062 (3.5E-04)	0.0016 (3.5E-04)	-0.0015 (2.6E-05)
Age squared	2.1E-05 (2.4E-06)	8.5E-06 (3.4E-06)	1.2E-05 (3.4E-06)	2.4E-05 (2.4E-06)
Married	0.0004 (0.001)	0.0029 (0.002)	-0.0021 (0.002)	-0.0021 (0.001)
Exemptions	0.0020 (0.0003)	0.00062 (0.0004)	4.8E-05 (0.0004)	0.0010 (0.0003)
Dummy, 1980	0.0032 (0.001)	0.0026 (0.001)	0.0099 (0.001)	0.0071 (0.001)
Dummy, 1983	0.0091 (0.001)	0.0048 (0.001)	0.022 (0.001)	0.020 (0.001)
Dummy, 1984	0.009 (0.001)	0.0040 0.001	0.020 (0.001)	0.020 (0.001)
Dummy, 1985	0.0084 (0.001)	0.0040 (0.001)	0.018 (0.001)	0.020 (0.001)
Dummy, 1988 /a	0.0097 (0.002)			0.017 (0.002)
Log(Y*)			0.098 (0.006)	0.050 (0.003)
Log(Y)	-0.016 (0.001)	-0.027 (0.001)	-0.039 (0.001)	-0.035 (0.001)
Log(P)	-0.057 (0.01)	0.012 (0.01)	-0.034 (0.005)	-0.054 (0.01)
Log(P) squared	-0.038 (0.005)	-0.011 (0.005)	-0.00021 (0.0005)	-0.025 (0.005)
Elasticities /b				
Current tax price	-1.29 (0.07)	-0.76 (0.06)	-1.39 (0.06)	-1.37 (0.09)
Current income	0.82 (0.09)	0.70 (0.01)		
Permanent income			1.66 (0.06)	1.17 (0.02)
Transitory income			0.56 (0.01)	0.60 (0.01)

/a Age and time dummies not separately identified in fixed-effects model
/b Evaluated at giving-weighted means;

Table A.1: Estimates from First Step of Estimation
(standard errors in parentheses)

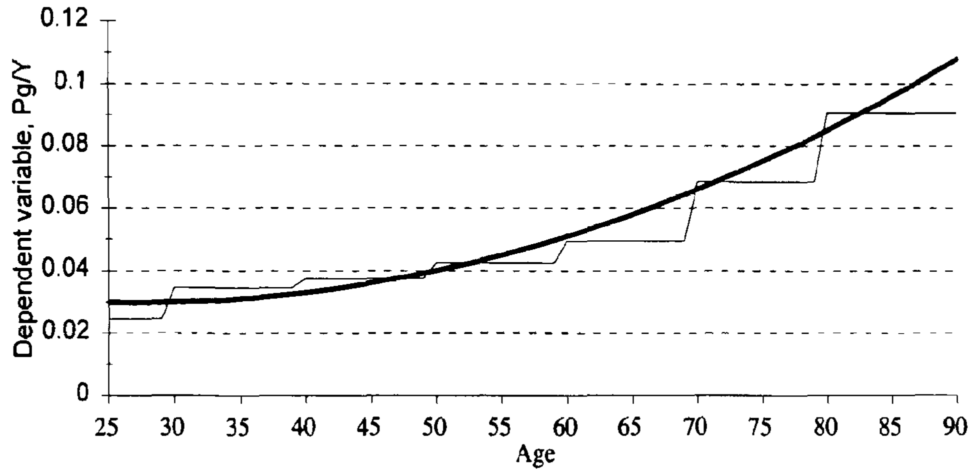
Regressors	Dependent variable			
	Log modified income (Y)		Log tax price (P)	
	(1)	(2)	(3)	(4)
Intercept	2.7 (0.04)	1.3 (0.01)	2.5 (0.01)	3.0 (0.01)
Age	8.5E-03 (1.1E-03)	3.4E-03 (3.1E-04)	-5.9E-03 (3.7E-04)	-3.1E-03 (2.8E-04)
Age ^2	-9.2E-05 (1.0E-05)	-4.8E-05 (2.9E-06)	3.7E-05 (3.4E-06)	1.9E-05 (2.6E-06)
Married	0.082 (0.008)	0.027 (0.002)	0.022 (0.003)	0.032 (0.002)
Exemptions	0.0043 (0.002)	0.0066 (0.0005)	0.0034 (0.0006)	0.0040 (0.0005)
Dummy, 1980	-0.14 (0.008)	-0.15 (0.002)	-0.044 (0.003)	-0.039 (0.002)
Dummy, 1983	-1.6 (0.05)	-0.53 (0.01)	-1.5 (0.01)	-1.9 (0.01)
Dummy, 1984	-1.6 (0.05)	-0.52 (0.01)	-1.4 (0.01)	-1.9 (0.01)
Dummy, 1985	-1.6 (0.05)	-0.50 (0.01)	-1.4 (0.01)	-1.9 (0.01)
Dummy, 1988	-2.6 (0.06)	-1.2 (0.02)	-2.4 (0.02)	-3.0 (0.02)
Log(mean y)	0.72 (0.003)	0.86 (0.001)	-0.25 (0.001)	-0.31 (0.001)
Log(mean y) x period 2	0.13 (0.004)	0.038 (0.001)	0.14 (0.001)	0.18 (0.001)
Log(mean y) x period 3	0.23 (0.005)	0.10 (0.001)	0.23 (0.002)	0.28 (0.001)
Log(y / mean y)		0.82 (0.002)		-0.30 (0.002)
Log(y / mean y) x period 2		0.058 (0.003)		0.15 (0.002)
Log(y / mean y) x period 3		0.13 (0.003)		0.25 (0.003)
Observations	53,703	53,703	53,703	53,703
R-square (Adj.)	0.84	0.99	0.76	0.86

Table A.2: Share Equation Estimates from the Second Step
(nominal standard errors in parentheses) /a

Variable	Coefficient	Variable	Coefficient
Intercept	-0.092 (0.01)	Log(Y*)	0.017 (0.0007)
Age	-0.0013 (0.0002)	Log(Y/Y*)	-0.036 (0.001)
Age squared	2.4E-05 (1.6E-06)	Log(P*)	0.20 (0.01)
Married	-0.0059 (0.0011)	Log(P/P*)	-0.010 (0.005)
Exemptions	0.0015 (0.0003)	Log(P/P*) ^2	0.16 (0.009)
Dummy, 1980	0.0068 (0.001)	Log(P) Log(P*)	0.093 (0.005)
Dummy, 1983	0.011 (0.001)	Var(delta) /b	0.0035
Dummy, 1984	0.008 (0.002)	Var(epsilon)	0.0029
		Total error variance	0.0064
Dummy, 1985	0.007 (0.002)	Var(dependent variable)	0.0071
Dummy, 1988	-0.017 (0.002)	Observations	53,703

Notes:
/a Estimates from two-stage least squares; Standard errors uncorrected fo error-term correlations caused by individual-specific random effects.
/b Variance of individual-specific random effect

Figure 1. Age Pattern of Giving as a Fraction of Modified Income (Pg/Y)



DO REPATRIATION TAXES MATTER? EVIDENCE FROM THE TAX RETURNS OF U.S. MULTINATIONALS*

by

Rosanne Altshuler
T. Scott Newlon
William C. Randolph**

OTA Paper 70 August 1994

OTA Papers and Briefs are circulated so that the preliminary findings of tax research conducted by staff members and others associated with the Office of Tax Analysis may reach a wider audience. The views expressed are those of the authors, and do not reflect Treasury policy. Comments are invited, but OTA Papers and Briefs should not be quoted without permission from the authors. Additional copies of this publication may be purchased from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161

Office of Tax Analysis
U.S. Treasury Department
Washington, DC 20220

---

* **Prepared for the 1994 NBER Conference on International Taxation. We are very grateful to Gordon Wilson for his assistance in using the Treasury tax data. We thank Bill Gentry and other conference participants for valuable comments. We also thank seminar participants at the University of Pennsylvania, the University of Toronto, and the 1993 NBER Summer Institute for helpful comments.**

Rosanne Altshuler, Rutgers University and National Bureau of Economic Research. T. Scott Newlon, Office of Tax Analysis, U.S. Treasury Department. William C. Randolph, Congressional Budget Office, U.S. Congress.

DO REPATRIATION TAXES MATTER? EVIDENCE FROM THE TAX RETURNS OF U.S. MULTINATIONALS

ABSTRACT

An open question in the literature on the taxation of multinational corporations is whether repatriation taxes influence whether the profits of foreign subsidiaries are repatriated or reinvested abroad. Theoretical models suggest that dividend remittances should not be influenced by repatriation taxes. The results of recent empirical work indicate that dividend remittances are sensitive to repatriation taxes. This paper investigates whether the empirical evidence can be reconciled with the theoretical results by recognizing that repatriation taxes on dividends may vary over time and provide firms with an incentive to time repatriations so that they occur in years when repatriation tax rates are relatively low. We use information about cross-country differences in tax rates to separately estimate the influence of permanent tax changes, as would occur due to changes in statutory tax rates, and transitory tax changes on dividend repatriations. Our data contains U.S. tax return information for a large sample of U.S. corporations and their foreign subsidiaries. We find that the permanent tax price effect is significantly different from the transitory price effect and is not significantly different from zero, while the transitory tax price effect is negative and significant. This suggests that repatriation taxes do affect dividend repatriation behavior but only to the extent that they vary over time. Previous empirical work has apparently measured the effect of timing behavior.

JEL Classification: H32, H25, H87.

An open question in the literature on the taxation of multinational corporations is whether taxes due on repatriation of foreign source income influence whether the profits of foreign subsidiaries are repatriated or reinvested abroad. Theoretical arguments by Hartman (1985) suggest that dividend payments by foreign subsidiaries should not be influenced by such repatriation taxes. Under this view, which is analogous to the "new view" of dividend taxation applied to domestic firms, taxes due upon repatriation are unavoidable costs for "mature" foreign subsidiaries that finance investment out of retained earnings.[1] As a result, investment and dividend payment decisions are unaffected by those taxes. The results of recent empirical work that used cross-sectional data on U.S. multinationals seem to contradict Hartman's theoretical result. These studies indicate that dividend remittances are sensitive to repatriation taxes. This presents a puzzle.

Hartman's analysis (and the "new view" of dividend taxation) is based on the assumption that taxes on dividends are constant over time. This paper investigates whether the empirical evidence can be reconciled with the theoretical results by recognizing that repatriation taxes on dividends may vary over time. This variability may provide firms with an incentive to repatriate relatively more profits from a subsidiary when the tax cost of doing so is temporarily relatively lower than normal, and to retain more profits when the tax cost of repatriation is higher than normal.[2] Such timing behavior could be revealed in cross-sectional data by a relationship between dividend payout levels and the current level of the tax cost of dividend payments, when the actual relationship is between dividend payout levels and the current level of the tax cost *relative* to its normal level. If timing opportunities are important to dividend payout decisions, then it becomes difficult to interpret the tax effects estimated in previous papers. In particular, these estimates will tend to confuse the effects of permanent tax changes, as would occur due to changes in statutory tax rates, with the effects of tax changes due to transitory changes in the situation of the taxpayer.

It is important to distinguish whether cross-sectional differences between subsidiaries in dividend payout behavior are due to the current level of the tax cost of paying dividends or the difference between the current and the normal, or expected future, tax cost. Making this distinction will help us evaluate the effects of tax policy on the location of investment, the form of finance, and tax revenues. More specifically, it has implications for the evaluation of policies such as the reduction of withholding tax rates in bilateral tax treaties and the repeal of the deferred taxation that foreign profits generally enjoy in the United States. The policy implications of this work are discussed in more detail in the final section of the paper.

Micro data can be used to distinguish the effects of transitory variation in tax costs from the effects of permanent differences in tax costs. This paper uses a recently created data set containing U.S. tax return information for a large sample of U.S. corporations and their foreign subsidiaries. For some of our empirical work, we link the subsidiary-specific data across time to create a panel data set. To our knowledge, this is the largest panel data set in existence that contains tax information on multinationals. It is also the only panel data set that has detailed tax information on both the parent corporations and their foreign subsidiaries.

We use information about cross-country differences in tax rates to estimate separate effects for the permanent and transitory components of the tax price of dividend repatriation. The idea is that variations across countries in average repatriation tax prices or in statutory tax rates will be correlated with the permanent component of tax price variation, but uncorrelated with transitory variations. Using these measures to construct instrumental variables for the tax price allows us to separately identify permanent and transitory tax price effects. Our estimation strategy is similar to that of Burman and

Randolph (1993), who used state tax rates as instruments to separate permanent from transitory effects of taxes on capital gains realizations.

To preview our results, we find that the permanent tax price effect is significantly different from the transitory price effect and is not significantly different from zero, while the transitory tax price effect is negative and significant. This suggests that previous cross-sectional analysis has measured the effect of timing behavior, either through tax planning that affects both the tax price and dividend payments or through companies timing their repatriations to take advantage of exogenous transitory variations in tax prices.

The remainder of the paper is organized as follows. Section I briefly reviews Hartman's analysis, the related empirical literature, and some more recent theoretical work in this area. Section II derives the tax price of a dividend repatriation, Section III presents the empirical model, and Section IV describes the data. Results are presented in Section V, followed by concluding remarks.

I. The Hartman Analysis and Subsequent Studies

The United States system for taxing the income earned by the foreign subsidiaries of U.S. corporations defers taxation of foreign income until it is brought back to the United States and provides a credit for foreign taxes paid.[3] Under this credit and deferral system, the two main forms of repatriation tax that a firm incurs on income remitted from a foreign subsidiary are the residual home country tax liability (if any) not offset by the foreign tax credit, and any withholding tax imposed by the source country. Hartman (1985) argued that, under a credit and deferral tax system, the repatriation tax on foreign source income is irrelevant to the investment and dividend payment decisions of foreign subsidiaries that are financed through retained earnings ("mature" subsidiaries). Hartman's insight was

that, since the repatriation tax is unavoidable, it reduces the opportunity cost of investment and the return to investment by the same amount. As a result, the tax does not affect a mature subsidiary's choice between reinvesting its foreign earnings and repatriating funds to its parent.[4] His analysis is essentially an application of the "new view" or "tax capitalization view" of dividend taxation put forward by King (1977), Auerbach (1979), and Bradford (1981). The "new view" holds that taxes on dividends (if constant over time) have no distortionary effects on the real decisions of domestic corporations. Although Hartman's analysis pertains to the residual U.S. tax on foreign income, it applies equally well to withholding taxes.

Several empirical studies using cross-sections of tax return data appear to contradict Hartman's theoretical result. Mutti (1981) used U.S. tax return data from 1972 to estimate the effect of tax costs on the choice of income remittance channels. He found significant tax effects in estimates of the parameters of a dividend equation. Goodspeed and Frisch (1989) and Hines and Hubbard (1990) both used 1984 tax return data of large samples of U.S. corporations and their foreign subsidiaries to investigate tax effects on foreign income remittances. Goodspeed and Frisch matched data on parent corporations with country-specific information on their foreign subsidiaries in an attempt to quantify income repatriation incentives created by the U.S. tax system. By further disaggregating the 1984 tax return data, Hines and Hubbard were able to study income repatriation behavior using a data set that matched subsidiary-specific information to parent corporation data. Both studies found significant evidence of tax effects on income repatriation. Altshuler and Newlon (1993) used U.S. tax return data from 1986 to investigate tax effects on dividend remittances from foreign subsidiaries to their U.S. parent corporations. This paper improved upon previous work by providing a more accurate specification of the tax incentives facing firms. Results from estimates of dividend equations indicated a somewhat larger and more significant tax effect than had been previously estimated.

Recognizing that Hartman's theoretical analysis did not allow repatriation taxes to vary over time may help to reconcile it with the empirical results from the above studies. There are at least two different ways in which the repatriation tax may vary. First, it may vary over time due to differences between the tax base definitions of the United States and the host country of the foreign subsidiary. The U.S. foreign tax credit is based on the average foreign tax rate of the subsidiary, where the average is calculated with respect to the U.S. definition of the tax base. Differences in tax base definitions may vary over time, e.g., if capital cost allowances differ, causing the average foreign tax rate as defined by the United States to vary. This variation in the average foreign tax rate causes the foreign tax credit allowed for a given dividend payment to vary over time as well. Such variations in the average foreign tax rate may be planned. For example, to the extent that the timing of deductions and credits is discretionary, a foreign subsidiary may shift them from years in which it is remitting income to years in which it is not remitting income, thereby maximizing the foreign tax credit. This device is known as the "rhythm method" in the tax planning jargon.[5]

The second cause of variation in the repatriation tax is movement by the parent company between being in "excess credit," i.e., having more foreign tax credits available than are needed to offset potential U.S. tax liability on foreign source income, and being in "excess limitation," the opposite condition. Since the U.S. foreign tax credit operates, to some extent, on an overall basis, excess foreign tax credits generated from one source of foreign income can be used to offset potential U.S. tax on another source of foreign income that generates insufficient foreign tax credits. If the parent corporation is in excess credit, there is no additional U.S. tax cost to repatriating foreign income. If the parent is in excess limitation, then the U.S. tax cost of repatriating income from a subsidiary may be positive or negative, depending on the average foreign tax rate of the subsidiary.

Several recent theoretical contributions have incorporated a repatriation tax that may vary over time and that may be endogenous to the investment and financial decisions of subsidiaries and parent corporations. Hines (1989) shows that U.S. tax payments on foreign source income are affected by differences in the way the U.S. and host countries determine taxable income. In his model, the repatriation tax is a function of the ratio of U.S. defined income to foreign defined income. He points out that this ratio may vary over time and may be affected by investment decisions. As a result, investment incentives may be influenced by the repatriation tax. Leechor and Mintz (1993) make a similar argument. In their model, the repatriation tax is also endogenous and the Hartman result obtains only when host and home country tax bases, adjusted for inflation, are proportional to each other.

Altshuler and Fulghieri (1990) offer a model in which parent corporations may switch into and out of the excess credit position. This model shows that the Hartman result obtains only when the excess credit position is stationary. The insight here is that switching between credit states breaks down the equivalence between the impact of repatriation taxes on the opportunity cost of capital and on the returns to investment.

In one sense, none of these recent theoretical contributions has departed from the Hartman result: the level of the repatriation tax does not by itself affect the incentive to repatriate income rather than reinvest it. Instead, it is the variation over time in the level of the repatriation tax that affects the incentive to repatriate income, because this variation provides parent corporations with the opportunity to time remittances so that they occur in years when repatriation tax rates are relatively low. If these theoretical predictions are correct, then failure to distinguish between the effects of permanent and transitory variation in the tax price when estimating tax effects on repatriation of foreign income could

lead to incorrect results. The effect of permanent variation in the tax price might be overstated, since the estimates would confound the effects of permanent and transitory variation in the tax price.

II. The Tax Price of Dividend Repatriations

In this section we specify a measure of the tax price of repatriating foreign income in the form of dividends and we briefly discuss the factors that may cause that tax price to vary over time.[6] To understand how these tax prices are derived, some background information on the foreign tax credit is useful. The discussion here borrows heavily from Altshuler and Newlon (1993).

The foreign tax credit has two components. The first, called the direct credit, is a credit for foreign taxes paid directly on income as it is received by a U.S. taxpayer. Foreign taxes eligible for the direct credit include withholding taxes on remittances to the U.S. taxpayer such as dividends, interest, and royalties, and also income taxes on foreign branch operations. The second component, called the deemed-paid or indirect credit, is a credit for foreign income taxes paid on the income out of which a dividend distribution is made to the U.S. taxpayer. The deemed paid credit is generally a credit for foreign corporate income taxes.

The deemed paid credit for a dividend remittance from a foreign subsidiary is calculated by grossing up the dividend to reflect the foreign tax deemed paid on that dividend income.[7] To illustrate, suppose subsidiary i makes a dividend payment, D_i, to its parent corporation. The grossed up dividend is

$$D_i + T_i D_i/(Y_i - T_i) \qquad (1)$$

where T_i denotes the total foreign income tax paid by subsidiary i and Y_i denotes the subsidiary's pre-tax income from the U.S. perspective, which is the subsidiary's book earnings and profits. Equation (1) can

be rewritten as $D_i/(1-\tau_i)$, where τ_i represents the average subsidiary tax rate, T_i/Y_i, on foreign earnings from the U.S. perspective. The U.S. tax on the dividend before credits is $\tau D_i/(1-\tau_i)$, where τ denotes the U.S. rate of tax. The United States considers that creditable foreign tax was paid on the dividend in the amount of $\tau_i D_i/(1-\tau_i)$. The U.S. tax liability on the dividend payment after the deemed-paid credit is therefore $D_i(\tau-\tau_i)/(1-\tau_i)$.

The amount of foreign tax credit that can actually be used is limited, however, to the amount of U.S. tax payable on foreign income. Therefore, if the foreign tax rate, τ_i, exceeds the U.S. tax rate, τ, excess credits are created in the amount of $D_i(\tau_i-\tau)/(1-\tau_i)$. If the foreign tax rate is less than the U.S. tax rate, then a U.S. tax liability of $D_i(\tau-\tau_i)/(1-\tau_i)$ accrues and the remitted foreign income is said to be creating excess limitation.

As noted above, the limitation on the foreign tax credit operates to some extent on an overall basis. This means that excess credits accruing from one source of foreign income can often be used to offset U.S. tax (excess limitation) on foreign income from another source. This is called cross-crediting or averaging of foreign income. The ability to cross-credit means that the effect of repatriating foreign income from a particular source may be positive, negative or zero.[8]

The Derivation of Tax Prices

We define the tax price of a dividend remittance as the additional global tax liability arising from an incremental dollar's worth of dividend repatriations. To derive the tax price we must take into account both the incremental U.S. and source country taxes on a dollar of dividends. The U.S. tax liability generated by dividend payments before the foreign tax credit equals $\tau D_i/(1-\tau_i)$. The foreign taxes creditable against U.S. tax liability are deemed-paid taxes plus withholding taxes, or

$$\tau_i D_i/(1-\tau_i) + \omega_i D_i \tag{2}$$

where ω_i denotes the withholding tax rate in the host country. If the parent is in excess credit, any U.S. tax liability on a dollar of dividends is offset by the foreign tax credit. If the parent is in excess limitation, the U.S. tax liability equals

$$(\tau-\tau_i)D_i/(1-\tau_i) - \omega_i D_i. \tag{3}$$

To compute the global tax price of a dollar of dividends we add the source country effect to the U.S. tax effect. Under a classical corporate income tax system[9] the total source country tax liability on subsidiary i equals

$$T_i = \tau_i Y_i + \omega_i D_i. \tag{4}$$

As a result, the only host country tax consequences of a dividend remittance are the associated withholding taxes. If the parent is in excess credits there is no U.S. tax consequence and therefore the global tax price is ω_i. If the parent is in excess limitation the global tax price, p, is

$$p = (\tau-\tau_i)/(1-\tau_i). \tag{5}$$

The withholding tax has no net effect on global taxes because the extra withholding tax paid on the dividend remittance is offset by a reduction of U.S. tax of an equal amount. Due to cross-crediting, the global tax price may be negative and dividend payments may reduce the firm's global tax liability.[10]

Expression (5) shows that, if the parent corporation is in excess limitation, then the tax price of a dividend remittance is inversely related to the subsidiary's average tax rate, τ_i. As noted previously, to the extent that these variations in τ_i are endogenous, e.g. because the timing of deductions and credits is elective, they can become a part of tax planning strategies for repatriating foreign source income. Even if a subsidiary's average tax rate is relatively constant, the tax price of remittances will fluctuate significantly when the subsidiary's parent switches credit position. Consider a subsidiary with an average

tax rate above the U.S. corporate rate. When the parent is in excess limitation, the tax price of a dividend remittance is negative $[(\tau-\tau_i)/(1-\tau_i) < 0]$. When the parent is in excess credit, the tax price equals the withholding tax rate. As a result, tax prices for some subsidiaries can be negative in some years and positive in others. These changes in tax prices may also be endogenous if parents can control their foreign tax credit positions through careful structuring of remittances from foreign subsidiaries. The next section presents an estimation strategy to separate the effect of these transitory components of tax prices from the effect of changes in the permanent component.

III. An Empirical Model of Dividend Repatriations

Previous work by Hines and Hubbard (1990) and Altshuler and Newlon (1993) has estimated a simple empirical model of dividend repatriations. For subsidiaries paying a dividend the model takes the following basic form:

$$d = a_0 + a_1 P + br + XA + \epsilon, \tag{6}$$

where d is the dividend payout, expressed as the ratio of subsidiary dividends to assets, P is the current tax price of dividend repatriation[11], r is the after-tax rate of return for the subsidiary, and X is a vector of characteristics of subsidiary and parent. Equation (6) is not derived explicitly from the firm's optimization problem, but can be considered a reduced form suitable for testing the general implications of theoretical models such as Hartman's. It is similar to the empirical models used to explain dividend payments in a purely domestic context.

In these previous papers, P was expected to have a negative coefficient since higher tax prices were expected to reduce the attractiveness of repatriation. The after-tax rate of return, r, may have an ambiguous effect on the dividend payout. On the one hand, if dividend payments are a residual, then higher earnings, which would increase the measured rate of return, could be expected *ceteris paribus* to

increase the dividend payout. On the other hand, a higher after-tax rate of return would increase desired investment, having the effect of increasing retained earnings and reducing the dividend payout. Other relevant variables are included in X, the most important of which is perhaps the age of the subsidiary. Some theoretical literature (such as Newlon (1987) and Sinn (1990)) suggests that older subsidiaries should have higher dividend payout ratios. This prediction is a direct consequence of the value of deferral when there is a repatriation tax, i.e., if there is deferral, then dividend payouts will on average be an increasing function of age, other things constant.

As noted already, by using the current tax price, P, the above model may confound the potentially different effects of permanent and transitory components of the tax price. It is beyond the scope of this paper to derive a theoretical model that explicitly incorporates intertemporal variation in repatriation tax prices. Instead, we use a reduced form empirical model to test the general implications that could be expected from any such model. In particular, a transitory decrease (increase) in the tax price reduces the current tax price relative to future tax prices, and thus enables the firm to increase the value of its foreign source income by accelerating (delaying) dividend repatriations. But a permanent change in the tax price does not change the relative prices of current and future repatriation. Therefore, one would expect dividend repatriations to be affected more by transitory than by permanent changes in tax prices. And Hartman's (1985) work would indicate that permanent changes in tax prices should have no effect at all on dividend repatriations.

Based on these considerations, our empirical model generalizes equation (6) to allow for differences in transitory and permanent tax price effects:

$$d = a_0 + a_1(P - P^*) + a_2P^* + br + XA + \epsilon, \tag{7}$$

where P^* is the permanent component of the tax price and hence $(P-P^*)$ is the transitory component. We estimate this in a slightly different form:

$$d = a_0 + a_1 P + (a_2 - a_1)P^* + br + XA + \epsilon. \tag{8}$$

One difficulty in estimating equation (8) is that the permanent component of the tax price, P^*, is unobservable. To capture the effect of P^* we use an instrumental variables approach in which we instrument the tax price on a variable, P^i, that we expect to be correlated with the permanent component of the tax price but uncorrelated with its transitory component. This essentially involves replacing P^* in equation (8) with its predicted value,

$$\hat{P}^* = \hat{b}_0 + \hat{b}_1 P^i + \hat{b}_2 r + X\hat{B},$$

where the coefficients are derived from the regression

$$P^* = b_0 + b_1 P^i + b_2 r + XB + \xi.$$

We experiment with two alternative instruments for the permanent component of the tax price, the country average tax price and the country statutory withholding tax rate. These instruments reflect cross-country variation in taxes that should also be reflected in the permanent component of the tax price but not in the purely transitory component.

For estimation of (8), we use a Tobit procedure because dividend payments are censored at zero. On the surface, this may appear unnecessary since actual dividend payments are, by definition, non-negative. However, the desired level of dividend payments could be negative. This result would obtain if, as suggested by the theoretical work in this area, foreign retained earnings were the preferred source of finance for foreign investment but foreign investment exceeded foreign earnings. Our use of a Tobit procedure implicitly assumes that we have modelled desired dividends, but only observe actual dividends.

IV. The Data

Our data set contains information from three sets of tax and information forms filed by a large sample of non-financial U.S. multinational corporations. Subsidiary data are obtained from information returns, called 5471 forms, filed for each foreign subsidiary of a U.S. taxpayer. The form 5471 includes balance sheet and income statement variables along with detailed information on remittances to U.S. parent corporations. For the purposes of this study, we needed to append information on the taxable income and foreign tax credit position of parent corporations to the subsidiary specific data from the form 5471s. We obtained income data from corporate income tax returns filed by the U.S. parent corporations. We calculated foreign tax credit positions using data from the forms filed in support of foreign tax credit claims. Detailed data from foreign tax credit forms and data from 5471 forms is only compiled in even years and were available to us only for the years 1980, 1982, 1984, and 1986.

Calculating subsidiary-specific tax prices for dividend remittances for each sample year also requires knowledge of the host country withholding tax rates, the appropriate foreign corporate tax rates, and details of host country tax systems. To develop a list of country specific withholding tax rates for each sample year, we used the Price Waterhouse guides and tax treaties. These guides also provided the appropriate statutory tax rates for the countries in our sample with non-classical (for example, split rate and imputation) corporate tax systems. Finally, in each year of the sample we used the subsidiary's average foreign tax rate to measure the corporate tax rate τ_i at which dividends are grossed-up and foreign tax credits are calculated. To calculate this rate we divided foreign tax payments by before-tax earnings and profits, both obtained from the 5471 form data.

In some situations, calculating average tax rates in this manner may lead to an unsatisfactory approximation of τ_i. In particular, problems arise when subsidiaries report negative earnings and profits,

receive tax refunds from host countries, repatriate dividends in excess of current earnings and profits, and receive dividends from subsidiaries of their own. Where feasible, adjustments were made in these cases to arrive at a more satisfactory measure of τ_i.[12] Various screens were also applied to the data to eliminate observations for which the data were suspect. After these deductions the total number of observations in the sample was 22,906.

Some of the estimation required linking subsidiaries in two consecutive sample years to form a panel. This was done largely through an algorithm that matched subsidiaries based on their U.S. parent corporation, company name, date of incorporation and country of residence. Many subsidiaries could not be matched on this basis and they therefore could not be included in the panel. The total number of observations in the panel was 7,118.

Table 1 presents for each country represented in the sample the mean tax price, the standard deviation of the tax price, the statutory withholding tax rate and the mean dividend asset ratio for the subsidiaries located in that country for 1984. This table provides information that may be valuable in evaluating the usefulness of country mean tax prices and statutory withholding tax rates as instruments for the permanent component of the tax price. First note that there is substantial variation in country mean tax prices and in statutory withholding tax rates. Mean country tax prices range from -0.21 for Germany to 0.38 for Greece. Statutory withholding tax rates range from zero for a number of tax haven countries to 55 percent for Mexico. This degree of variation across countries means that these variables may be useful instruments, since the cross-country variation is presumably correlated with variation in the permanent component of the tax price.

Note also that within each country the standard deviation of the tax price is relatively large, in no case less than 0.14. This demonstrates that there is a substantial portion of variation in tax prices not explained by differences in country statutory dividend withholding and corporate income tax rates. Finally, note that no clear relationship between country mean dividend payout ratios and country mean tax prices or statutory withholding rates emerges from inspection of Table 1. This presages the results presented in the next section.

V. Results

Table 2 presents the estimation results. Column 1 of the table presents the results of estimating the simple dividend model presented in equation (6) that incorporates only the current tax price of repatriation. These estimates use the full sample of 22,906 observations. They are presented to check that the results with our sample are essentially the same as found by Hines and Hubbard and Altshuler and Newlon.

The results presented in column (1) are indeed similar to those found in previous work. The coefficient on the tax price is negative and statistically significant and of similar magnitude to the estimates in previous papers. To gauge the economic significance of this coefficient, note that it implies that a reduction in tax price of one standard deviation (0.34) implies an increase in the overall dividend payout ratio (including those that pay dividends and those that do not) of about 0.004, which is equal to about 11 percent of the mean dividend payout ratio of 0.036. Thus, moving the tax price from one standard deviation above the mean to one standard deviation below the mean implies an increase in the dividend payout ratio equal to about 22 percent of the mean dividend payout ratio.

The coefficient on the after-tax rate of return is positive, significant and less than one. This is plausible, since it implies that an increase in earnings increases dividend payments. Because it is significantly less than 1, the coefficient also suggests that an increase in the after-tax rate of return increases retained earnings. Also as expected, the coefficient on subsidiary age is positive and significant.

Column (2) and the remaining columns of the table present the results of estimating the model in equation (8) that distinguishes between permanent and transitory tax price effects. To interpret the tax price coefficient estimates in these columns recall that in equation (8) the effect of the transitory component of the tax price is captured by the coefficient on the current tax price, while the coefficient on the permanent tax price equals the difference between the permanent and transitory tax price effects. Thus, the coefficient estimates in the first row of the table represent transitory tax price effects, the second row coefficient estimates represent the difference between the permanent and transitory tax price effects, and the coefficient estimates in the third row, which are sums of the coefficients in the first two rows, represent permanent tax price effects.

Column (2) of Table 2 shows estimates, using the full sample, of the basic model in which the country mean tax price is used as an instrument for the permanent component of the tax price. The estimated effect of the transitory component of the tax price (in the first row) is negative and statistically significant. Furthermore, it is larger in absolute magnitude than the estimated effect from the model excluding the permanent tax price effect.[13] This result implies that transitory variation in the tax price has a large effect on the incentive to repatriate income.

The estimated difference between the permanent and transitory tax price effects presented in the second row of column (2) is positive and statistically significant. This implies that the permanent

component of the tax price is not only significantly different from the transitory tax price effect, but, since the coefficient is positive, cannot have as large a negative impact on dividend repatriations. In fact, the estimated permanent tax price effect presented in the third row is not significantly different from zero. These results provide support for the hypothesis that the dividend repatriation incentive is affected by transitory but not permanent changes in the tax price of repatriation, a result that is consistent with Hartman's analysis.

One potential problem with the results from the basic model in column (2) arises because the tax incentive to retain earnings abroad should depend on the expected foreign after-tax rate of return, but we use the actual rate for the current year in our estimates. This may bias the coefficient on the after-tax rate of return toward zero. More importantly, the difference between the current and expected after-tax rates of return will be part of the error term. Consequently, the current tax price and the country mean tax price will both be correlated with the error term because both depend on current foreign taxes and income. This may bias the coefficients on the current and permanent tax prices.

To explore whether this is a significant problem we used the two year lead after-tax rate of return as an instrument for the expected after-tax rate of return. The motivation for this approach is that, under rational expectations, the difference between the future actual and expected after-tax rates of return (the forecast error) should be independent of the current after-tax rate of return, which reflects only current information.

This approach reduces the sample size in two ways. First, use of the two-year lead means that only the first three years of the data can be used. Second, only observations for which matches could

be found in the following year of the sample could be used. As mentioned above, these restrictions reduced the sample size to 7,118.

There is some risk that the selection of subsidiaries dropped from the sample by these requirements was not random. For example, current income repatriation might depend on whether there are plans to sell a subsidiary in the future, and subsidiaries sold within two years would be excluded from the sample. Subsidiaries that are being shut down might also be more or less likely to pay dividends, and a subsidiary shut down within two years would be excluded from the sample. If for these or other reasons the selection was significantly non-random, selection bias might be induced.

To investigate whether there is any potential selection bias, column (3) of the table presents the results of estimating the basic model of column (2) using the restricted sample. Note that a higher percentage of the subsidiaries in the restricted sample pay dividends to their U.S. parent corporation. This is consistent, for example, with dividend payments being lower before a subsidiary is sold or shut down. But note that based on Hausman tests on the individual coefficients of interest the regression results do not differ significantly from those obtained using the full sample. Thus, there are no signs of selection bias in the restricted sample.

Column (4) of the table presents the results of the regression using the two-year lead after-tax rate of return as an instrument for the expected after-tax rate of return. The coefficient on the after-tax rate of return increases, and the difference is significant based on a Hausman test. This coefficient implies that a higher expected after-tax rate of return is associated with greater retention of earnings, but not by as much as measured in the previous regressions. The tax price coefficients are not significantly different

from those in column (2).[14] These results therefore provide no evidence that the permanent tax price coefficients are biased by using the current instead of the expected future foreign after-tax rate of return.

A second potential problem arises because even after controlling for differences in country average tax prices and the other regression variables using the instrumental variables approach the current tax price may still be correlated with the permanent tax price. This is because the permanent tax price may depend not only on cross-country differences in taxes, but also on the portfolio of subsidiaries held by the U.S. parent corporation, on the parent's U.S. operations, and on expectations about the future. This problem also could bias the tax price coefficients. It would tend to bias the transitory tax price coefficient toward the permanent tax price coefficient and bias the permanent tax price coefficient (i.e., the estimated difference between the permanent and transitory tax price effects) toward zero.

To determine whether this is a serious problem we estimated the model using the change in tax price between the current year and the two-year lead as an instrument for the transitory tax price. This approach was adopted because the change in the tax price is likely to be less correlated than the current tax price with the permanent tax price. The results of this estimation are presented in column (5) of the table. There is no significant change in any of the coefficients, they are simply estimated with somewhat less precision. Thus, there is no evidence that the tax price coefficients are biased from a correlation between the current and permanent tax prices.

A third problem may exist because much of the variation in the country mean tax price comes from variations in effective corporate tax rates across countries, but variations in foreign effective corporate tax rates may also affect foreign after-tax rates of return. As a result it may be difficult to separately identify the effects of variations in foreign effective tax rates as they affect repatriation through

their effect on the tax price of repatriation and as they affect repatriation through their effects on the foreign after-tax rate of return. For example, a higher foreign corporate tax rate will decrease the tax price of repatriation for the subsidiary of a U.S. corporation that is in excess limitation, but it will also, *ceteris paribus*, decrease the foreign after-tax rate of return, thereby decreasing the incentive to defer repatriation of foreign income. Although the models we estimate attempt to avoid this problem by controlling separately for the foreign after-tax rate of return, the measure we use is imperfect and hence there is some possibility of misspecification biasing the tax price results.

Our first approach to testing whether this is a significant problem is to use the country statutory dividend withholding tax rate in place of the country mean tax price as an instrument for the permanent component of the tax price. The statutory withholding tax rate is related to the tax price, but has no direct relation to the corporate tax rate. Column (6) of the table presents the results of this estimation, using the full sample again. Note that the permanent tax price coefficient changes very little from the basic model estimate in column (2). The difference is not statistically significant based on a Hausman test. This provides some evidence that there is no serious misspecification problem.

The approach used to generate the results presented in column (6) may not provide a conclusive fix for the potential problem, because country statutory withholding tax rates are correlated with country corporate tax rates. To address this additional possible difficulty we remove the correlation from the withholding rate instrument. To do this we regress the withholding rate on the country mean average corporate tax rate and the country statutory tax rate and use the residual from this regression as an instrument for the permanent component of the tax price. In other words, we use as an instrument the part of the withholding tax rate that is orthogonal to the country mean tax rate and the statutory corporate tax rate. The results of this procedure are presented in column (7) of the table. Here again the

coefficient on the permanent component of the tax price is not significantly different, based on a Hausman test, from the coefficient obtained in the estimates of the basic model presented in column (2).

VI. Conclusion

The tax price effects on dividend repatriations found in previous studies using the simple model of dividend repatriations apparently measure largely the effect of the timing of dividend repatriations to take advantage of intertemporal variation in tax prices. These timing opportunities may arise either endogenously, through tax planning that affects both tax prices and dividend payments, or through exogenously caused variations in tax prices. Therefore, although repatriation taxes seem to affect dividend repatriation behavior, this is apparently only because tax prices vary over time. This result is consistent with the prediction of Hartman's model.

The results presented here should not be construed to imply that the "permanent" levels of host and home country taxation do not affect dividend repatriation by foreign subsidiaries. Host and home country corporate taxation will of course affect the earnings reinvestment decision, and hence the dividend repatriation decision, through their impacts on host and home country after-tax rates of return. The evidence from our estimates merely implies that host and home country taxation do not affect repatriation through the permanent component of the repatriation tax.

Our results may have policy implications. The most obvious implications relate to policies on dividend withholding tax rates. For example, many capital-importing countries consider lowering withholding taxes, either unilaterally or in the context of bilateral tax treaty negotiations, to try to attract new equity investment. But some countries may be inhibited by the fear that such a measure would lead to increased flight of the accumulated multinational equity "trapped" by existing high withholding taxes.

Our results suggest that, as long as the reduction in the withholding tax rate is viewed as permanent, such fears are unfounded. Permanent changes in dividend withholding tax rates appear likely mainly to attract new equity investment and not to encourage repatriation of equity accumulated from past earnings.[15]

To the extent that these results support the Hartman model, they have implications regarding the incentive effects of the credit and deferral system that the United States uses to tax most foreign income of U.S. multinationals. In particular, if the repatriation tax is irrelevant for the dividend repatriation decision, then, at least as regards retained earnings, the incentives for foreign investment are the same as they would be under a system that exempts foreign income from taxation.

REFERENCES

Altshuler, Rosanne and Paolo Fulghieri. 1990. "Incentive Effects of Foreign Tax Credits on Multinationals," Columbia University Working Paper #478.

_____________ and T. Scott Newlon. 1993. "The Effects of U.S. Tax Policy on the Income Repatriation Patterns of U.S. Multinational Corporations," in A. Giovannini, G. Hubbard, and J. Slemrod, *Studies in International Taxation*. Chicago: University of Chicago Press, pp 77-115.

Auerbach, Alan J. 1979. "Wealth Maximization and the Cost of Capital," *Quarterly Journal of Economics*, 93.

Bradford, David. 1981. "The Incidence and Allocation Effects of a Tax on Corporate Distributions," *Journal of Public Economics*, XV.

Burman, Leonard and William Randolph. 1993. "Distinguishing Permanent from Transitory Effects of Capital Gains Tax Changes: New Evidence from Micro Data," forthcoming, *American Economic Review*.

Goodspeed, Timothy and Daniel J. Frisch. 1989. "U.S. Tax Policy and the Overseas Activities of U.S. Multinational Corporations: A Quantitative Assessment," manuscript, U.S. Treasury Office of Tax Analysis.

Hartman, David. 1985. "Tax Policy and Foreign Direct Investment," *Journal of Public Economics*, 26.

Hines, James R. 1989. "Credit and Deferral as International Investment Incentives," manuscript, Princeton University, August.

___________ and R. Glenn Hubbard. 1990. "Coming Home to America: Dividend Repatriations by U.S. Multinationals," in A. Razin and J. Slemrod, eds., *Taxation in the Global Economy*. Chicago: University of Chicago Press, pp. 161-198.

King, Mervyn. 1977. *Public Policy and the Corporation*. London: Chapman and Hall.

Leechor, Chad and Jack Mintz. 1993. "On the Taxation of Multinational Corporate Investment when the Deferral Method is used by the Capital Exporting Country," *Journal of Public Economics*, 51.

Mutti, John. 1981. "Tax Incentives and Repatriation Decisions of U.S. Multinational Corporations," *National Tax Journal*, 34.

Newlon, T. Scott. 1987. "Tax Policy and the Multinational Firm's Financial Policy and Investment Decisions," Ph.D. Dissertation, Princeton University.

Price Waterhouse. 1980, 1982, 1984, and 1986. *Corporate Taxes: A Worldwide Summary*. New York.

Sinn, Hans Werner. 1990. "Taxation and the Birth of Foreign Subsidiaries," NBER Working Paper #3519.

ENDNOTES

1. See King (1977), Auerbach (1979) and Bradford (1981).

2. The term "normal" is used here to imply that there is some permanent, or long-run average, repatriation tax cost that the multinational faces. By "normal" tax cost we really mean expected future tax cost.

3. The Subpart F provisions of the tax code provide for accrual basis taxation on certain foreign income.

4. Note that this result does not imply that home and host country taxes have no effect on the repatriation decision. They do have an impact due to their effect on home and host country after-tax rates of return, but not through the tax on repatriation.

5. The rhythm method was a more useful tax planning device for U.S. multinationals prior to the Tax Reform Act of 1986, when the foreign tax credit was calculated year by year. The 1986 Act switched to a system in which the foreign tax credit is calculated based on the pool of previously unremitted foreign earnings and uncredited taxes, and, therefore, shifting the year in which tax credits and deductions are taken has much less effect on the foreign tax rate for U.S. foreign tax credit purposes.

6. Although we focus on dividend payments, income may be remitted to parent companies in the form of interest, rents and royalty payments. Previous work by Altshuler and Newlon (1993) suggests that dividend payments are the most important channel for income remittances, making up over 60 percent of the total foreign income derived by U.S. parents from their foreign subsidiaries in 1986.

7. As mentioned above, for tax years beginning in 1987, the amount of foreign tax credit associated with a dividend payment is based on the accumulated value of earnings and profits. Although this changes the gross-up formula in the text, it is not relevant for our analysis since our data is taken from years prior to 1986.

8. Congress has restricted cross-crediting by creating *baskets* of different types of foreign income to each of which a separate foreign tax credit limitation applies. Before the 1986 Act, the period which our study covers, there were five separate baskets: (1) one for investment interest income, (2) one for Domestic International Sales Corporation dividend income, (3) one for the foreign trade income of a Foreign Sales Corporation, (4) another for distributions from a Foreign Sales Corporation, and (5) one for all other foreign source income, which we will call general limitation income. The 1986 Act decreased the potential for cross-crediting further by increasing the number of separate limitation baskets to nine.

9. For simplicity we focus our discussion in this section on the derivation of the tax price of a dividend remittance from a foreign subsidiary operating in a country that uses a classical corporate tax system. In our empirical work we also take details of host country tax systems into account since our sample includes subsidiaries that operate in countries with split-rate and imputation systems. The derivation of the tax prices for these types of tax systems are discussed in detail in Altshuler and Newlon (1993).

10. We neglect here the cases in which the parent corporation has tax losses, since, as in earlier papers by Hines and Hubbard (1990) and Altshuler and Newlon (1993), we include in our sample only those U.S. corporations with positive worldwide taxable income. They are excluded here for simplicity's sake, since the carryover rules for tax losses and foreign tax credits can interact in ways that may complicate the incentives for income repatriation of these firms.

11. Altshuler and Newlon (1993) also use a measure of the "expected" tax price that attempts to take into account the fact that excess foreign tax credits can be carried back to several prior years or forward to several future years to offset taxes in those years.

12. See Altshuler and Newlon (1993) for a description of the methodology.

13. A Hausman test shows that this difference is statistically significant.

14. The coefficient on the current tax price is just barely significantly different ($T=2.0$), but the significance is probably overstated since we have not adjusted the standard errors yet to account for instrumental variables estimation.

15. If a reduction in withholding tax rates is perceived by multinational investors as a signal of more favorable and stable policies towards multinational investment it may in fact increase reinvestment of earnings.

Table 1: Country Averages, 1984

Country	Mean, dividends / assets	Mean, tax price	Stand. dev., tax price	With-holding tax rate
W. Germany*	3.9%	−0.21	0.38	15%
Japan*	2.7%	−0.15	0.48	10
Norway*	1.6%	−0.11	0.19	15
U. Kingdom*	2.2%	−0.10	0.38	5
Austria	4.2%	0.02	0.41	6
Sweden	0.7%	0.03	0.34	5
France	2.2%	0.03	0.34	5
Finland	4.2%	0.03	0.47	5
Italy	2.4%	0.07	0.26	6
Denmark	1.8%	0.07	0.22	6
Luxembourg	1.0%	0.08	0.49	6
Malaysia	2.6%	0.08	0.29	0
Peru	3.4%	0.08	0.79	40
Canada	3.7%	0.08	0.26	5
Belgium	2.3%	0.13	0.35	15
Singapore	5.1%	0.13	0.29	0
Costa Rica	4.8%	0.13	0.37	15
Netherlands	2.7%	0.14	0.20	5
New Zealand	2.3%	0.14	0.22	15
Colombia	4.9%	0.15	0.23	20
Australia	2.2%	0.16	0.24	15
SouthAfrica	3.9%	0.16	0.20	15
Guatemala	3.9%	0.17	0.27	13
Thailand	4.7%	0.18	0.18	20
Brazil	4.0%	0.19	0.51	25
Neth. Antilles	1.0%	0.19	0.23	0
Bahamas	3.4%	0.19	0.25	0
Ireland	3.6%	0.20	0.25	0
Portugal	0.9%	0.20	0.22	25
HongKong	4.9%	0.21	0.21	0
Philippines	1.7%	0.22	0.14	20
Bermuda	3.5%	0.23	0.23	0
Spain	1.9%	0.23	0.14	18
Venezuela	2.0%	0.24	0.18	20
Cayman Is.	2.8%	0.24	0.23	0
Mexico	2.6%	0.25	0.43	55
Chile	5.1%	0.25	0.20	30
Argentina	2.8%	0.25	0.29	18
Panama	4.6%	0.26	0.23	10
Taiwan	3.4%	0.27	0.35	35
Liberia	1.2%	0.28	0.15	15
Greece*	2.0%	0.38	0.28	47
All subsidiaries	2.9%	0.08	0.34	11

* Non-classical countries

Table 2: Tobit Model Estimation Results
(dependent variable: subsidiary dividends over assets; standard errors in parentheses)

RHS variables, estimation details	Full sample		Partial sample matched with 2-year leads			Full sample	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Current (global) tax price (tp)	−0.046 (.0057)	−0.059 (.0062)	−0.066 (.0109)	−0.078 (.0114)	−0.070 (.020)	−0.047 (.0057)	−0.049 (.0058)
Permanent tax price[a]	...	0.087 (.016)	0.092 (.0263)	0.089 (.0265)	0.080 (.031)	0.080 (.076)	0.13 (.038)
Sum of tax price coefficients[b]	...	0.027 (.015)	0.027 (.024)	0.010 (.024)	0.010 (.024)	0.033 (.076)	0.078 (.038)
Subsidiary earnings / assets	0.58 (.016)	0.55 (.016)	0.49 (.027)	0.80 (.055)	0.80 (.055)	0.55 (.032)	0.53 (.021)
Subsidiary age / 100	0.37 (.017)	0.38 (.017)	0.33 (.028)	0.33 (.028)	0.33 (.028)	0.38 (.022)	0.39 (.018)
Permanent IV							
(1) country mean tp		x	x	x	x		
(2) withholding rate						x	x[c]
Income IV							
2-year forward				x	x		
Transitory IV							
2-year change in tp					x		
Intercept (1980)	−0.29 (.0059)	−0.29 (.0060)	−0.24 (.0093)	−0.28 (.012)	−0.28 (.012)	−0.26 (.0051)	−0.29 (.0064)
1982 Dummy	0.026 (.0051)	0.026 (.0051)	0.038 (.0071)	0.039 (.0073)	0.039 (.0073)	0.030 (.0054)	0.026 (.0051)
1984 Dummy	−0.029 (.0053)	−0.030 (.0053)	−0.0037 (.0085)	0.00075 (.0088)	0.00098 (.0088)	−0.030 (.0053)	−0.031 (.0054)
1986 Dummy	−0.012 (.0065)	−0.012 (.0065)	...	...	...	−0.012 (.0066)	−0.013 (.0066)
Observations	22,906	22,906	7,118	7,118	7,118	22,906	22,906
Paying dividends	28%	28%	37%	37%	37%	28%	28%

Notes:

[a] Measures the difference between effects of changes in permanent and transitory tax prices. (transitory tax price = current tax price − permanent tax price)

[b] Measures the effect of permanent tax price changes, holding the transitory tax price constant.

[c] Uses part of withholding rate orthogonal to the foreign statutory and country mean average tax rates.

THE DISTRIBUTION AND DIVISION OF BEQUESTS: EVIDENCE FROM THE COLLATION STUDY

by

David Joulfaian*
U.S. Department of the Treasury

OTA Paper 71 **August 1994**

OTA Papers and Briefs are circulated so that the preliminary findings of tax research conducted by staff members and others associated with the Office of Tax Analysis may reach a wider audience. The views expressed are those of the authors, and do not reflect Treasury policy. Comments are invited, but OTA Papers and Briefs should not be quoted without permission from the authors. Additional copies of this publication may be purchased from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161

Office of Tax Analysis
U.S. Treasury Department
Washington, DC 20220

*** Financial Economist, Office of Tax Analysis.** **Lowell Dworin, Bill Gale, Dan Feenberg, Barry Johnson, James Poterba, and participants at OTA seminar, ASSA 1992 meetings in New Orleans, and the Tax Economist Forum in Washington, DC, provided valuable comments.**

THE DISTRIBUTION AND DIVISION OF BEQUESTS: EVIDENCE FROM THE COLLATION STUDY

Abstract

This paper describes the pattern of the distribution and division of bequests in the US. Employing a national sample of federal estate tax records for decedents in 1982 with gross estates in excess of $300,000, along with the matched income tax records of the heirs, it provides a snapshot of the composition of terminal wealth, its disposition, and the characteristics of the heirs.

The results show that (1) charitable bequests, estate taxes, and other expenses account for 22 percent of net worth, or 34.6 percent of net worth less spousal transfers, (2) spousal transfers account for one-half the distributable estate (net worth less charitable bequests, taxes, and other expenses), and transfers to children for 24 percent, (3) children receive equal inheritances in 63 percent of the estates, (4) the average inheritance is about 3 times the income of the child heir, and (5) that wealthy parents are more likely to have children with high income. About 35 percent of the children of the wealthiest decedents reported income in excess of $200,000 compared to less than 0.8 percent of those of the least wealthy.

THE DISTRIBUTION AND DIVISION OF BEQUESTS: EVIDENCE FROM THE COLLATION STUDY

I. Introduction

The pattern of intergenerational transfers and its motivation have attracted considerable attention in recent years. Much of this is due to the recognition of the potential effects of the flow of bequests on the transmission of inequality in the distribution of income and wealth as well as its impact on wealth accumulation and savings.[1] With over one hundred billion dollars in annual transfers, these flows may have significant implications for public policies related to income and wealth redistribution, national savings, and the role of transfer taxes.

Despite several studies in recent years,[2] little is known about the pattern of bequests in the U.S. The purpose of this paper is to provide estimates on the distribution of terminal wealth and the division of bequests for top wealth holders in the U.S. To accomplish this, the paper uses data prepared by the Statistics of Income Division (SOI) of the Internal Revenue Service for the Collation Study (CS). The data consist of a national sample of estate tax records of decedents in 1982 along with their income tax returns for the years 1980 through 1982. The data also contain income tax records for the heirs for the years 1980 through 1982, as well as for 1985.

The paper is organized as follows. Section II describes the samples of estate and income tax records in the collation study (CS). It provides summary statistics on the asset holdings, estate expenses, age and marital status for some 8,500 decedents. It also notes the number of income tax returns filed for decedents (about 8,000) and non-spouse heirs (16,500) disaggregated by the size of the decedent's gross estate.

---

[1] See Gale and Scholz (1992), and Kotlikoff and Summers (1981).

[2] See Menchik (1980, 1988) and Tomes (1988).

Section III describes the population of estate tax decedents. It provides information similar to that reported in Section II but weighted to the decedent population. The results show that death taxes represent about 13 percent of net worth. When measured relative to intergenerational transfers, however, the effective tax rate is about 24 percent, and ranges from 6 percent for the least wealthy to about 57 percent for estates in excess of $10 million. Overall, estate taxes, charitable bequests, and other expenses represent about 22 percent of net worth.

Section IV provides statistics on the size of bequests by type of relationship between the heir and the decedent. The section reports the number of heirs and the amount of inheritance for each of eleven categories of beneficiaries. The results show that spousal bequests account for 38 percent of wealth (net worth), children for 18.7 percent, trusts for 9 percent, siblings for 3 percent, nieces and nephews for 3.2 percent, 2.5 percent for grandchildren, with the remaining 3.6 percent distributed to parents, aunts and uncles, among others.

Section V provides statistics on the relative frequency of unequal division of bequests to children. The number of estates and the amount of bequests, are reported by the size of the coefficient of variation on bequests and by the size of gross estate of the parent. Overall, the results for multi-child families show that about 63 percent of the estates divide bequests equally.[3] The section also reports mixed results on the division of bequests when the number of children vary. About 67 percent of the estates with two-children report equal divisions, 63 percent for three children, 56 percent for four children, and 65 percent for five children.

Section VI provides statistics on the pre-inheritance income of children and inheritance received. The results show that the average inheritance is about three times as large as the income of the child recipient. This multiple of income ranges from 21 for heirs with positive income under $10,000, to 0.75 for those with income of at least

---

[3] Equal division is defined as having a CV of under 0.001 percent.

$200,000. The results also show that wealthy parents are more likely to have children with high income. About 35 percent of the children of the wealthiest decedents reported income in excess of $200,000 compared to less than 0.8 percent of those of the least wealthy. A concluding comment is provided in section VII.

II. The Collation Data

The data in the collation study (CS) is drawn from the Internal Revenue Service estate tax records for decedents in 1982. Decedents whose estates are required to file estate tax returns represent about 3 percent of all decedents in 1982. Nevertheless, using the estate multiplier technique, the net worth of these decedents is representative of individuals who control about one third of the total U.S. net worth.[4] As such, although the collation data consists of only a small percentage of individuals, it provides information representative of a large percentage of wealth holdings.

The CS data set is based on a 1% random sample of estate tax returns filed during 1982 and 1983 for decedents in 1982. Returns with total assets over $1 million were selected at a sampling rate of 100 percent. Tables 1A and 1B provide a detailed profile of the wealth holdings of individuals in the sample. The tables show the number of individuals and the amounts held in each of 13 asset categories by size of gross estate. The sample consists of some 8,500 estates with assets of $300,000 or more.[5] The mean age of the decedents is 75 years. In total, their estates hold $21.28 billion in assets, have a net worth of $19.87 billion, and are subject to estate taxes of $3.5 billion ($2.97 federal). Charitable bequests account for $1.96 billion and spousal bequests account for $7.76 billion.

---

[4] See Schwartz (1988).

[5] The filing threshold was $225,000 in 1982. The $300,000 limit is the sampling threshold used by SOI.

In addition to estate tax records, the CS data also contain income tax records for decedents as well as heirs. Table 1C reports the number of income tax returns successfully matched against the estate tax returns of decedents. The number of matched returns are 7,871, 8,015, and 7,651 for the years 1980 through 1982, respectively. Unsuccessful matches resulted in an average loss of about 8 percent of the original sample. This can be attributable to late filing of income tax returns as well as the ever-present technical difficulties of matching a sample of this size against the records of over 100 million individuals.

As for heirs, the number of matched income tax returns is 16,534, 16,585, and 16,063 for each of the years 1980 through 1982, respectively, and 15,444 for 1985, the post-inheritance year.[6] These matches are far less than the 35,128 heirs reported in the sample of estate tax returns (see Section III). The gap can be attributed to several factors in addition to those noted for the decedents' returns. First, many estates did not provide social security numbers for some or all of the heirs. Some heirs are minors or aliens and did not have social security numbers. Some tax preparers provided partial listing of social security numbers or none at all. Second, beneficiaries reported on estate tax records represent individuals and not family units. A married couple filing a joint tax return, for instance, may show-up as two heirs on the estate tax return.

III. The Population of Estate Tax Decedents:

Tables 2A and 2B provide information similar to that in tables 1A and 1B but weighted to the population of estate tax filers. Table 2A shows that about 32,500 decedents have gross estates between $300,000 and $500,000 and 218 decedents have gross estates over $10 million. Cash is held by over 82 percent, followed by real estate

---

[6] Several hundred returns, filed late, are also available for the years 1978, 1979, 1983, and 1984.

(70 percent) and corporate stock (66 percent). Fewer than 60 percent of the decedents held life insurance policies. The average decedent was 74 years old, with the wealthiest group slightly older with a mean age of 76. About half of the decedents (29,822) were married. Twenty percent (9,334) of the returns reported charitable bequests, with about half of the wealthiest compared to 13 percent of the least wealthy giving.

Table 2B shows that estate tax decedents in 1982 had total gross estates of $48.6 billion and net worth of $45.9 billion. The largest asset holding is corporate stock ($11.9 billion) followed closely by real estate ($10.5 billion). Estate expenses, such as those for funeral, attorney, and others, are about $1.5 billion. They account for 3.3 percent of net worth, and range from 3.7 percent for the least wealthy to 2.7 percent for the wealthiest. Total charitable bequests were $2.7 billion, 5.9 percent of net worth, with the wealthiest giving about 21.9 percent of their wealth and the least wealthy 2 percent.

The federal and state estate or inheritance tax liability was $5.9 billion.[7] Taxes represent about 12.9 percent of net worth, and range from 5.7 percent for the least wealthy to a high of 16.4 percent. The tax liability as percent of net worth less estate expenses, charitable and spousal bequests, essentially the effective tax rate on intergenerational transfers, is about 23.6 percent and ranges from a low of 9.4 percent to 56.8 percent for the wealthiest estates.[8] Differences in these effective tax rates

---

[7] The federal estate tax liability was $5.1 billion. An additional $0.8 billion in taxes were paid to the states which were fully offset by a federal tax credit.

[8] The marginal tax rates are:

Net Worth ($000)	Tax Rate (return-weighted)
300- 500	29.2
500- 1,000	37.9
1,000- 2,500	42.4
2,500-10,000	56.1
10,000 or over	62.2

reflect the tax treatment of spousal transfers. Such transfers are accorded an unlimited deduction but become fully taxable in the estate of the surviving spouse.

Charitable bequests, taxes, and estate expenses accounted for about 22 percent of net worth. These expenses range from a low of 11.6 percent for those with gross estates between $300,000 and $500,000 to a high of 41 percent for those with gross estates over $10 million. Such expenses account for 34.6 percent of terminal wealth net of spousal transfers, and range from 17.3 percent for the least wealthy to 76 percent for the wealthiest estates.

IV. Division of Bequest by Type of Relationship:

For each heir, the amount of inheritance and the relationship to the decedent is reported on the estate tax return (Form 706, page 3). The CS data classifies heirs along eleven categories of relationships. These are: (1) spouse, (2) son, (3) daughter, (4) grandchild, (5) sibling, (6) niece or nephew, (7) aunt or uncle, (8) parent, (9) other, (10) estate or trust, and (11) not ascertainable. Category 9 includes sons-and daughters-in-law, great grandchildren, cousins, as well as unrelated individuals. Estates or trusts (category 10) includes bequests not immediately distributed to heirs. Spousal trusts are classified under spousal bequests regardless of the relationship of the remainderman to the decedent.

Tables 3A and 3B provide a breakdown of bequests and number of heirs by type of relationship to and size of the estate of the decedent. The number of beneficiaries reported on the estate tax returns in the sample is 44,230, or 35,128 if spouses and trust beneficiaries are excluded. These include 9,481 children (4,674 sons and 4,807

These tax rates are computed for widowed and single decedents only. The estates of married decedents are excluded as their assets will pass through the estates of their surviving spouses (widows and widowers).

daughters), 5,547 grandchildren, 1,794 siblings, 5,428 nieces and nephews, 137 parents, aunts, and uncles, and 12,741 others. Interestingly, children represent less than 30 percent of the 35,128 beneficiaries in the sample.

When weighed to the estate tax filing population, and as shown in Tables 3C and 3D, the total number of beneficiaries is estimated to be 237,064, with $34.2 billion in total bequests.[9] The results for the estate tax filing population show that, after payment of estate taxes and charitable bequests,[10] about one-half of the distributable estate, or $16.7 billion, is bequeathed to surviving spouses, 24 percent to children, 11.5 percent to trusts, 3.8 percent to siblings, 4.1 percent to nieces and nephews, 3.2 percent to grandchildren, with the remaining 4.6 percent distributed to parents, aunts and uncles, among others.[11]

Table 3E shows that, on average, a child received an average inheritance equal to 22 percent of that received by the surviving spouse, or about $122,000 ($113,910 for sons and $130,242 for daughters). There are 33,010 sons and 34,020 daughters with total inheritances of $3.76 billion and $4.43 billion respectively. Grandchildren, 32,478 of them with $1.08 billion in inheritances, received much smaller inheritances or about 25% of the average child inheritance.

Siblings, with 14,012 heirs, inherited $1.28 billion, with an average inheritance of $91,649 or about 75% of the average child. Nieces and nephews, with 29,576

---

[9] Bequests are about $35.7 billion when constructed from estate tax information. The difference is in part due to differences in asset valuation.

[10] Estate taxes, charitable bequests, and other expenses are $5.9 billion ($5.1 federal), $2.7 billion, and $1.5 billion, respectively. Combined, they account for about 22 percent of terminal wealth.

[11] As a share of terminal wealth, spousal bequests account for 38.1 percent of wealth, children 18.7 percent, trusts 9.0 percent, siblings 3.0 percent, nieces and nephews 3.2 percent, grandchildren 2.5 percent, and parents, aunts, among others, account for the remaining 3.6 percent.

beneficiaries, inherited $1.4 billion or an average of $46,982. Bequests to the older generation seldom occurred. Only 42 aunts and uncles were reported with an average inheritance of $62,138. Parents, with 885 beneficiaries, inherited much more. The average inheritance is $127,581 slightly higher than that of the average child.

Other relations include 41,500 individuals with $1.3 billion inheritance or an average of $31,290. These include great grandchildren, in-laws, and friends, among others. Bequests to trusts and estates -- 16,499 of them -- are about $3.49 billion for an average transfer of $239,242. Note that these transfers exclude the surviving spouse's share. As stated earlier, spousal trusts are reported as bequests to spouse.

V. The Bequest division among children:

Evidence on the bequest division is reported on Tables 4A through 10B. As was stated earlier, the estate tax return provides information on the heirs and the size of inheritance. As such, information on disinherited children are not reported on estate tax records. Given that "disinherited" children are not captured in the CS data, one can measure the degree of unequal division of bequests for the heirs only. Consequently, measures of unequal division measured from the CS data should be viewed as providing an upper (lower) bound on the frequency of equal (unequal) division of bequests.[12]

Of the 60,000 estate tax returns filed for the 1982 decedents, some 20,000 reported multi-child heirs. Tables 4A and 4B summarize the extent of equal division among children. The table divides estates into 9 classes of within family coefficients of variation (CVs), ranging from equal division to cases with CV's over 50 percent. These tables shows the number of estates, total and average bequests broken down by size of estate and CV.

---

[12] One estate, for instance, reported a single heir to the entire estate. The will, however, showed that the decedent had 6 children with a single heir.

The top panel of Table 4A shows that of a total of 20,178 estates, 12,614, or 63 percent of the total as shown in the top panel of Table 4B, reported equal bequest divisions.[13] In contrast, 21 percent reported CV's in excess of 20 percent. With the exception of estates under $500,000, the relative frequency of equal division declines with the size of the estate.

It is a possible that the above reported results could be misleading to the extent that some children have a portion, if not all, of their inheritances held in trust, rather than received a direct transfers. Since transfers to trusts are reported as such and the relationship to the heir is not reported, the findings on the division of bequests can be misleading. To evaluate the extent of bias that the presence of trusts introduces, Tables 4A-B were re-estimated by excluding all estates reporting any trust transfers and the results reported in Tables 5A and 5B. Comparing the division of bequest in tables 4A-B and 5A-B suggests that the presence of trusts does not necessarily yield biased aggregate estimates for the division of bequests. The results show that less than two-thirds of estates divide equally. Of course, we still remain ignorant of the true division of bequests when trusts are present.

In addition to trusts, a second concern involves estates with spousal transfers. Surviving spouses receive the bulk of the terminal wealth for some estates. Consequently, it is possible that equal division of the estate may have to be postponed until the death of the surviving parent. To test for this potential bias, estates with spousal transfers, in addition to those with trusts, were excluded. Tables 6A and 6B provides information on the bequest division for the estates of widowed decedents with no trust beneficiaries. Again, the results are consistent with those in Tables 4A-B and 5A-B. About 63 percent of the estates provide for equal divisions of bequests.

Tables 4A-B through 6A-B show the probability of unequal division to rise with the size of gross estate. Estates with assets under $500,000 are the exception.

---

[13] Note that equal division is defined as having CV's under 0.001 percent.

However, if equal division were to be defined as having a CV of under 1 percent, then the size of the estate would seem to have a lesser effect on the pattern of bequest division. In addition, if one were interested in the distributions of bequests (dollars) than the relative frequency of estates by CV, than a slightly different picture emerges with the disparities becoming much smaller.

Another interesting question is whether the bequest division varies with the number of children. Tables 7A-B replicate Tables 4A-B for two-child parents.[14] Tables 8A-B through 10A-B also provide similar statistics for three to five child estates. The results, reported in tables 8A through 10B, show that 67 percent of the two-child estates divide equally, 63 percent for the three child, 56 for the four-child, and, interestingly, 65 percent for five-child estate.

The above results are subject to several caveats. First, and as noted earlier, they do not account for disinherited children. Second, the estate division may not necessarily reflect the parent's will as much as the heirs' choice. One will, for instance, provided for equal division but deferred to the children on alternative ways of dividing personal property which they did. This is likely to lead to an overstatement of the frequency of unequal division, especially among the less wealthy. Third, the inheritances of the son-and-daughter-in-laws, as well as grandchildren, are not added to the children's inheritances.

VI. Heir's Income and the Size of Inheritance:

Using the matched beneficiary income tax records and parents estate tax returns, this section provides estimates of the distribution of inheritance received by size of the pre-inheritance income of the children. Tables 11A through 11D provide summary

---

[14] Recall that these do not include disinherited children.

statistics on the adjusted gross income (AGI) in 1981 of the children along with the inheritance received.

Tables 11A and 11B provide sample summary statistics. The top panel of Table 11A shows the number of children by the size of their AGI and the parents gross estate. The number of matched returns in the sample is 7,830 although 8,499 heirs are reported on the estate tax return. The difference, as discussed earlier, can be attributed to the fact that many heirs need not file an income tax return, as well as other factors. The 7,830 individuals have combined AGI of about $672 million, and inheritances of about $1.94 billion.

Tables 11C and 11D provide summary statistics weighted to the estate tax filing population.[15] The results in Table 11C show that 54,000 children received inheritances from estate tax decedents in 1982. Their total AGI in 1981 was about $2.57 billion and the inheritance received is $8.29 billion, or three times their income. The top panel shows that wealthy parents are more likely to have high income children. Less than one percent (0.0077) of the children of the least wealthy, or 220 out of 28483 individuals, have incomes in excess of $200,000. In contrast, 34.9 percent of the children of the wealthiest parents, or 84 out of 241 observations, have incomes in excess of $200,000. The reverse pattern is observed for children with positive income under $10,000. About 12 percent (3,409 out of 28,483) of the children of the least wealthy compared to 5 percent of those of the wealthiest fall in this income group.

The top two panels of Table 11D report mean values for AGI and inheritance received. The average AGI is $47,433, and ranges from a positive AGI mean of $5,376 to a high of $352,427. In addition, the average income of children rises with the wealth of the parent. The average income of children of the least wealthy group is $34,960 compared to $271,254 for the wealthiest group. This pattern is probably

---

[15] To account for attrition, the matched sample was post-stratified and new weights were computed.

due to greater human capital transfers to children of the wealthiest group, with little should be attributed to inter-vivos gift.[16]

In contrast to AGI, the mean inheritance seems to be invariant to the size of income of the heirs. The average inheritance ranges from about $115,000 in the lowest positive AGI class to $265,000 in the top AGI class, and from $131,000 for the heirs of the least wealthy to about $630,000 for the heirs of the wealthiest. On average, the inheritance received is about three fold the average income. This multiple ranges from a high of 21 in the lowest positive AGI class to a low of 0.75 times the average income in the top bracket, partially reflecting income mobility.[17]

Since the pattern of bequests, as well as the size of terminal wealth, is likely to vary by the marital status of the decedent (married or surviving spouse), Tables 11C-D are replicated in Tables 11E-F for widowed or widowered decedents and Tables 11G-H for married decedents. The top panel of Table 11F for widowed (and widowered) decedents shows that the average child AGI is $48,410, slightly higher than the average of $47,433 for all children reported in Table 11D. In contrast, the average inheritance of $173,985, shown in the middle panel of Table 11F, is considerable higher than the average of $152,909 reported in Table 11D. The average inheritance is about 3.6 times the average income of a child, where the multiple ranges from a high of 29.2 fold for the lowest income heirs to 0.88 for the highest income heirs.

In contrast to the results in Table 11F, the top panel of Table 11H for the children of married decedents shows an average AGI of $46,570, slightly lower than the average of $47,433 for all children reported in Table 11D. In addition, the average inheritance of $133,747 shown in the middle panel of Table 11H, is considerable lower

---

[16] Tables 2A and 2B show $294 million in post-1977 cumulative taxable gifts compared to terminal net worth of $45.9 billion in 1982.

[17] Note these statistics do not account for age differences nor do they control for between/within group (siblings) variations.

than the average of $152,909 reported in Table 11D. The average inheritance is 2.87 times the average income is 2.87, and this multiple ranges from a high of 13.9 to 0.63.

VII. Conclusion:

Using the 1982 Collation Study data, this paper provided detailed evidence on the pattern of distribution and division of bequests for top wealth holders in the U.S. The CS data is unique in that it contains information from estate tax returns for decedents, along with their income tax returns and the returns of the heirs.

The paper described the composition of terminal wealth and its disposition. The data show that estate taxes, charitable bequests, and other death expenses represent about 22 percent of net worth. Second, it provided information on the relative size of inheritance for eleven categories of beneficiaries. After payment of estate taxes, charitable bequests, and other death expenses, about one-half of the distributable estate, or $16.7 billion, is bequeathed to surviving spouses, 24 percent to children, 11.5 percent to trusts, 3.8 percent to siblings, 4.1 percent to nieces and nephews, 3.2 percent to grandchildren, with the remaining 4.6 percent distributed to parents, aunts and uncles, among others.

Third, it provided evidence on the relative frequency of equal division of bequest for multi-child estates. The evidence shows that 63 percent of the estates divide bequests equally. Fourth, it compared inheritance received to the pre-inheritance income of the children. The results show that the average inheritance is about three times the size of the average AGI. The results also show that wealthy parents are more likely to have children with high income. About 35 percent of the children of the wealthiest decedents reported income in excess of $200,000 compared to less than 0.8 percent of those of the least wealthy.

References

Gale, W. and K. Scholz, "Intergenerational Transfers and the Accumulation of Wealth," mimeo, 1992.

Kotlikoff, L. and L. Summers, "The Role of Intergenerational Transfers in Aggregate Capital Accumulation," *Journal of Political Economy* 89, 1981, 706-32.

Menchik, Paul L. (1988). "Unequal Estate Division: Is it Altruism, Reverse Bequests, or Simply Noise?" in Kessler, D. and A. Masson (eds.), Modeling the Accumulation and Distribution of Wealth, Oxford: Clarendon Press, pp. 105-116.

Menchik, Paul L. (1980). "Primogeniture, Equal Sharing, and the U.S. Distribution of Wealth," *Quarterly Journal of Economics*, March, pp. 299-316.

Shwartz, Marvin (1988). "Estimates of Personal Wealth, 1982: A Second Look," *SOI Bulletin*, Volume 7, Number 4, Spring, pp. 31-46.

Tomes, Nigel (1988). "Inheritance and Inequality within the Family: Equal Division among Unequals, or do the Poor Get More?", in Kessler, D. and A. Masson (eds.), Modeling the Accumulation and Distribution of Wealth, Oxford: Clarendon Press, pp. 79-104.

TABLE 1A

NUMBER OF ESTATES BY SIZE OF ESTATE -- SAMPLE

GROSS ESTATE	REAL---- ESTATE--	STATE--- LOCAL--- BONDS---	FEDERAL- SAVINGS- BONDS---	OTHER--- FEDERAL- BONDS---	CORPORAT BONDS---	CORPORAT STOCKS--	CASH----	NOTES--- MORTGAGE	LIFE---- INSURANC	POLICY-- LOANS---
300000. -$ 500000.	170.	40.	40.	39.	35.	153.	211.	73.	166.	14.
500000. -$1000000.	129.	51.	36.	31.	31.	129.	147.	57.	93.	13.
1000000. -$2500000.	5151.	2644.	940.	1642.	1731.	5291.	6064.	2822.	3493.	697.
2500000. -$10000000	1436.	866.	202.	496.	487.	1469.	1646.	871.	943.	241.
10000000 -$********	164.	114.	24.	65.	62.	176.	187.	116.	100.	17.
TOTAL	7050.	3715.	1242.	2273.	2346.	7218.	8255.	3939.	4795.	982.

GROSS ESTATE	NONCORPO ASSETS--	ANNUITIE PENSIONS	OTHER--- ASSETS--	LIFETIME GIFTS---	GROSS--- ESTATE--	FUNERAL- EXPENSES	EXECUTOR COMMISSI	ATTORNEY FEES----	OTHER--- EXPENSES	DEBTS---
300000. -$ 500000.	51.	19.	188.	25.	298.	271.	73.	156.	175.	238.
500000. -$1000000.	39.	21.	143.	23.	155.	144.	54.	99.	110.	137.
1000000. -$2500000.	2161.	903.	5810.	1468.	6194.	5890.	2587.	3918.	4583.	5661.
2500000. -$10000000	700.	234.	1607.	538.	1671.	1598.	818.	1125.	1289.	1570.
10000000 -$********	99.	26.	184.	81.	191.	181.	107.	134.	154.	181.
TOTAL	3050.	1203.	7932.	2135.	8509.	8084.	3639.	5432.	6311.	7787.

GROSS ESTATE	CHARITAB BEQUESTS	SPOUSAL- BEQUEST-	ESTATE-- TAX----- FEDERAL	OTHER--- TAXES---	NOT INC- INSURANC	JOINTLY- HELD---- ASSETS--	COMMUNIT PROPERTY	NET----- WORTH---	TAXABLE- GIFTS---	--------
300000. -$ 500000.	36.	145.	157.	156.	11.	168.	23.	298.	8.	0.
500000. -$1000000.	25.	76.	105.	108.	12.	74.	22.	155.	13.	0.
1000000. -$2500000.	1519.	3395.	4230.	4490.	1011.	3244.	678.	6194.	676.	0.
2500000. -$10000000	570.	956.	1263.	1315.	362.	799.	213.	1671.	364.	0.
10000000 -$********	96.	114.	168.	169.	51.	86.	26.	191.	76.	0.
TOTAL	2246.	4686.	5923.	6238.	1447.	4371.	962.	8509.	1137.	0.

TABLE 1B

SAMPLE MEANS FOR WEALTH VARIABLES BY SIZE OF ESTATE

GROSS ESTATE	REAL---- ESTATE--	STATE--- LOCAL--- BONDS---	FEDERAL- SAVINGS- BONDS---	OTHER--- FEDERAL- BONDS---	CORPORAT BONDS---	CORPORAT STOCKS--	CASH----	NOTES--- MORTGAGE	LIFE---- INSURANC	POLICY-- LOANS---
300000. -$ 500000.	155716.	35249.	29094.	70806.	22318.	84729.	85723.	61253.	30383.	12473.
500000. -$1000000.	211507.	97356.	37734.	119671.	21505.	176302.	123637.	69668.	55502.	19339.
1000000. -$2500000.	415154.	187482.	49919.	190761.	48302.	491424.	150878.	133911.	93823.	27593.
2500000. -$10000000	895341.	569676.	94226.	483604.	97955.	1564324.	270926.	285954.	136723.	48282.
10000000 -$********	3046377.	3232344.	169048.	2648385.	439124.	11458691.	1168214.	1037907.	233750.	85415.
TOTAL	564189.	367134.	58403.	321916.	68196.	962947.	195710.	191877.	102239.	33347.

GROSS ESTATE	NONCORPO ASSETS--	ANNUITIE PENSIONS	OTHER--- ASSETS--	LIFETIME GIFTS---	GROSS--- ESTATE--	FUNERAL- EXPENSES	EXECUTOR COMMISSI	ATTORNEY FEES----	OTHER--- EXPENSES	DEBTS---
300000. -$ 500000.	43095.	51353.	12740.	210582.	380399.	5979.	9043.	7663.	3321.	22281.
500000. -$1000000.	92535.	61198.	26873.	397507.	681697.	4010.	17084.	13006.	4272.	36401.
1000000. -$2500000.	159970.	93974.	65153.	710729.	1474295.	4664.	33432.	26257.	12051.	104143.
2500000. -$10000000	483188.	159902.	223216.	1870791.	4151279.	5794.	89709.	65333.	41899.	348999.
10000000 -$********	3010794.	91928.	2943847.	8627056.	26125366.	8103.	482635.	270481.	261951.	1414864.
TOTAL	323870.	105508.	162021.	1294161.	2500592.	4997.	58559.	39599.	23868.	180283.

GROSS ESTATE	CHARITAB BEQUESTS	SPOUSAL- BEQUEST-	ESTATE-- TAX----- FEDERAL-	OTHER--- TAXES---	NOT INC- INSURANC	JOINTLY- HELD---- ASSETS--	COMMUNIT PROPERTY	NET----- WORTH---	TAXABLE- GIFTS---	DECEDENT AGE-----
300000. -$ 500000.	64744.	245724.	34644.	4936.	84463.	123931.	632427.	362603.	48586.	74.
500000. -$1000000.	85190.	447516.	94017.	11677.	128831.	143086.	1049387.	649523.	72600.	74.
1000000. -$2500000.	264737.	905999.	278584.	38058.	169217.	180644.	2108027.	1379181.	77526.	75.
2500000. -$10000000	908227.	2521954.	909738.	153877.	337970.	230191.	5118727.	3823373.	136532.	75.
10000000 -$********	10805171.	19299988.	3743062.	868710.	686538.	642013.	18996178.	24784586.	288982.	76.
TOTAL	873367.	1655292.	501698.	83692.	228689.	195963.	3171584.	2335655.	110290.	75.

TABLE 1C

NUMBER OF INCOME TAX RETURNS BY SIZE OF ESTATE -- SAMPLE

GROSS ESTATE	DECEDENT 1980----	DECEDENT 1981----	DECEDENT 1982----
300000. -$ 500000.	276.	274.	245.
500000. -$1000000.	146.	145.	136.
1000000. -$2500000.	5716.	5831.	5566.
2500000. -$10000000	1552.	1582.	1526.
10000000 -$********	181.	183.	178.
TOTAL	7871.	8015.	7651.

GROSS ESTATE	BENEFIC- 1980----	BENEFIC- 1981----	BENEFIC- 1982----	BENEFIC- 1985----
300000. -$ 500000.	442.	443.	442.	429.
500000. -$1000000.	223.	225.	215.	214.
1000000. -$2500000.	11542.	11561.	11219.	10724.
2500000. -$10000000	3713.	3740.	3596.	3537.
10000000 -$********	614.	616.	591.	540.
TOTAL	16534.	16585.	16063.	15444.

TABLE 2A

NUMBER OF ESTATES BY SIZE OF ESTATE -- WEIGHTED

GROSS ESTATE	REAL---- ESTATE--	STATE--- LOCAL--- BONDS---	FEDERAL- SAVINGS- BONDS---	OTHER--- FEDERAL- BONDS---	CORPORAT BONDS---	CORPORAT STOCKS--	CASH---	NOTES &- MORTGAGE	LIFE---- INSURANC	POLICY-- LOANS---
300000. -$ 500000	18562.	4368.	4368.	4258.	3822.	16706.	23039.	7971.	18125.	1529.
500000. -$1000000	15318.	6056.	4275.	3681.	3681.	15318.	17455.	6768.	11043.	1544.
1000000. -$2500000	5686.	2918.	1038.	1812.	1911.	5840.	6694.	3115.	3856.	769.
2500000. -$10000000	1634.	985.	230.	564.	554.	1671.	1873.	991.	1073.	274.
10000000 -$********	187.	130.	27.	74.	71.	201.	213.	132.	114.	19.
TOTAL	41386.	14457.	9937.	10390.	10038.	39736.	49273.	18977.	34211.	4135.

GROSS ESTATE	NONCORPO ASSETS--	ANNUITIE PENSIONS	OTHER--- ASSETS--	LIFETIME TRANSFER	GROSS--- ESTATE--	FUNERAL- EXPENSES	EXECUTOR COMMISSI	ATTORNEY FEES----	OTHER--- EXPENSES	DEBTS---
300000. - $500000.	5569.	2075.	20527.	2730.	32538.	29590.	7971.	17033.	19108.	25987.
500000. -$1000000.	4631.	2494.	16980.	2731.	18405.	17099.	6412.	11755.	13062.	16268.
1000000. -$2500000.	2385.	997.	6413.	1620.	6837.	6501.	2856.	4325.	5059.	6249.
2500000. -$10000000	796.	266.	1828.	612.	1901.	1818.	931.	1280.	1466.	1786.
10000000 -$********	113.	30.	210.	92.	218.	207.	122.	153.	176.	207.
TOTAL	13494.	5861.	45959.	7786.	59899.	55215.	18291.	34546.	38870.	50496.

GROSS ESTATE	CHARITAB BEQUESTS	SPOUSAL- BEQUEST-	ESTATE-- TAX----- FEDERAL-	OTHER--- TAXES---	NOT INC- INSURANC	JOINTLY- HELD---- ASSETS--	COMMUNIT PROPERTY	NET----- WORTH---	TAXABLE- GIFTS---	--------
300000. - $500000.	3931.	15832.	17143.	17033.	1201.	18344.	2511.	32538.	874.	0.
500000. -$1000000.	2969.	9024.	12468.	12824.	1425.	8787.	2612.	18405.	1544.	0.
1000000. -$2500000.	1677.	3747.	4669.	4957.	1116.	3581.	748.	6837.	746.	0.
2500000. -$10000000	648.	1088.	1437.	1496.	412.	909.	242.	1901.	414.	0.
10000000 -$********	110.	130.	192.	193.	58.	98.	30.	218.	87.	0.
TOTAL	9334	29822.	35908.	36504.	4212.	31718.	6144.	59899.	3664.	0.

TABLE 2B

TOTALS FOR WEALTH VARIABLES BY SIZE ESTATE (in $millions except for age) -- WEIGHTED

GROSS ESTATE	REAL ESTATE	STATE LOCAL BONDS	FEDERAL SAVINGS BONDS	OTHER FEDERAL BONDS	CORPORAT BONDS	CORPORAT STOCKS	CASH	NOTES & MORTGAGE	LIFE INSURANC	POLICY LOANS
300000. - $500000.	2890.	154.	127.	302.	85.	1415.	1975.	488.	551.	19.
500000. -$1000000.	3240.	590.	161.	441.	79.	2701.	2158.	472.	613.	30.
1000000. -$2500000.	2360.	547.	52.	346.	92.	2870.	1010.	417.	362.	21.
2500000. -$10000000	1463.	561.	22.	273.	54.	2614.	507.	283.	147.	13.
10000000 -$********	570.	421.	5.	196.	31.	2302.	249.	137.	27.	2.
TOTAL	10524.	2273.	366.	1557.	342.	11902.	5900.	1798.	1699.	85.

GROSS ESTATE	NONCORPO ASSETS	ANNUITIE PENSIONS	OTHER ASSETS	LIFETIME TRANSFER	GROSS ESTATE	FUNERAL EXPENSES	EXECUTOR COMMISSI	ATTORNEY FEES	OTHER EXPENSES	DEBTS
300000. - $500000.	240.	107.	262.	575.	12377.	177.	72.	131.	63.	579.
500000. -$1000000.	429.	153.	456.	1086.	12547.	69.	110.	153.	56.	592.
1000000. -$2500000.	382.	94.	418.	1152.	10080.	30.	95.	114.	61.	651.
2500000. -$10000000	385.	43.	408.	1145.	7892.	11.	83.	84.	61.	623.
10000000 -$********	340.	3.	618.	798.	5695.	2.	59.	41.	46.	292.
TOTAL	1775.	398.	2162.	4755.	48591.	288.	420.	522.	288.	2738.

GROSS ESTATE	CHARITAB BEQUESTS	SPOUSAL- BEQUEST-	ESTATE TAX FEDERAL	OTHER TAXES	NOT INC- INSURANC	JOINTLY- HELD ASSETS	COMMUNIT PROPERTY	NET WORTH	TAXABLE- GIFTS	DECEDENT AGE
300000. - $500000.	254.	3890.	594.	84.	101.	2273.	1588.	11798.	42.	74.
500000. -$1000000.	253.	4039.	1172.	150.	184.	1257.	2741.	11954.	112.	74.
1000000. -$2500000.	444.	3395.	1301.	189.	189.	647.	1578.	9429.	58.	75.
2500000. -$10000000	589.	2743.	1307.	230.	139.	209.	1240.	7268.	57.	75.
10000000 -$********	1184.	2511.	718.	168.	40.	63.	564.	5403.	25.	76.
TOTAL	2724.	16578.	5092.	820.	653.	4450.	7711.	45854.	294.	74.

TABLE 3A

NUMBER OF HEIRS BY TYPE OF RELATION AND SIZE OF ESTATE -- SAMPLE

GROSS ESTATE	BEQUEST SPOUSE- COUNT--	BEQUEST SON---- COUNT--	BEQUEST DAUGHTE COUNT--	BEQUEST GRANDCH COUNT--	BEQUEST SIBLING COUNT--	BEQUEST NIECE&N COUNT--	BEQUEST AUNT&UN COUNT--	BEQUEST PARENT- COUNT--	BEQUEST OTHER-- COUNT--	BEQUEST TRUST&E COUNT--
300000. -$ 500000.	146.	167.	163.	116.	72.	171.	0.	5.	154.	43.
500000. -$1000000.	77.	83.	94.	117.	36.	43.	0.	2.	99.	59.
1000000. -$2500000.	3405.	3346.	3423.	3750.	1257.	3934.	29.	79.	7775.	2858.
2500000. -$10000000	956.	952.	1009.	1347.	400.	1145.	8.	10.	3117.	1235.
10000000 -$********	114.	126.	118.	217.	29.	135.	1.	3.	702.	209.
TOTAL	4698.	4674.	4807.	5547.	1794.	5428.	38.	99.	11847.	4404.

GROSS ESTATE	BEQUEST NA----- COUNT--	BEQUEST TOTAL-- COUNT--
300000. -$ 500000.	26.	1063.
500000. -$1000000.	10.	620.
1000000. -$2500000.	650.	30506.
2500000. -$10000000	155.	10334.
10000000 -$********	53.	1707.
TOTAL	894.	44230.

TABLE 3B

AVERAGE INHERITANCE BY TYPE OF RELATION AND SIZE OF ESTATE -- SAMPLE

GROSS ESTATE	BEQUEST SPOUSE- AMOUNT-	BEQUEST SON--- AMOUNT-	BEQUEST DAUGHTE AMOUNT-	BEQUEST GRANDCH AMOUNT-	BEQUEST SIBLING AMOUNT-	BEQUEST NIECE&N AMOUNT-	BEQUEST AUNT&UN AMOUNT-	BEQUEST PARENT- AMOUNT-	BEQUEST OTHER-- AMOUNT-	BEQUEST TRUST&E AMOUNT-
300000. -$ 500000.	246281.	83861.	97487.	25523.	74964.	31751.	0.	58006.	21437.	165667.
500000. -$1000000.	450623.	101003.	130943.	25497.	109528.	69158.	0.	324521.	35571.	184618.
1000000. -$2500000.	906096.	200951.	202023.	48551.	113688.	67395.	74738.	146331.	35523.	302735.
2500000. -$10000000	2524250.	363965.	334979.	101588.	139675.	108377.	19342.	368505.	43300.	488242.
10000000 -$********	19299988.	690073.	641803.	204910.	161279.	63436.	50000.	552699.	76757.	985343.
TOTAL	1653745.	241380.	235791.	66579.	118614.	74832.	62425.	180226.	39830.	384230.

GROSS ESTATE	BEQUEST NA----- AMOUNT-	BEQUEST TOTAL-- AMOUNT-
300000. -$ 500000.	32468.	85794.
500000. -$1000000.	18334.	129897.
1000000. -$2500000.	41556.	203940.
2500000. -$10000000	49803.	402939.
10000000 -$********	30385.	1572188.
TOTAL	41799.	299363.

TABLE 3C

NUMBER OF HEIRS BY TYPE OF RELATION AND SIZE OF ESTATE -- WEIGHTED

GROSS ESTATE	BEQUEST SPOUSE- COUNT--	BEQUEST SON---- COUNT--	BEQUEST DAUGHTE COUNT--	BEQUEST GRANDCH COUNT--	BEQUEST SIBLING COUNT--	BEQUEST NIECE&N COUNT--	BEQUEST AUNT&UN COUNT--	BEQUEST PARENT- COUNT--	BEQUEST OTHER-- COUNT--	BEQUEST TRUST&E COUNT--
300000. -$ 500000.	15941.	18234.	17798.	12666.	7862.	18671.	0.	546.	16815.	4695.
500000. -$1000000.	9143.	9856.	11162.	13893.	4275.	5106.	0.	237.	11755.	7006.
1000000. -$2500000.	3758.	3693.	3778.	4139.	1387.	4342.	32.	87.	8582.	3155.
2500000. -$10000000	1088.	1083.	1148.	1532.	455.	1303.	9.	11.	3546.	1405.
10000000 -$********	130.	144.	135.	248.	33.	154.	1.	3.	801.	239.
TOTAL	30061.	33010.	34020.	32478.	14012.	29576.	42.	885.	41500.	16499.

GROSS ESTATE	BEQUEST NA----- COUNT--	BEQUEST TOTAL-- COUNT--
300000. -$ 500000.	2839.	116067.
500000. -$1000000.	1187.	73620.
1000000. -$2500000.	717.	33673.
2500000. -$10000000	176.	11756.
10000000 -$********	60.	1948.
TOTAL	4981.	237064.

TABLE 3D

AMOUNT OF INHERITANCE BY TYPE OF RELATION AND SIZE OF ESTATE -- WEIGHTED

GROSS ESTATE	BEQUEST SPOUSE- ($000)-	BEQUEST SON--- ($000)-	BEQUEST DAUGHTE ($000)-	BEQUEST GRANDCH ($000)-	BEQUEST SIBLING ($000)-	BEQUEST NIECE&N ($000)-	BEQUEST AUNT&UN ($000)-	BEQUEST PARENT- ($000)-	BEQUEST OTHER-- ($000)-	BEQUEST TRUST&E ($000)-
300000. -$ 500000.	3926071.	1529153.	1735046.	323263.	589332.	592828.	0.	31668.	360467.	777818.
500000. -$1000000.	4120104.	995438.	1461548.	354223.	468199.	353115.	0.	77069.	418150.	1293393.
1000000. -$2500000.	3405539.	742180.	763310.	200969.	157741.	292655.	2392.	12760.	304867.	955033.
2500000. -$10000000	2745338.	394187.	384516.	155674.	63560.	141172.	176.	4192.	153543.	685974.
10000000 -$********	2511222.	99240.	86438.	50751.	5338.	9774.	57.	1892.	61501.	235048.
TOTAL	16708274.	3760200.	4430857.	1084880.	1284169.	1389544.	2625.	127581.	1298527.	3947266.

GROSS ESTATE	BEQUEST NA----- ($000)-	BEQUEST TOTAL-- ($000)-
300000. -$ 500000.	92173.	9957835.
500000. -$1000000.	21770.	9563011.
1000000. -$2500000.	29815.	6867253.
2500000. -$10000000	8782.	4737113.
10000000 -$********	1838.	3063100.
TOTAL	154379.	34188313.

TABLE 3E

AVERAGE INHERITANCE BY TYPE OF RELATION AND SIZE OF ESTATE - WEIGHTED

GROSS ESTATE	BEQUEST SPOUSE- AMOUNT-	BEQUEST SON--- AMOUNT-	BEQUEST DAUGHTE AMOUNT-	BEQUEST GRANDCH AMOUNT-	BEQUEST SIBLING AMOUNT-	BEQUEST NIECE&N AMOUNT-	BEQUEST AUNT&UN AMOUNT-	BEQUEST PARENT- AMOUNT-	BEQUEST OTHER-- AMOUNT-	BEQUEST TRUST&E AMOUNT-
300000. -$ 500000.	246281.	83861.	97487.	25523.	74964.	31751.	0.	58006.	21437.	165667.
500000. -$1000000.	450623.	101003.	130943.	25497.	109528.	69158.	0.	324521.	35571.	184618.
1000000. -$2500000.	906096.	200951.	202022.	48551.	113688.	67395.	74738.	146331.	35523.	302734.
2500000. -$10000000	2524249.	363965.	334979.	101588.	139675.	108377.	19342.	368505.	43300.	488242.
10000000 -$********	19299988.	690073.	641803.	204910.	161279.	63436.	50000.	552699.	76757.	985342.
TOTAL	555817.	113910.	130242.	33404.	91649.	46982.	62138.	144090.	31290.	239242.

GROSS ESTATE	BEQUEST NA----- AMOUNT-	BEQUEST TOTAL-- AMOUNT-
300000. -$ 500000.	32468.	85794.
500000. -$1000000.	18334.	129897.
1000000. -$2500000.	41556.	203940.
2500000. -$10000000	49803.	402939.
10000000 -$********	30385.	1572188.
TOTAL	30996.	144215.

TABLE 4A

NUMBER OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED

GROSS ESTATE	- ZERO- COUNT--	- 0-1%- COUNT--	- 1-2%- COUNT--	- 2-3%- COUNT--	- 3-5%- COUNT--	- 5-10% COUNT--	-10-20% COUNT--	-20-50% COUNT--	- 50%-- COUNT--	- ALL-- COUNT
300000. -$ 500000.	6333.	437.	218.	109.	218.	218.	437.	1310.	1529.	10810.
500000. -$1000000.	4275.	712.	0.	119.	119.	237.	0.	475.	356.	6293.
1000000. -$2500000.	1535.	211.	30.	18.	35.	62.	78.	148.	184.	2301.
2500000. -$10000000	431.	59.	13.	7.	13.	17.	36.	44.	73.	693.
10000000 -$********	40.	16.	1.	0.	0.	1.	7.	8.	8.	81.
TOTAL	12614.	1435.	262.	252.	385.	536.	558.	1985.	2150.	20178.

AMOUNT OF BEQUEST BY C.V. AND SIZE OF ESTATE -- WEIGHTED

GROSS ESTATE	- ZERO- ($000)-	- 0-1%- ($000)-	- 1-2%- ($000)-	- 2-3%- ($000)-	- 3-5%- ($000)-	- 5-10% ($000)-	-10-20% ($000)-	-20-50% ($000)-	- 50%-- ($000)-	- ALL-- ($000)-
300000. -$ 500000.	1489534.	118088.	32456.	30947.	67582.	78327.	85197.	255043.	248676.	2405849.
500000. -$1000000.	1201863.	212516.	0.	22460.	34130.	75174.	0.	195469.	136852.	1878464.
1000000. -$2500000.	746177.	108787.	18036.	9153.	14809.	32622.	43608.	69390.	74298.	1116881.
2500000. -$10000000	359829.	53080.	11087.	8287.	15979.	17694.	33262.	34118.	63416.	596754.
10000000 -$********	80994.	28728.	348.	0.	0.	318.	15044.	12480.	8303.	146215.
TOTAL	3878397.	521199.	61927.	70847.	132500.	204135.	177112.	566500.	531546.	6144163.

TABLE 4B

PERCENT OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	59.	4.	2.	1.	2.	2.	4.	12.	14.	100.
500000. -$1000000.	68.	11.	0.	2.	2.	4.	0.	8.	6.	100.
1000000. -$2500000.	67.	9.	1.	1.	2.	3.	3.	6.	8.	100.
2500000. -$10000000	62.	9.	2.	1.	2.	2.	5.	6.	11.	100.
10000000 -$********	49.	20.	1.	0.	0.	1.	8.	10.	10.	100.
TOTAL	63.	7.	1.	1.	2.	3.	3.	10.	11.	100.

PERCENT OF BEQUESTS BY C.V. AND SIZE OF ESTATE -- WEIGHTED

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	62.	5.	1.	1.	3.	3.	4.	11.	10.	100.
500000. -$1000000.	64.	11.	0.	1.	2.	4.	0.	10.	7.	100.
1000000. -$2500000.	67.	10.	2.	1.	1.	3.	4.	6.	7.	100.
2500000. -$10000000	60.	9.	2.	1.	3.	3.	6.	6.	11.	100.
10000000 -$********	55.	20.	0.	0.	0.	0.	10.	9.	6.	100.
TOTAL	63.	8.	1.	1.	2.	3.	3.	9.	9.	100.

TABLE 5A

NUMBER OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Excludes Estates with Trust beneficiaries)

GROSS ESTATE	- ZERO- COUNT--	- 0-1%- COUNT--	- 1-2%- COUNT--	- 2-3%- COUNT--	- 3-5%- COUNT--	- 5-10% COUNT--	-10-20% COUNT--	-20-50% COUNT--	- 50%-- COUNT--	- ALL-- COUNT
300000. -$ 500000.	6005.	437.	109.	109.	218.	218.	328.	1092.	1419.	9936.
500000. -$1000000.	3562.	712.	0.	119.	119.	237.	0.	356.	237.	5343.
1000000. -$2500000.	1231.	180.	23.	13.	31.	52.	63.	118.	116.	1827.
2500000. -$10000000	306.	42.	10.	6.	11.	11.	24.	25.	43.	479.
10000000 -$********	27.	13.	0.	0.	0.	0.	5.	3.	2.	50.
TOTAL	11132.	1384.	143.	247.	379.	519.	419.	1595.	1818.	17635.

AMOUNT OF BEQUEST BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Excludes Estates with Trust beneficiaries)

GROSS ESTATE	- ZERO- ($000)-	- 0-1%- ($000)-	- 1-2%- ($000)-	- 2-3%- ($000)-	- 3-5%- ($000)-	- 5-10% ($000)-	-10-20% ($000)-	-20-50% ($000)-	- 50%-- ($000)-	- ALL-- ($000)-
300000. -$ 500000.	1428855.	118088.	26887.	30947.	67582.	78327.	83450.	225342.	223728.	2283205.
500000. -$1000000.	995134.	212516.	0.	22460.	34130.	75174.	0.	168771.	105148.	1613333.
1000000. -$2500000.	672120.	103144.	15671.	7902.	13277.	31900.	39007.	60854.	56482.	1000357.
2500000. -$10000000	288447.	40325.	7552.	8160.	14558.	16798.	26742.	24615.	48093.	475291.
10000000 -$********	72922.	26693.	0.	0.	0.	0.	13339.	10349.	1072.	124376.
TOTAL	3457479.	500766.	50110.	69469.	129547.	202199.	162538.	489932.	434523.	5496562.

TABLE 5B

PERCENT OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Excludes Estates with Trust beneficiaries)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	60.	4.	1.	1.	2.	2.	3.	11.	14.	100.
500000. -$1000000.	67.	13.	0.	2.	2.	4.	0.	7.	4.	100.
1000000. -$2500000.	67.	10.	1.	1.	2.	3.	3.	6.	6.	100.
2500000. -$10000000	64.	9.	2.	1.	2.	2.	5.	5.	9.	100.
10000000 -$********	55.	25.	0.	0.	0.	0.	9.	7.	5.	100.
TOTAL	63.	8.	1.	1.	2.	3.	2.	9.	10.	100.

PERCENT OF BEQUESTS BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Excludes Estates with Trust beneficiaries)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	63.	5.	1.	1.	3.	3.	4.	10.	10.	100.
500000. -$1000000.	62.	13.	0.	1.	2.	5.	0.	10.	7.	100.
1000000. -$2500000.	67.	10.	2.	1.	1.	3.	4.	6.	6.	100.
2500000. -$10000000	61.	8.	2.	2.	3.	4.	6.	5.	10.	100.
10000000 -$********	59.	21.	0.	0.	0.	0.	11.	8.	1.	100.
TOTAL	63.	9.	1.	1.	2.	4.	3.	9.	8.	100.

TABLE 6A

NUMBER OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Excludes Estates with Trust or Spouse Beneficiaries)

GROSS ESTATE	- ZERO- COUNT--	- 0-1%- COUNT--	- 1-2%- COUNT--	- 2-3%- COUNT--	- 3-5%- COUNT--	- 5-10% COUNT--	-10-20% COUNT--	-20-50% COUNT--	- 50%-- COUNT--	- ALL-- COUNT
300000. -$ 500000.	3494.	218.	109.	109.	109.	218.	109.	655.	546.	5569.
500000. -$1000000.	1662.	119.	0.	0.	0.	119.	0.	356.	237.	2494.
1000000. -$2500000.	527.	75.	12.	8.	11.	29.	36.	66.	61.	825.
2500000. -$10000000	101.	13.	3.	1.	5.	7.	8.	16.	23.	176.
10000000 -$********	8.	2.	0.	0.	0.	0.	2.	2.	1.	16.
TOTAL	5792.	427.	125.	118.	125.	373.	156.	1096.	868.	9079.

AMOUNT OF BEQUEST BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Excludes Estates with Trust or Spouse Beneficiaries)

GROSS ESTATE	- ZERO- ($000)-	- 0-1%- ($000)-	- 1-2%- ($000)-	- 2-3%- ($000)-	- 3-5%- ($000)-	- 5-10% ($000)-	-10-20% ($000)-	-20-50% ($000)-	- 50%-- ($000)-	- ALL-- ($000)-
300000. -$ 500000.	1039776.	64086.	26887.	30947.	40499.	78327.	36437.	168350.	117134.	1602442.
500000. -$1000000.	636336.	54930.	0.	0.	0.	42615.	0.	168771.	105148.	1007800.
1000000. -$2500000.	416138.	60071.	10223.	5727.	6721.	22252.	28394.	46390.	37427.	633344.
2500000. -$10000000	157669.	21103.	4788.	1794.	7052.	11111.	12834.	20769.	30537.	267657.
10000000 -$********	39950.	6154.	0.	0.	0.	0.	9723.	7391.	63.	63281.
TOTAL	2289869.	206344.	41898.	38468.	54271.	154306.	87388.	411672.	290308.	3574524.

TABLE 6B

PERCENT OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Excludes Estates with Trust or Spouse Beneficiaries)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	63.	4.	2.	2.	2.	4.	2.	12.	10.	100.
500000. -$1000000.	67.	5.	0.	0.	0.	5.	0.	14.	10.	100.
1000000. -$2500000.	64.	9.	1.	1.	1.	3.	4.	8.	7.	100.
2500000. -$10000000	57.	7.	2.	1.	3.	4.	5.	9.	13.	100.
10000000 -$********	50.	14.	0.	0.	0.	0.	14.	14.	7.	100.
TOTAL	64.	5.	1.	1.	1.	4.	2.	12.	10.	100.

PERCENT OF BEQUESTS BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Excludes Estates with Trust or Spouse Beneficiaries)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	65.	4.	2.	2.	3.	5.	2.	11.	7.	100.
500000. -$1000000.	63.	5.	0.	0.	0.	4.	0.	17.	10.	100.
1000000. -$2500000.	66.	9.	2.	1.	1.	4.	4.	7.	6.	100.
2500000. -$10000000	59.	8.	2.	1.	3.	4.	5.	8.	11.	100.
10000000 -$********	63.	10.	0.	0.	0.	0.	15.	12.	0.	100.
TOTAL	64.	6.	1.	1.	2.	4.	2.	12.	8.	100.

Table 7A

NUMBER OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Two-Child Estates only)

GROSS ESTATE	- ZERO- COUNT--	- 0-1%- COUNT--	- 1-2%- COUNT--	- 2-3%- COUNT--	- 3-5%- COUNT--	- 5-10% COUNT--	-10-20% COUNT--	-20-50% COUNT--	- 50%-- COUNT--	- ALL-- COUNT
300000. -$ 500000.	3822.	0.	218.	109.	109.	218.	0.	983.	764.	6224.
500000. -$1000000.	2375.	237.	0.	0.	0.	237.	0.	119.	237.	3206.
1000000. -$2500000.	894.	45.	20.	9.	20.	34.	39.	76.	94.	1231.
2500000. -$10000000	253.	10.	5.	1.	5.	10.	14.	23.	30.	349.
10000000 -$********	17.	5.	0.	0.	0.	1.	3.	2.	5.	33.
TOTAL	7360.	298.	243.	119.	134.	501.	56.	1203.	1130.	11043.

AMOUNT OF BEQUEST BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Two-Child Estates only)

GROSS ESTATE	- ZERO- ($000)-	- 0-1%- ($000)-	- 1-2%- ($000)-	- 2-3%- ($000)-	- 3-5%- ($000)-	- 5-10% ($000)-	-10-20% ($000)-	-20-50% ($000)-	- 50%-- ($000)-	- ALL-- ($000)-
300000. -$ 500000.	906638.	0.	32456.	30947.	40499.	78327.	0.	178457.	149673.	1416996.
500000. -$1000000.	711960.	68989.	0.	0.	0.	75174.	0.	26698.	80894.	963716.
1000000. -$2500000.	438778.	24011.	9659.	3264.	9234.	17818.	22561.	32410.	32216.	589951.
2500000. -$10000000	205485.	10039.	2189.	256.	5598.	9746.	10219.	14304.	24098.	281934.
10000000 -$********	22538.	7469.	0.	0.	0.	318.	8752.	6647.	4808.	50532.
TOTAL	2285399.	110508.	44304.	34467.	55331.	181383.	41532.	258516.	291688.	3303128.

Table 7B

PERCENT OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Two-Child Estates only)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	61.	0.	4.	2.	2.	4.	0.	16.	12.	100.
500000. -$1000000.	74.	7.	0.	0.	0.	7.	0.	4.	7.	100.
1000000. -$2500000.	73.	4.	2.	1.	2.	3.	3.	6.	8.	100.
2500000. -$10000000	72.	3.	1.	0.	1.	3.	4.	7.	8.	100.
10000000 -$********	52.	14.	0.	0.	0.	3.	10.	7.	14.	100.
TOTAL	67.	3.	2.	1.	1.	5.	1.	11.	10.	100.

PERCENT OF BEQUESTS BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Two-Child Estates only)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	64.	0.	2.	2.	3.	6.	0.	13.	11.	100.
500000. -$1000000.	74.	7.	0.	0.	0.	8.	0.	3.	8.	100.
1000000. -$2500000.	74.	4.	2.	1.	2.	3.	4.	5.	5.	100.
2500000. -$10000000	73.	4.	1.	0.	2.	3.	4.	5.	9.	100.
10000000 -$********	45.	15.	0.	0.	0.	1.	17.	13.	10.	100.
TOTAL	69.	3.	1.	1.	2.	5.	1.	8.	9.	100.

Table 8A

NUMBER OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Three-Child Estates only)

GROSS ESTATE	- ZERO- COUNT--	- 0-1%- COUNT--	- 1-2%- COUNT--	- 2-3%- COUNT--	- 3-5%- COUNT--	- 5-10% COUNT--	-10-20% COUNT--	-20-50% COUNT--	- 50%-- COUNT--	- ALL-- COUNT
300000. -$ 500000.	1310.	218.	0.	0.	0.	0.	109.	109.	328.	2075.
500000. -$1000000.	1069.	356.	0.	0.	0.	0.	0.	119.	119.	1662.
1000000. -$2500000.	385.	103.	6.	6.	8.	13.	25.	34.	47.	627.
2500000. -$10000000	107.	30.	5.	6.	5.	3.	8.	7.	22.	191.
10000000 -$********	14.	7.	1.	0.	0.	0.	1.	1.	2.	26.
TOTAL	2885.	714.	11.	11.	12.	17.	144.	270.	518.	4581.

AMOUNT OF BEQUEST BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Three-Child Estates only)

GROSS ESTATE	- ZERO- ($000)-	- 0-1%- ($000)-	- 1-2%- ($000)-	- 2-3%- ($000)-	- 3-5%- ($000)-	- 5-10% ($000)-	-10-20% ($000)-	-20-50% ($000)-	- 50%-- ($000)-	- ALL-- ($000)-
300000. -$ 500000.	303664.	64174.	0.	0.	0.	0.	13730.	18059.	55939.	455567.
500000. -$1000000.	286163.	88597.	0.	0.	0.	0.	0.	53258.	55958.	483976.
1000000. -$2500000.	185291.	52072.	3778.	3061.	2497.	7743.	12209.	18066.	20558.	305275.
2500000. -$10000000	96852.	28003.	5574.	8031.	4521.	1691.	7182.	5096.	17370.	174319.
10000000 -$********	38173.	11896.	348.	0.	0.	0.	4587.	2354.	1864.	59222.
TOTAL	910142.	244743.	9699.	11092.	7018.	9435.	37709.	96833.	151688.	1478359.

Table 8B

PERCENT OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Three-Child Estates only)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	63.	11.	0.	0.	0.	0.	5.	5.	16.	100.
500000. -$1000000.	64.	21.	0.	0.	0.	0.	0.	7.	7.	100.
1000000. -$2500000.	61.	16.	1.	1.	1.	2.	4.	5.	8.	100.
2500000. -$10000000	56.	15.	2.	3.	2.	2.	4.	4.	11.	100.
10000000 -$********	52.	26.	4.	0.	0.	0.	4.	4.	9.	100.
TOTAL	63.	16.	0.	0.	0.	0.	3.	6.	11.	100.

PERCENT OF BEQUESTS BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Three-Child Estates only)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	67.	14.	0.	0.	0.	0.	3.	4.	12.	100.
500000. -$1000000.	59.	18.	0.	0.	0.	0.	0.	11.	12.	100.
1000000. -$2500000.	61.	17.	1.	1.	1.	3.	4.	6.	7.	100.
2500000. -$10000000	56.	16.	3.	5.	3.	1.	4.	3.	10.	100.
10000000 -$********	64.	20.	1.	0.	0.	0.	8.	4.	3.	100.
TOTAL	62.	17.	1.	1.	0.	1.	3.	7.	10.	100.

Table 9A

NUMBER OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Four-Child Estates only)

GROSS ESTATE	- ZERO- COUNT--	- 0-1%- COUNT--	- 1-2%- COUNT--	- 2-3%- COUNT--	- 3-5%- COUNT--	- 5-10% COUNT--	-10-20% COUNT--	-20-50% COUNT--	- 50%-- COUNT--	- ALL-- COUNT
300000. -$ 500000.	764.	0.	0.	0.	0.	0.	218.	218.	218.	1419.
500000. -$1000000.	356.	0.	0.	0.	119.	0.	0.	119.	0.	594.
1000000. -$2500000.	171.	24.	3.	2.	6.	8.	9.	18.	30.	270.
2500000. -$10000000	56.	15.	3.	0.	2.	2.	10.	9.	11.	109.
10000000 -$********	5.	0.	0.	0.	0.	0.	2.	3.	1.	11.
TOTAL	1352.	39.	7.	2.	127.	10.	240.	367.	261.	2404.

AMOUNT OF BEQUEST BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Four-Child Estates only)

GROSS ESTATE	- ZERO- ($000)-	- 0-1%- ($000)-	- 1-2%- ($000)-	- 2-3%- ($000)-	- 3-5%- ($000)-	- 5-10% ($000)-	-10-20% ($000)-	-20-50% ($000)-	- 50%-- ($000)-	- ALL-- ($000)-
300000. -$ 500000.	188798.	0.	0.	0.	0.	0.	69719.	58526.	19044.	336087.
500000. -$1000000.	83471.	0.	0.	0.	34130.	0.	0.	60684.	0.	178285.
1000000. -$2500000.	78245.	12633.	3519.	2249.	1642.	4211.	5023.	7249.	14521.	129293.
2500000. -$10000000	44590.	12696.	3324.	0.	3597.	4096.	11058.	8328.	10026.	97715.
10000000 -$********	9844.	0.	0.	0.	0.	0.	1705.	3369.	1631.	16549.
TOTAL	404947.	25329.	6843.	2249.	39369.	8307.	87506.	138156.	45222.	757929.

Table 9B

PERCENT OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Four-Child Estates only)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	54.	0.	0.	0.	0.	0.	15.	15.	15.	100.
500000. -$1000000.	60.	0.	0.	0.	20.	0.	0.	20.	0.	100.
1000000. -$2500000.	63.	9.	1.	1.	2.	3.	3.	7.	11.	100.
2500000. -$10000000	51.	14.	3.	0.	2.	2.	9.	8.	10.	100.
10000000 -$********	40.	0.	0.	0.	0.	0.	20.	30.	10.	100.
TOTAL	56.	2.	0.	0.	5.	0.	10.	15.	11.	100.

PERCENT OF BEQUESTS BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Four-Child Estates only)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	56.	0.	0.	0.	0.	0.	21.	17.	6.	100.
500000. -$1000000.	47.	0.	0.	0.	19.	0.	0.	34.	0.	100.
1000000. -$2500000.	61.	10.	3.	2.	1.	3.	4.	6.	11.	100.
2500000. -$10000000	46.	13.	3.	0.	4.	4.	11.	9.	10.	100.
10000000 -$********	59.	0.	0.	0.	0.	0.	10.	20.	10.	100.
TOTAL	53.	3.	1.	0.	5.	1.	12.	18.	6.	100.

Table 10A

NUMBER OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Five-Child Estates only)

GROSS ESTATE	- ZERO- COUNT--	- 0-1%- COUNT--	- 1-2%- COUNT--	- 2-3%- COUNT--	- 3-5%- COUNT--	- 5-10% COUNT--	-10-20% COUNT--	-20-50% COUNT--	- 50%-- COUNT--	- ALL-- COUNT
300000. -$ 500000.	218.	0.	0.	0.	0.	0.	109.	0.	0.	328.
500000. -$1000000.	237.	119.	0.	0.	0.	0.	0.	0.	0.	356.
1000000. -$2500000.	54.	21.	1.	1.	1.	2.	3.	6.	6.	95.
2500000. -$10000000	13.	3.	0.	0.	0.	0.	2.	1.	6.	25.
10000000 -$********	2.	3.	0.	0.	0.	0.	0.	1.	0.	7.
TOTAL	525.	147.	1.	1.	1.	2.	115.	8.	11.	811.

AMOUNT OF BEQUEST BY C.V. SIZE OF ESTATE -- WEIGHTED
(Five-Child Estates only)

GROSS ESTATE	- ZERO- ($000)-	- 0-1%- ($000)-	- 1-2%- ($000)-	- 2-3%- ($000)-	- 3-5%- ($000)-	- 5-10% ($000)-	-10-20% ($000)-	-20-50% ($000)-	- 50%-- ($000)-	- ALL-- ($000)-
300000. -$ 500000.	22247.	0.	0.	0.	0.	0.	1747.	0.	0.	23994.
500000. -$1000000.	63184.	54930.	0.	0.	0.	0.	0.	0.	0.	118114.
1000000. -$2500000.	29384.	11350.	1080.	579.	723.	1271.	2119.	3937.	2620.	53064.
2500000. -$10000000	11325.	956.	0.	0.	0.	0.	3156.	998.	5526.	21961.
10000000 -$********	7763.	6025.	0.	0.	0.	0.	0.	109.	0.	13898.
TOTAL	133904.	73262.	1080.	579.	723.	1271.	7022.	5044.	8145.	231030.

Table 10B

PERCENT OF ESTATES BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Five-Child Estates only)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	67.	0.	0.	0.	0.	0.	33.	0.	0.	100.
500000. -$1000000.	67.	33.	0.	0.	0.	0.	0.	0.	0.	100.
1000000. -$2500000.	57.	22.	1.	1.	1.	2.	3.	6.	6.	100.
2500000. -$10000000	50.	14.	0.	0.	0.	0.	9.	5.	23.	100.
10000000 -$********	33.	50.	0.	0.	0.	0.	0.	17.	0.	100.
TOTAL	65.	18.	0.	0.	0.	0.	14.	1.	1.	100.

PERCENT OF BEQUESTS BY C.V. AND SIZE OF ESTATE -- WEIGHTED
(Five-Child Estates only)

GROSS ESTATE	- ZERO- PERCENT	- 0-1%- PERCENT	- 1-2%- PERCENT	- 2-3%- PERCENT	- 3-5%- PERCENT	- 5-10% PERCENT	-10-20% PERCENT	-20-50% PERCENT	- 50%-- PERCENT	- ALL-- PERCENT
300000. -$ 500000.	93.	0.	0.	0.	0.	0.	7.	0.	0.	100.
500000. -$1000000.	53.	47.	0.	0.	0.	0.	0.	0.	0.	100.
1000000. -$2500000.	55.	21.	2.	1.	1.	2.	4.	7.	5.	100.
2500000. -$10000000	52.	4.	0.	0.	0.	0.	14.	5.	25.	100.
10000000 -$********	56.	43.	0.	0.	0.	0.	0.	1.	0.	100.
TOTAL	58.	32.	0.	0.	0.	1.	3.	2.	4.	100.

Table 11A

NUMBER OF CHILDREN BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- SAMPLE

GROSS ESTATE	--NO--- --AGI-- ------- COUNT--	--$1--- UNDER-- $10000- COUNT--	$10000- UNDER-- $20000- COUNT--	$20000- UNDER-- $30000- COUNT--	$30000- UNDER-- $50000- COUNT--	$50000- UNDER-- $75000- COUNT--	$75000- UNDER-- $100000 COUNT--	$100000 UNDER-- $200000 COUNT--	$200000 UNDER-- ******* COUNT--	TOTAL-- ------- ------- COUNT--
300000. -$ 500000.	10.	31.	43.	61.	54.	34.	10.	14.	2.	259.
500000. -$1000000.	2.	12.	17.	25.	41.	13.	9.	14.	2.	135.
1000000. -$2500000.	161.	519.	617.	689.	1067.	788.	511.	866.	364.	5582.
2500000. -$10000000	52.	108.	140.	154.	256.	196.	166.	307.	283.	1662.
10000000 -$********	6.	10.	11.	9.	18.	15.	21.	35.	67.	192.
TOTAL	231.	680.	828.	938.	1436.	1046.	717.	1236.	718.	7830.

CHILDREN'S 1981 AGI BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- SAMPLE

GROSS ESTATE	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	-456.	175.	664.	1493.	2060.	2073.	850.	1762.	435.	9055.
500000. -$1000000.	-57.	57.	241.	624.	1543.	791.	789.	1832.	528.	6348.
1000000. -$2500000.	-11271.	2807.	9273.	17415.	41736.	48226.	44268.	118480.	128505.	399440.
2500000. -$10000000	-4560.	587.	2080.	3826.	10140.	12062.	14583.	44302.	122160.	205180.
10000000 -$********	-391.	60.	158.	222.	691.	886.	1823.	4985.	43646.	52081.
TOTAL	-16735.	3687.	12416.	23580.	56169.	64037.	62313.	171361.	295275.	672103.

INHERITANCE BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- SAMPLE

GROSS ESTATE	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	1117.	3342.	3832.	6723.	10818.	4610.	939.	2361.	118.	33862.
500000. -$1000000.	530.	1154.	1502.	3587.	5253.	3013.	1085.	2097.	380.	18601.
1000000. -$2500000.	32517.	83983.	116215.	120471.	219841.	193132.	119770.	214256.	91454.	1191642.
2500000. -$10000000	13013.	27881.	41988.	42024.	85121.	72012.	64751.	116709.	106812.	570311.
10000000 -$********	1917.	3910.	6561.	3746.	8954.	9859.	14116.	28157.	43688.	120909.
TOTAL	49094.	120270.	170098.	176551.	329988.	282625.	200661.	363581.	242452.	1935324.

TABLE 11B

AVERAGE CHILD AGI IN 1981 BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- SAMPLE

GROSS ESTATE	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	-45637.	5650.	15436.	24470.	38146.	60956.	85015.	125825.	217729.	34960.
500000. -$1000000.	-28689.	4731.	14203.	24948.	37623.	60849.	87677.	130890.	263966.	47019.
1000000. -$2500000.	-70005.	5409.	15029.	25276.	39115.	61200.	86630.	136813.	353037.	71559.
2500000. -$10000000	-87686.	5438.	14856.	24847.	39608.	61539.	87848.	144306.	431661.	123454.
10000000 -$********	-65111.	6042.	14347.	24657.	38374.	59088.	86827.	142431.	651429.	271254.
TOTAL	-72445.	5422.	14995.	25139.	39115.	61221.	86908.	138641.	411246.	85837.

AVERAGE INHERITANCE BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- SAMPLE

GROSS ESTATE	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	111699.	107809.	89126.	110213.	200340.	135600.	93892.	168651.	59161.	130740.
500000. -$1000000.	265069.	96157.	88381.	143471.	128132.	231743.	120558.	149785.	189965.	137787.
1000000. -$2500000.	201971.	161817.	188355.	174849.	206037.	245091.	234384.	247409.	251247.	213479.
2500000. -$10000000	250241.	258156.	299913.	272883.	332505.	367407.	390066.	380160.	377427.	343147.
10000000 -$********	319576.	391045.	596416.	416220.	497441.	657237.	672188.	804496.	652065.	629732.
TOTAL	212530.	176868.	205433.	188221.	229797.	270196.	279862.	294159.	337677.	247168.

AVERAGE INHERITANCE AS PERCENT OF AVERAGE AGI BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

GROSS ESTATE	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	-245.	1908.	577.	450.	525.	222.	110.	134.	27.	374.
500000. -$1000000.	-924.	2033.	622.	575.	341.	381.	138.	114.	72.	293.
1000000. -$2500000.	-289.	2992.	1253.	692.	527.	400.	271.	181.	71.	298.
2500000. -$10000000	-285.	4747.	2019.	1098.	839.	597.	444.	263.	87.	278.
10000000 -$********	-491.	6472.	4157.	1688.	1296.	1112.	774.	565.	100.	232.
TOTAL	-293.	3262.	1370.	749.	587.	441.	322.	212.	82.	288.

TABLE 11C

NUMBER OF CHILDREN BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

GROSS ESTATE	--NO--- --AGI-- ------- COUNT--	--$1--- UNDER-- $10000- COUNT--	$10000- UNDER-- $20000- COUNT--	$20000- UNDER-- $30000- COUNT--	$30000- UNDER-- $50000- COUNT--	$50000- UNDER-- $75000- COUNT--	$75000- UNDER-- $100000 COUNT--	$100000 UNDER-- $200000 COUNT--	$200000 UNDER-- ******* COUNT--	TOTAL-- ------- ------- COUNT--
300000. -$ 500000.	1100.	3409.	4729.	6708.	5938.	3739.	1100.	1540.	220.	28483.
500000. -$1000000.	251.	1506.	2134.	3138.	5147.	1632.	1130.	1757.	251.	16946.
1000000. -$2500000.	191.	614.	731.	816.	1263.	933.	605.	1025.	431.	6609.
2500000. -$10000000	61.	127.	165.	181.	302.	231.	196.	362.	333.	1958.
10000000 -$********	8.	13.	14.	11.	23.	19.	26.	44.	84.	241.
TOTAL	1610.	5670.	7772.	10855.	12673.	6554.	3056.	4728.	1320.	54237.

CHILDREN'S 1981 AGI BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

GROSS ESTATE	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	-50187.	19260.	72992.	164152.	226528.	227916.	93492.	193720.	47888.	995760.
500000. -$1000000.	-7203.	7126.	30310.	78292.	193633.	99298.	99054.	230026.	66270.	796806.
1000000. -$2500000.	-13345.	3324.	10979.	20620.	49415.	57099.	52413.	140279.	152150.	472933.
2500000. -$10000000	-5372.	692.	2450.	4508.	11946.	14211.	17181.	52196.	143926.	241739.
10000000 -$********	-491.	76.	198.	279.	867.	1113.	2289.	6259.	54800.	65390.
TOTAL	-76597.	30478.	116929.	267850.	482389.	399636.	264430.	622479.	465034.	2572628.

INHERITANCE BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

GROSS ESTATE	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	122837.	367531.	421454.	739337.	1189707.	507011.	103254.	259654.	13012.	3723794.
500000. -$1000000.	66547.	144845.	188604.	450243.	659454.	378175.	136201.	263232.	47692.	2334993.
1000000. -$2500000.	38500.	99436.	137598.	142637.	260291.	228667.	141807.	253678.	108281.	1410889.
2500000. -$10000000	15331.	32849.	49469.	49512.	100288.	84843.	76288.	137504.	125844.	671929.
10000000 -$********	2407.	4910.	8237.	4703.	11242.	12378.	17723.	35353.	54853.	151807.
TOTAL	245623.	649571.	805362.	1386432.	2220983.	1211074.	475274.	949421.	349682.	8293413.

TABLE 11D

AVERAGE CHILD AGI IN 1981 BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

GROSS ESTATE	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	0.	5650.	15436.	24470.	38146.	60956.	85015.	125825.	217729.	34960.
500000. -$1000000.	0.	4731.	14203.	24948.	37623.	60849.	87677.	130890.	263966.	47019.
1000000. -$2500000.	0.	5409.	15029.	25276.	39115.	61199.	86629.	136811.	353038.	71555.
2500000. -$10000000	0.	5438.	14856.	24847.	39608.	61539.	87848.	144305.	431660.	123452.
10000000 -$********	0.	6042.	14347.	24657.	38374.	59088.	86827.	142431.	651429.	271254.
TOTAL	0.	5376.	15045.	24675.	38065.	60979.	86516.	131658.	352427.	47433.

AVERAGE INHERITANCE BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

GROSS ESTATE	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	0.	107809.	89126.	110213.	200340.	135600.	93892.	168651.	59161.	130740.
500000. -$1000000.	0.	96157.	88381.	143471.	128132.	231743.	120558.	149785.	189965.	137787.
1000000. -$2500000.	0.	161817.	188354.	174848.	206037.	245089.	234384.	247406.	251247.	213468.
2500000. -$10000000	0.	258155.	299913.	272883.	332504.	367407.	390066.	380159.	377426.	343142.
10000000 -$********	0.	391045.	596416.	416221.	497441.	657237.	672188.	804497.	652065.	629733.
TOTAL	0.	114568.	103623.	127723.	175258.	184794.	155499.	200809.	265007.	152909.

AVERAGE INHERITANCE AS PERCENT OF AVERAGE AGI BY PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

GROSS ESTATE	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	0.	1908.	577.	450.	525.	222.	110.	134.	27.	374.
500000. -$1000000.	0.	2033.	622.	575.	341.	381.	138.	114.	72.	293.
1000000. -$2500000.	0.	2992.	1253.	692.	527.	400.	271.	181.	71.	298.
2500000. -$10000000	0.	4747.	2019.	1098.	839.	597.	444.	263.	87.	278.
10000000 -$********	0.	6472.	4157.	1688.	1296.	1112.	774.	565.	100.	232.
TOTAL	0.	2131.	689.	518.	460.	303.	180.	153.	75.	322.

TABLE 11E

NUMBER OF CHILDREN BY (WIDOWED) PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- ------- COUNT--	--$1--- UNDER-- $10000- COUNT--	$10000- UNDER-- $20000- COUNT--	$20000- UNDER-- $30000- COUNT--	$30000- UNDER-- $50000- COUNT--	$50000- UNDER-- $75000- COUNT--	$75000- UNDER-- $100000 COUNT--	$100000 UNDER-- $200000 COUNT--	$200000 UNDER-- ******* COUNT--	TOTAL-- ------- ------- COUNT--
300000. -$ 500000.	330.	1320.	2199.	3849.	3079.	1540.	440.	1100.	110.	13966.
500000. -$1000000.	251.	879.	1130.	1632.	2385.	502.	377.	879.	251.	8285.
1000000. -$2500000.	76.	231.	311.	322.	571.	442.	243.	407.	167.	2769.
2500000. -$10000000	14.	28.	49.	55.	111.	100.	94.	156.	125.	733.
10000000 -$********	3.	4.	0.	1.	4.	8.	5.	14.	38.	75.
TOTAL	673.	2461.	3690.	5860.	6149.	2591.	1158.	2555.	691.	25829.

CHILDREN'S 1981 AGI BY (WIDOWED) PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	-11459.	8251.	32902.	92986.	118084.	97214.	37723.	139400.	22123.	537224.
500000. -$1000000.	-7203.	5148.	16091.	38879.	89049.	27624.	31375.	125389.	66270.	392623.
1000000. -$2500000.	-3622.	1219.	4690.	8157.	22242.	27100.	20936.	55237.	58405.	194363.
2500000. -$10000000	-2219.	143.	734.	1371.	4367.	6215.	8312.	22201.	52557.	93680.
10000000 -$********	-214.	30.	0.	26.	149.	445.	426.	1972.	29663.	32495.
TOTAL	-24717.	14792.	54417.	141419.	233890.	158597.	98771.	344198.	229018.	1250386.

INHERITANCE BY (WIDOWED) PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	19707.	233784.	201598.	503288.	438889.	225455.	51337.	197758.	9590.	1881405.
500000. -$1000000.	66547.	125767.	124664.	323565.	335157.	92074.	84738.	170426.	47692.	1370630.
1000000. -$2500000.	23311.	57000.	87350.	78802.	158886.	135286.	76656.	126349.	49420.	793058.
2500000. -$10000000	6685.	13917.	26023.	25507.	60455.	56122.	50102.	80323.	62363.	381497.
10000000 -$********	578.	1026.	0.	63.	4427.	9997.	4523.	14810.	31818.	67242.
TOTAL	116829.	431495.	439634.	931225.	997814.	518935.	267354.	589665.	200882.	4493832.

TABLE 11F

AVERAGE CHILD AGI IN 1981 BY (WIDOWED) PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	0.	6253.	14959.	24159.	38349.	63142.	85756.	126760.	201170.	38466.
500000. -$1000000.	0.	5859.	14243.	23825.	37336.	55016.	83314.	142698.	263966.	47390.
1000000. -$2500000.	0.	5280.	15062.	25328.	38973.	61363.	86255.	135619.	349850.	70183.
2500000. -$10000000	0.	5072.	14828.	24753.	39433.	62057.	88187.	142753.	420832.	127834.
10000000 -$********	0.	7944.	0.	20931.	39444.	59038.	84736.	142758.	787514.	431354.
TOTAL	0.	6010.	14747.	24135.	38034.	61210.	85260.	134713.	331658.	48410.

AVERAGE INHERITANCE BY (WIDOWED) PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	0.	177156.	91660.	130758.	142534.	146438.	116705.	179827.	87200.	134710.
500000. -$1000000.	0.	143129.	110346.	198279.	140525.	183372.	225016.	193952.	189965.	165437.
1000000. -$2500000.	0.	246884.	280516.	244691.	278413.	306333.	315821.	310215.	296026.	286365.
2500000. -$10000000	0.	492181.	525883.	460633.	545869.	560407.	531556.	516481.	499357.	520582.
10000000 -$********	0.	272362.	0.	50000.	1175190.	1327099.	900499.	1072348.	844719.	892590.
TOTAL	0.	175313.	119140.	158925.	162261.	200282.	230783.	230785.	290912.	173985.

AVERAGE INHERITANCE AS PERCENT OF AVERAGE AGI BY (WIDOWED) PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	0.	2833.	613.	541.	372.	232.	136.	142.	43.	350.
500000. -$1000000.	0.	2443.	775.	832.	376.	333.	270.	136.	72.	349.
1000000. -$2500000.	0.	4675.	1862.	966.	714.	499.	366.	229.	85.	408.
2500000. -$10000000	0.	9703.	3546.	1861.	1384.	903.	603.	362.	119.	407.
10000000 -$********	0.	3429.	0.	239.	2979.	2248.	1063.	751.	107.	207.
TOTAL	0.	2917.	808.	658.	427.	327.	271.	171.	88.	359.

TABLE 11G

NUMBER OF CHILDREN BY (MARRIED) PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- ------- COUNT--	--$1--- UNDER-- $10000- COUNT--	$10000- UNDER-- $20000- COUNT--	$20000- UNDER-- $30000- COUNT--	$30000- UNDER-- $50000- COUNT--	$50000- UNDER-- $75000- COUNT--	$75000- UNDER-- $100000 COUNT--	$100000 UNDER-- $200000 COUNT--	$200000 UNDER-- ******* COUNT--	TOTAL-- ------- ------- COUNT--
300000. -$ 500000.	770.	2089.	2529.	2859.	2859.	2199.	660.	440.	110.	14516.
500000. -$1000000.	0.	628.	1004.	1506.	2762.	1130.	753.	879.	0.	8661.
1000000. -$2500000.	115.	384.	419.	494.	693.	491.	362.	618.	264.	3840.
2500000. -$10000000	47.	99.	115.	126.	191.	131.	101.	206.	209.	1225.
10000000 -$********	5.	9.	14.	10.	19.	11.	21.	30.	48.	167.
TOTAL	937.	3208.	4082.	4995.	6523.	3963.	1898.	2173.	630.	28410.

CHILDREN'S 1981 AGI BY (MARRIED) PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	-38728.	11009.	40090.	71166.	108444.	130702.	55770.	54320.	25765.	458536.
500000. -$1000000.	0.	1978.	14219.	39413.	104584.	71674.	67679.	104637.	0.	404184.
1000000. -$2500000.	-9723.	2104.	6289.	12463.	27173.	29999.	31477.	85043.	93745.	278570.
2500000. -$10000000	-3153.	549.	1717.	3138.	7579.	7996.	8869.	29995.	91370.	148059.
10000000 -$********	-276.	46.	198.	252.	719.	668.	1864.	4287.	25943.	33701.
TOTAL	-51880.	15686.	62512.	126431.	248499.	241039.	165659.	278282.	236822.	1323049.

INHERITANCE BY (MARRIED) PARENT'S BY GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- ------- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- ------- ------- AMOUNT-
300000. -$ 500000.	103130.	133747.	219856.	236049.	750818.	281555.	51917.	61896.	3423.	1842391.
500000. -$1000000.	0.	19078.	63940.	126677.	324297.	286101.	51463.	92806.	0.	964364.
1000000. -$2500000.	15190.	42435.	50248.	63835.	101405.	93381.	65152.	127329.	58861.	617835.
2500000. -$10000000	8646.	18932.	23447.	24005.	39834.	28721.	26187.	57181.	63480.	290432.
10000000 -$********	1829.	3884.	8237.	4641.	6816.	2380.	13201.	20543.	23173.	84704.
TOTAL	128795.	218076.	365728.	455207.	1223169.	692139.	207919.	359756.	148937.	3799725.

TABLE 11H

AVERAGE CHILD AGI IN 1981 BY (MARRIED) PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- AMOUNT-
300000. -$ 500000.	0.	5269.	15850.	24890.	37927.	59426.	84522.	123487.	234288.	31588.
500000. -$1000000.	0.	3152.	14159.	26165.	37870.	63442.	89859.	119082.	0.	46665.
1000000. -$2500000.	0.	5486.	15004.	25242.	39232.	61053.	86880.	137599.	355053.	72548.
2500000. -$10000000	0.	5543.	14868.	24888.	39710.	61142.	87532.	145476.	438145.	120834.
10000000 -$********	0.	5227.	14347.	25123.	38160.	59122.	87319.	142281.	543744.	201816.
TOTAL	0.	4889.	15314.	25309.	38095.	60828.	87282.	128066.	375759.	46570.

AVERAGE INHERITANCE BY (MARRIED) PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- AMOUNT-
300000. -$ 500000.	0.	64011.	86922.	82556.	262592.	128013.	78682.	140710.	31122.	126919.
500000. -$1000000.	0.	30396.	63671.	84096.	117430.	253241.	68329.	105618.	0.	111339.
1000000. -$2500000.	0.	110620.	119886.	129294.	146404.	190048.	179827.	206019.	222933.	160903.
2500000. -$10000000	0.	191291.	203069.	190413.	208700.	219613.	258446.	277335.	304406.	237027.
10000000 -$********	0.	441909.	596416.	461998.	361891.	210662.	618468.	681731.	485703.	507242.
TOTAL	0.	67969.	89596.	91125.	187510.	174667.	109548.	165562.	236314.	133747.

AVERAGE INHERITANCE AS PERCENT OF AVERAGE AGI BY (MARRIED) PARENT'S GROSS ESTATE AND CHILD'S AGI -- WEIGHTED

	--NO--- --AGI-- AMOUNT-	--$1--- UNDER-- $10000- AMOUNT-	$10000- UNDER-- $20000- AMOUNT-	$20000- UNDER-- $30000- AMOUNT-	$30000- UNDER-- $50000- AMOUNT-	$50000- UNDER-- $75000- AMOUNT-	$75000- UNDER-- $100000 AMOUNT-	$100000 UNDER-- $200000 AMOUNT-	$200000 UNDER-- ******* AMOUNT-	TOTAL-- AMOUNT-
300000. -$ 500000.	0.	1215.	548.	332.	692.	215.	93.	114.	13.	402.
500000. -$1000000.	0.	964.	450.	321.	310.	399.	76.	89.	0.	239.
1000000. -$2500000.	0.	2016.	799.	512.	373.	311.	207.	150.	63.	222.
2500000. -$10000000	0.	3451.	1366.	765.	526.	359.	295.	191.	69.	196.
10000000 -$********	0.	8454.	4157.	1839.	948.	356.	708.	479.	89.	251.
TOTAL	0.	1390.	585.	360.	492.	287.	126.	129.	63.	287.

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 31, 1994

CONTACT: Scott Dykema
(202) 622-2960

U.S., FRANCE SIGN INCOME TAX TREATY

The Treasury Department announced that the United States and France signed an income tax treaty Wednesday.

The treaty was signed today in Paris by U.S. Ambassador Pamela Harriman and French Budget Minister Nicolas Sarkozy. It replaces one signed in 1967 and amended by protocols signed in 1970, 1978, 1984 and 1988. The new treaty must be approved by the U.S. Senate.

The treaty follows the existing one in most respects but is updated to reflect current tax laws and tax treaty policies of the two countries. It clarifies the definition of residents of the two countries and the scope of the tax exemption for copyright royalties. It also includes more comprehensive limitations on treaty benefits to qualifying residents while strengthening administrative cooperation between the tax authorities.

The treaty maintains the tax at source on dividends of not more than 15 percent for portfolio holdings and of not more than 5 percent on direct investment dividends. For portfolio dividends paid by French companies to U.S. shareholders, France provides a tax credit for all or a portion of the French corporate tax paid on distributed profits; those profits remain subject to dividend withholding taxes.

The branch tax remains at 5 percent of the portion of branch profits deemed remitted to the home office. The treaty maintains the tax exemption at source for interest and copyright royalties and a tax of not more than 5 percent on other royalties. Special rules apply for dividends paid by regulated investment companies, real estate investment trusts and to certain interest.

The treaty will enter into force when both governments have completed their respective constitutional and statutory procedures and have notified each other to that effect. The provisions with respect to taxes withheld on dividends, interest and royalties and the U.S. excise tax on premiums paid to French insurers or reinsurers generally will take effect for amounts paid or credited on or after the first day of the second month following entry into force of the treaty. In some cases the French dividend tax credit will be available for dividends paid on or after January 1, 1991. The provisions for royalties

will also apply for royalties paid on or after January 1, 1991. The other provisions of the treaty take effect for taxable periods beginning, or taxable events occurring, on or after January 1 of the year following the entry into force.

Copies of the new treaty may be obtained by writing the Office of Public Affairs, U.S. Treasury Department, Room 2315, Washington, D.C., 20220, or calling (202) 622-2960.

-30-

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 31, 1994

CONTACT: Scott Dykema
(202) 622-2960

U.S., CANADA SIGN PROTOCOL TO INCOME TAX TREATY

The Treasury Department announced the United States and Canada signed an agreement Wednesday that would significantly change the current income tax treaty between both nations.

The agreement, a protocol to the current treaty, was signed in Washington D.C. The current treaty was signed in 1980 and amended by protocols signed in 1983 and 1984. The new protocol must be approved by the U.S. Senate.

The protocol makes significant reductions in tax withholding rates on cross-border payments of dividends, interest and royalties. The withholding rate on direct investment dividends will be reduced from 10 percent to 5 percent; the rate on interest will be reduced from 15 percent to 10 percent; and the rate on most royalties will drop from 10 percent to zero. In addition, the protocol will reduce the branch tax rate from 10 percent to 5 percent.

The protocol reflects changes in U.S. and Canadian tax treaty policy since 1984 and resolves several problems under the present treaty. The protocol adds a rule to protect against treaty-shopping abuses. It also improves tax administration by expanding information exchanges between the United States and Canada and by providing for assistance in the collection of taxes due.

The protocol also deals extensively with taxation at death in the two countries, to better mesh the U.S. and Canadian systems for taxation at death. Canada's taxation at death is limited to income tax on gains, while the United States imposes an estate tax. The protocol includes a number of provisions designed to deal with these matters.

The protocol will enter into force when both governments have completed their respective constitutional and statutory procedures and have exchanged instruments of ratification. The provisions with respect to withholding taxes on dividends, interest and royalties will take effect, for amounts paid or credited, on or after the first day of the second month following entry into force of the treaty. For other taxes, the protocol will

take effect on the first day of the year following its entry into force. The reduction to 5 percent in the withholding rate on direct investment dividends, and the reduction to 5 percent in the branch tax rate, will be phased in over a three-year period. The rate will be reduced to 7 percent in 1995 and to 6 percent in 1996. The 5 percent rate will be effective beginning in 1997.

Copies of the protocol may be obtained by writing the Office of Public Affairs, U.S. Treasury Department, Room 2315, Washington, D.C. 20220, or calling (202) 622-2960.

-30-

DEPARTMENT OF THE TREASURY

TREASURY NEWS

OFFICE OF PUBLIC AFFAIRS • 1500 PENNSYLVANIA AVENUE, N.W. • WASHINGTON, D.C. • 20220 • (202) 622-2960

FOR IMMEDIATE RELEASE
August 31, 1994

STATEMENT BY TREASURY SECRETARY LLOYD BENTSEN

Any time you can pull down trade barriers that's good for America and our trading partners. Like the Uruguay Round and NAFTA trade agreements, this tax accord with Canada -- and others like it -- does just that. It will help American firms compete better by reducing the cost of doing business in world markets.

-30-

LB-1049

CONVENTION BETWEEN THE GOVERNMENT OF THE UNITED STATES OF AMERICA AND THE GOVERNMENT OF THE FRENCH REPUBLIC FOR THE AVOIDANCE OF DOUBLE TAXATION AND THE PREVENTION OF FISCAL EVASION WITH RESPECT TO TAXES ON INCOME AND CAPITAL

The Government of the United States of America and the Government of the French Republic, desiring to conclude a new convention for the avoidance of double taxation and the prevention of fiscal evasion with respect to taxes on income and capital, have agreed as follows:

ARTICLE 1

Personal Scope

This Convention shall apply only to persons who are residents of one or both of the Contracting States, except as otherwise provided in the Convention.

ARTICLE 2

Taxes Covered

1. The taxes which are the subject of this Convention are:

(a) in the case of the United States:

(i) the Federal income taxes imposed by the Internal Revenue Code (but excluding social security taxes); and

(ii) the excise taxes imposed on insurance premiums paid to foreign insurers and with respect to private foundations

(hereinafter referred to as "United States tax"). The Convention, however, shall apply to the excise taxes imposed on insurance premiums paid to foreign insurers only to the extent that the risks covered by such premiums are not reinsured with a person not entitled to exemption from such taxes under this or any other income tax convention which applies to these taxes;

(b) in the case of France, all taxes imposed on behalf of the State, irrespective of the manner in

which they are levied, on total income, on total capital, or on elements of income or of capital, including taxes on gains from the alienation of movable or immovable property, as well as taxes on capital appreciation, in particular:

(i) the income tax (l'impôt sur le revenu);

(ii) the company tax (l'impôt sur les sociétés);

(iii) the tax on salaries (la taxe sur les salaires) governed by the provisions of the Convention applicable, as the case may be, to business profits or to income from independent personal services; and

(iv) the wealth tax (l'impôt de solidarité sur la fortune)

(hereinafter referred to as "French tax").

2. The Convention shall apply also to any identical or substantially similar taxes that are imposed after the date of signature of the Convention in addition to, or in place of, the existing taxes. The competent authorities of the Contracting States shall notify each other of any significant changes which have been made in their respective taxation laws and of any official published material concerning the application of the Convention, including explanations, regulations, rulings, or judicial decisions.

ARTICLE 3

General Definitions

1. For the purposes of this Convention:

(a) the term "Contracting State" means the United States or France, as the context requires;

(b) the term "United States" means the United States of America, but does not include Puerto Rico, the Virgin Islands, Guam, or any other United States possession or territory. When used in a geographical sense, the term "United States" means the states thereof and the District of Columbia and includes the territorial sea adjacent to those States and any area outside the territorial sea within which, in accordance with international law, the United States has sovereign rights for the purpose of exploring and exploiting the natural resources of the seabed and its subsoil and the superjacent waters;

(c) the term "France" means the French Republic and, when used in a geographical sense, means the European and Overseas Departments of the French Republic and includes the territorial sea and any area outside the territorial sea within which, in accordance with international law, the French Republic has sovereign rights for the purpose of exploring and exploiting the natural resources of the seabed and its subsoil and the superjacent waters;

(d) the term "person" includes, but is not limited to, an individual and a company;

(e) the term "company" means any body corporate or any entity which is treated as a body corporate for tax purposes;

(f) the terms "enterprise of a Contracting State" and "enterprise of the other Contracting State" mean, respectively, an enterprise carried on by a resident of a Contracting State and an enterprise carried on by a resident of the other Contracting State;

(g) the term "international traffic" means any transport by a ship or aircraft, except when the ship or aircraft is operated solely between places in a Contracting State;

(h) the term "competent authority" means:

(i) in the United States, the Secretary of the Treasury or his delegate; and

(ii) in France, the Minister in charge of the budget or his authorized representative.

2. As regards the application of the Convention by a Contracting State, any term not defined herein shall, unless the competent authorities agree to a common meaning pursuant to the provisions of Article 26 (Mutual Agreement Procedure), have the meaning which it has under the taxation laws of that State.

ARTICLE 4

Resident

1. For the purposes of this Convention, the term "resident of a Contracting State" means any person who, under the laws of that State, is liable to tax therein by reason of his domicile, residence, place of management, place of incorporation, or any other criterion of a similar nature. But this term does not include any person who is liable to tax in that State in respect only of income from sources in that State, or of capital situated therein.

2. (a) France shall consider a U.S. citizen or an alien admitted to the United States for permanent residence (a "green card" holder) to be a resident of the United States for the purposes of paragraph 1 only if such individual has a substantial presence in the United States or would be a resident of the United States and not of a third State under the principles of subparagraphs (a) and (b) of paragraph 3.

(b) The term "resident of a Contracting State" includes:

(i) that State, a political subdivision (in the case of the United States) or local authority thereof, and any agency or instrumentality of such State, subdivision, or authority;

(ii) a pension trust and any other organization established in that State and

maintained exclusively to administer or provide retirement or employee benefits that is established or sponsored by a person that is a resident of that State under the provisions of this Article; and any not-for-profit organization established and maintained in that State, provided that the laws of such State or (in the case of the United States) a political subdivision thereof limit the use of the organization's assets, both currently and upon the dissolution or liquidation of such organization, to the accomplishment of the purposes that serve as the basis for such organization's exemption from income tax; notwithstanding that all or part of the income of such trust, other organization, or not-for-profit organization may be exempt from income taxation in that State;

(iii) in the case of the United States, a regulated investment company, a real estate investment trust, and a real estate mortgage investment conduit; in the case of France, a "société d'investissement à capital variable" and a "fonds commun de placement"; and any similar investment entities agreed upon by the competent authorities of both Contracting States;

(iv) a partnership or similar pass-through entity, an estate, and a trust (other than one referred to in subparagraph (ii) or (iii) above), but only to the extent that the income derived by such partnership, similar entity, estate, or trust is subject to tax in the Contracting State as the income of a resident, either in the hands of such partnership, entity, estate, or trust or in the hands of its partners, beneficiaries, or grantors, it being understood that a "société de personnes," a "groupement d'intérêt économique" (economic interest group), or a "groupement européen d'intérêt économique" (European economic interest group) that is constituted in France and has its place of effective management in France and that is not subject to company tax therein shall be treated as a partnership for purposes of United States tax benefits under this Convention.

3. Where, by reason of the provisions of paragraphs 1 and 2, an individual is a resident of both Contracting States, his status shall be determined as follows:

(a) he shall be deemed to be a resident of the State in which he has a permanent home available to him; if he has a permanent home available to him in both Contracting States, he shall be deemed to be a resident of the State with which his personal and

economic relations are closer (center of vital interests);

(b) if the State in which he has his center of vital interests cannot be determined, or if he does not have a permanent home available to him in either State, he shall be deemed to be a resident of the State in which he has an habitual abode;

(c) if he has an habitual abode in both States or in neither of them, he shall be deemed to be a resident of the State of which he is a national;

(d) if he is a national of both States or of neither of them, the competent authorities of the Contracting States shall settle the question by mutual agreement.

4. Where, by reason of the provisions of paragraphs 1 and 2, a person other than an individual is a resident of both Contracting States, the competent authorities shall endeavor to settle the question by mutual agreement, having regard to the person's place of effective management, the place where it is incorporated or constituted, and any other relevant factors. In the absence of such agreement, such person shall not be considered to be a resident of either Contracting State for purposes of enjoying benefits under this Convention.

ARTICLE 5

Permanent Establishment

1. For the purposes of this Convention, the term "permanent establishment" means a fixed place of business through which the business of an enterprise is wholly or partly carried on.

2. The term "permanent establishment" includes especially:

(a) a place of management;

(b) a branch;

(c) an office;

(d) a factory;

(e) a workshop; and

(f) a mine, an oil or gas well, a quarry, or any other place of extraction of natural resources.

3. The term "permanent establishment" shall also include a building site or construction or installation project, or an installation or drilling rig or ship used for the exploration or to prepare for the extraction of natural resources, but only if such site or project lasts, or such rig or ship is used, for more than twelve months.

4. Notwithstanding the preceding provisions of this Article, the term "permanent establishment" shall be deemed not to include:

(a) the use of facilities solely for the purpose of storage, display, or delivery of goods or merchandise belonging to the enterprise;

(b) the maintenance of a stock of goods or merchandise belonging to the enterprise solely for the purpose of storage, display, or delivery;

(c) the maintenance of a stock of goods or merchandise belonging to the enterprise solely for the purpose of processing by another enterprise;

(d) the maintenance of a fixed place of business solely for the purpose of purchasing goods or merchandise, or of collecting information, for the enterprise;

(e) the maintenance of a fixed place of business solely for the purpose of carrying on, for the enterprise, any other activity of a preparatory or auxiliary character;

(f) the maintenance of a fixed place of business solely for any combination of the activities mentioned in subparagraphs (a) to (e), provided that the overall activity of the fixed place of business resulting from this combination is of a preparatory or auxiliary character.

5. Notwithstanding the provisions of paragraphs 1 and 2, where a person - other than an agent of an independent status to whom paragraph 6 applies - is acting on behalf of

an enterprise and has and habitually exercises in a Contracting State an authority to conclude contracts in the name of the enterprise, that enterprise shall be deemed to have a permanent establishment in that State in respect of any activities which that person undertakes for the enterprise, unless the activities of such person are limited to those mentioned in paragraph 4 which, if exercised through a fixed place of business, would not make this fixed place of business a permanent establishment under the provisions of that paragraph.

6. An enterprise shall not be deemed to have a permanent establishment in a Contracting State merely because it carries on business in that State through a broker, general commission agent, or any other agent of an independent status, provided that such persons are acting in the ordinary course of their business as such.

7. The fact that a company which is a resident of a Contracting State controls or is controlled by a company which is a resident of the other Contracting State, or which carries on business in that other State (whether through a permanent establishment or otherwise), shall not of itself constitute either company a permanent establishment of the other.

ARTICLE 6

Income From Real Property

1. Income from real property (including income from agriculture or forestry) situated in a Contracting State may be taxed that State.

2. The term "real property" shall have the meaning which it has under the law of the Contracting State in which the property in question is situated. The term shall in any case include options, promises to sell, and similar rights relating to real property, property accessory to real property, livestock and equipment used in agriculture and forestry, rights to which the provisions of general law respecting landed property apply, usufruct of real property and rights to variable or fixed payments as consideration for the working of, or the right to work, mineral deposits, sources and other natural resources. Ships and aircraft shall not be regarded as real property.

3. The provisions of paragraph 1 shall apply to income from the direct use, letting, or use in any other form of real property.

4. The provisions of paragraphs 1 and 3 shall also apply to income from real property of an enterprise and to income from real property used for the performance of independent personal services.

5. Where the ownership of shares or other rights in a company entitles a resident of a Contracting State to the

enjoyment of real property situated in the other Contracting State and held by that company, the income derived by the owner from the direct use, letting, or use in any other form of this right of enjoyment may be taxed in that other State to the extent that it would be taxed under the domestic law of that other State if the owner were a resident of that State. The provisions of this paragraph shall apply, notwithstanding the provisions of Articles 7 (Business Profits) and 14 (Independent Personal Services).

6. A resident of a Contracting State who is liable to tax in the other Contracting State on income from real property situated in the other Contracting State may elect to be taxed on a net basis, if such treatment is not provided under the domestic law of that other State.

ARTICLE 7

Business Profits

1. The profits of an enterprise of a Contracting State shall be taxable only in that State unless the enterprise carries on business in the other Contracting State through a permanent establishment situated therein. If the enterprise carries on business as aforesaid, the profits of the enterprise may be taxed in the other State but only so much of them as is attributable to that permanent establishment.

2. Subject to the provisions of paragraph 3, where an enterprise of a Contracting State carries on business in the other Contracting State through a permanent establishment situated therein, there shall in each Contracting State be attributed to that permanent establishment the profits which it might be expected to make if it were a distinct and independent enterprise engaged in the same or similar activities under the same or similar conditions.

3. In determining the profits of a permanent establishment, there shall be allowed as deductions expenses which are reasonably connected with such profits, including executive and general administrative expenses, whether incurred in the State in which the permanent establishment is situated or elsewhere.

4. A partner shall be considered to have realized income or incurred deductions to the extent of his share of the profits or losses of a partnership, as provided in the partnership agreement (provided that any special allocations of profits or losses have substantial economic effect). For this purpose, the character (including source and attribution to a permanent establishment) of any item of income or deduction accruing to a partner shall be determined as if it were realized or incurred by the partner in the same manner as realized or incurred by the partnership.

5. No profits shall be attributed to a permanent establishment by reason of the mere purchase by that permanent establishment of goods or merchandise for the enterprise.

6. For the purposes of the preceding paragraphs of this Article, the profits to be attributed to the permanent establishment shall include only the profits or losses derived from the assets or activities of the permanent establishment and shall be determined by the same method year by year unless there is good and sufficient reason to the contrary.

7. Any profit attributable to a permanent establishment, according to the provisions of this Article, during its existence may be taxed in the Contracting State in which such permanent establishment is situated, even if the payments are deferred until such permanent establishment has ceased to exist.

8. Where profits include items of income which are dealt with separately in other Articles of this Convention, then the provisions of those Articles shall not be affected by the provisions of this Article.

ARTICLE 8

Shipping and Air Transport

1. Profits of an enterprise of a Contracting State from the operation of ships or aircraft in international traffic shall be taxable only in that State.

2. For the purposes of this Article, profits from the operation of ships or aircraft in international traffic include:

(a) profits of the enterprise derived from the rental on a full basis of ships or aircraft operated in international traffic, and profits of the enterprise derived from the rental on a bareboat basis of ships or aircraft if such ships or aircraft are operated in international traffic by the lessee or such rental profits are accessory to other profits described in paragraph 1; and

(b) profits of the enterprise from the use, maintenance or rental of containers used in international traffic (including trailers, barges, and related equipment for the transport of such containers) if such profits are accessory to other profits described in paragraph 1.

3. The provisions of paragraphs 1 and 2 shall also apply to profits from participation in a pool, a joint business, or an international operating agency.

ARTICLE 9

Associated Enterprises

1. Where:

(a) an enterprise of a Contracting State participates directly or indirectly in the management, control, or capital of an enterprise of the other Contracting State; or

(b) the same persons participate directly or indirectly in the management, control, or capital of an enterprise of a Contracting State and an enterprise of the other Contracting State,

and in either case conditions are made or imposed between the two enterprises in their commercial or financial relations which differ from those which would be made between independent enterprises, then any profits which, but for those conditions, would have accrued to one of the enterprises, but by reason of those conditions have not so accrued, may be included in the profits of that enterprise and taxed accordingly.

2. Where a Contracting State includes in the profits of an enterprise of that State, and taxes accordingly, profits on which an enterprise of the other Contracting State has been charged to tax in that other State, and the other Contracting State agrees that the profits so included are profits that would have accrued to the enterprise of the first-mentioned State if the conditions made between the two

enterprises had been those that would have been made between independent enterprises, then that other State shall, in accordance with the provisions of Article 26 (Mutual Agreement Procedure), make an appropriate adjustment to the amount of the tax charged therein on those profits. In determining such adjustment, due regard shall be paid to the other provisions of this Convention.

ARTICLE 10

Dividends

1. Dividends paid by a company that is a resident of a Contracting State to a resident of the other Contracting State may be taxed in that other State.

2. Such dividends may also be taxed in the Contracting State of which the company paying the dividends is a resident, and according to the laws of that State, but if the beneficial owner of the dividends is a resident of the other Contracting State, the tax so charged shall not exceed:

(a) 5 percent of the gross amount of the dividends if the beneficial owner is a company that owns:

(i) directly, at least 10 percent of the voting power in the company paying the dividends, if such company is a resident of the United States; or

(ii) directly or indirectly, at least 10 percent of the capital of the company paying the dividends, if such company is a resident of France;

(b) 15 percent of the gross amount of the dividends in other cases.

The provisions of subparagraph (a) shall not apply in the case of dividends paid by a United States regulated investment company or real estate investment trust or by a French "société d'investissement à capital variable." In the case of dividends paid by a United States regulated investment company or a French "société d'investissement à capital variable," the provisions of subparagraph (b) shall apply. In the case of dividends paid by a United States real estate investment trust, the provisions of subparagraph (b) shall apply only if the dividend is beneficially owned by an individual owning a less than 10 percent interest in such real estate investment trust; otherwise, the rate of withholding tax applicable under the domestic law of the United States shall apply.

3. The provisions of paragraph 2 shall not affect the taxation of the company in respect of the profits out of which the dividends are paid.

4. (a) A resident of the United States who derives and is the beneficial owner of dividends paid by a company that is a resident of France that, if received

by a resident of France, would entitle such a resident to a tax credit ("avoir fiscal") shall be entitled to a payment from the French Treasury equal to such tax credit ("avoir fiscal"), subject to deduction of the tax provided for in subparagraph (b) of paragraph 2.

(b) The provisions of subparagraph (a) shall apply only to a resident of the United States that is:

(i) an individual or other person (other than a company); or

(ii) a company that is not a regulated investment company and that does not own, directly or indirectly, 10 percent or more of the capital of the company paying the dividends; or

(iii) a regulated investment company that does not own, directly or indirectly, 10 percent or more of the capital of the company paying the dividends, but only if less than 20 percent of its shares is beneficially owned by persons who are neither citizens nor residents of the United States.

(c) The provisions of subparagraph (a) shall apply only if the beneficial owner of the dividends is subject to United States income tax in respect of such dividends and of the payment from the French Treasury.

(d) Notwithstanding the provisions of subparagraphs (b) and (c), the provisions of

subparagraph (a) shall also apply to a partnership or trust described in subparagraph (b)(iv) of paragraph 2 of Article 4 (Resident), but only to the extent that the partners, beneficiaries, or grantors would qualify under subparagraph (b)(i) or (b)(ii) and under subparagraph (c) of this paragraph.

(e) (i) A resident of the United States described in subparagraph (ii) that does not own, directly or indirectly, 10 percent or more of the capital of a company that is a resident of France, and that derives and beneficially owns dividends paid by such company that, if derived by a resident of France, would entitle such resident to a tax credit ("avoir fiscal"), shall be entitled to a payment from the French Treasury equal to 30/85 of the amount of such tax credit ("avoir fiscal"), subject to the deduction of the tax provided for in subparagraph (b) of paragraph 2;

(ii) The provisions of subparagraph (i) shall apply to:

(aa) a person described in subparagraph (b)(i) of paragraph 2 of Article 4 (Resident), with respect to dividends derived by such person from the investment of retirement assets;

(bb) a pension trust and any other organization described in subparagraph (b)(ii) of paragraph 2 of Article 4 (Resident); and

(cc) an individual, with respect to dividends beneficially owned by such individual and derived from investment in a retirement arrangement under which the contributions or the accumulated earnings receive tax-favored treatment under U.S. law.

(f) The gross amount of a payment made by the French Treasury pursuant to subparagraph (a), (d), or (e) shall be deemed to be a dividend for the purposes of this Convention.

(g) The provisions of subparagraphs (a), (d), and (e) shall apply only if the beneficial owner of the dividends shows, where required by the French tax administration, that he is the beneficial owner of the shareholding in respect of which the dividends are paid and that such shareholding does not have as its principal purpose or one of its principal purposes to allow another person to take advantage of the provisions of this paragraph, regardless of whether that person is a resident of a Contracting State.

(h) Where a resident of the United States that derives and beneficially owns dividends paid by a

company that is a resident of France is not entitled to the payment from the French Treasury referred to in subparagraph (a), such resident may obtain a refund of the prepayment (précompte) to the extent that it was actually paid by the company in respect of such dividends. Where such a resident is entitled to the payment from the French Treasury referred to in subparagraph (e), such refund shall be reduced by the amount of the payment from the French Treasury. The gross amount of the prepayment (précompte) refunded shall be deemed to be a dividend for the purposes of the Convention. It shall be taxable in France according to the provisions of paragraph 2.

(i) The competent authorities may prescribe rules to implement the provisions of this paragraph and further define and determine the terms and conditions under which the payments provided for in subparagraphs (a), (d), and (e) shall be made.

5. (a) The term "dividends" means income from shares, "jouissance" shares or "jouissance" rights, mining shares, founders' shares or other rights, not being debt-claims, participating in profits, as well as income treated as a distribution by the taxation laws of the State of which the company making the distribution is a resident; and income from arrangements, including debt obligations, that carry

the right to participate in, or are determined with reference to, profits of the issuer or one of its associated enterprises, as defined in subparagraph (a) or (b) of paragraph 1 of Article 9 (Associated Enterprises), to the extent that such income is characterized as a dividend under the law of the Contracting State in which the income arises. The term "dividend" shall not include income referred to in Article 16 (Directors' Fees).

(b) The provisions of this Article shall apply where a beneficial owner of dividends holds depository receipts evidencing ownership of the shares in respect of which the dividends are paid, in lieu of the shares themselves.

6. The provisions of paragraphs 1 through 4 shall not apply if the beneficial owner of the dividends, being a resident of a Contracting State, carries on business in the other Contracting State of which the company paying the dividends is a resident through a permanent establishment situated therein, or performs in that other State independent personal services from a fixed base situated therein, and the dividends are attributable to such permanent establishment or fixed base. In such a case the provisions of Article 7 (Business Profits) or Article 14 (Independent Personal Services), as the case may be, shall apply.

7. (a) A company that is a resident of a Contracting State and that has a permanent establishment in the other Contracting State or that is subject to tax on a net basis in that other State on items of income that may be taxed in that other State under Article 6 (Income from Real Property) or under paragraph 1 of Article 13 (Capital Gains) may be subject in that other State to a tax in addition to the other taxes allowable under this Convention. Such tax, however, may not exceed 5 percent of that portion of the business profits of the company attributable to the permanent establishment, or of that portion of the income referred to in the preceding sentence that is subject to tax under Article 6 or paragraph 1 of Article 13, that:

(i) in the case of the United States, represents the "dividend equivalent amount" of those profits or income, in accordance with the provisions of the Internal Revenue Code, as it may be amended from time to time without changing the general principle thereof;

(ii) in the case of France, is included in the base of the French withholding tax in accordance with the provisions of Article 115 "quinquies" of the French tax code (code général

des impôts) or with any similar provisions which amend or replace the provisions of that Article.

(b) The taxes referred to in subparagraph (a) also shall apply to the portion of the business profits, or of the income subject to tax under Article 6 (Real Property) or paragraph 1 of Article 13 (Capital Gains) that is referred to in subparagraph (a), which is attributable to a trade or business conducted in one Contracting State through a partnership or other entity treated as a pass-through entity or transparent entity under the laws of that State by a company that is a member of such partnership or entity and a resident of the other Contracting State.

8. Subject to the provisions of paragraph 7, where a company that is a resident of a Contracting State derives profits or income from the other Contracting State, that other State may not impose any tax on the dividends paid by the company, except insofar as such dividends are paid to a resident of that other State or insofar as the dividends are attributable to a permanent establishment or fixed base situated in that other State, nor subject the company's undistributed profits to a tax on the company's undistributed profits, even if the dividends paid or the undistributed profits consist wholly or partly of profits or income arising in such other State.

ARTICLE 11

Interest

1. Interest arising in a Contracting State and beneficially owned by a resident of the other Contracting State shall be taxable only in that other State.

2. Notwithstanding the provisions of paragraph 1:

(a) interest arising in a Contracting State that is determined with reference to the profits of the issuer or of one of its associated enterprises, as defined in subparagraph (a) or (b) of paragraph 1 of Article 9 (Associated Enterprises), and paid to a resident of the other Contracting State may be taxed in that other State;

(b) however, such interest may also be taxed in the Contracting State in which it arises, and according to the laws of that State, but if the beneficial owner is a resident of the other Contracting State, the gross amount of the interest may be taxed at a rate not exceeding the rate prescribed in subparagraph (b) of paragraph 2 of Article 10 (Dividends).

3. The term "interest" means income from indebtedness of every kind, whether or not secured by mortgage, and whether or not carrying a right to participate in the debtor's profits, and in particular, income from government securities and income from bonds or debentures, including premiums or prizes attaching to such securities, bonds, or

debentures, as well as other income that is treated as income from money lent by the taxation law of the Contracting State in which the income arises. However, the term "interest" does not include income dealt with in Article 10 (Dividends). Penalty charges for late payment shall not be regarded as interest for the purposes of the Convention.

4. The provisions of paragraphs 1 and 2 shall not apply if the beneficial owner of the interest, being a resident of a Contracting State, carries on business in the other Contracting State, in which the interest arises, through a permanent establishment situated therein, or performs in that other State independent personal services from a fixed base situated therein, and the interest is attributable to such permanent establishment or fixed base. In such case the provisions of Article 7 (Business Profits) or Article 14 (Independent Personal Services), as the case may be, shall apply.

5. Interest shall be deemed to arise in a Contracting State when the payer is a resident of that State. Where, however, the person paying the interest, whether he is a resident of a Contracting State or not, has in a Contracting State a permanent establishment or a fixed base in connection with which the indebtedness on which the interest is paid was incurred, and such interest is borne by such permanent establishment or fixed base, then such interest

shall be deemed to arise in the State in which the permanent establishment or fixed base is situated.

6. Where, by reason of a special relationship between the payer and the beneficial owner or between both of them and some other person, the amount of the interest, having regard to the debt-claim for which it is paid, exceeds the amount that would have been agreed upon by the payer and the beneficial owner in the absence of such relationship, the provisions of this Article shall apply only to the last-mentioned amount. In such case the excess part of the payments shall remain taxable according to the laws of each Contracting State, due regard being had to the other provisions of this Convention.

ARTICLE 12

Royalties

1. Royalties arising in a Contracting State and paid to a resident of the other Contracting State may be taxed in that other State.

2. Such royalties may also be taxed in the Contracting State in which they arise and according to the laws of that State, but if the beneficial owner is a resident of the other Contracting State, the tax so charged shall not exceed 5 percent of the gross amount of the royalties.

3. Notwithstanding the provisions of paragraph 2, royalties described in subparagraph (a) of paragraph 4 that arise in a Contracting State and are beneficially owned by a resident of the other Contracting State shall be taxable only in that other State.

4. The term "royalties" means:

(a) payments of any kind received as a consideration for the use of, or the right to use, any copyright of literary, artistic, or scientific work or any neighboring right (including reproduction rights and performing rights), any cinematographic film, any sound or picture recording, or any software;

(b) payments of any kind received as a consideration for the use of, or the right to use, any patent, trademark, design or model, plan, secret formula or process, or other like right or property, or for information concerning industrial, commercial, or scientific experience; and

(c) gains derived from the alienation of any such right or property described in this paragraph that are contingent on the productivity, use, or further alienation thereof.

5. The provisions of paragraphs 1, 2, and 3 shall not apply if the beneficial owner of the royalties, being a resident of a Contracting State, carries on business in the other Contracting State, in which the royalties arise,

through a permanent establishment situated therein, or performs in that other State independent personal services from a fixed base situated therein, and the royalties are attributable to such permanent establishment or fixed base. In such case the provisions of Article 7 (Business Profits) or Article 14 (Independent Personal Services), as the case may be, shall apply.

6. (a) Royalties shall be deemed to arise in a Contracting State when the payer is a resident of that State.

(b) Where, however, the person paying the royalties, whether he is a resident of a Contracting State or not, has in a Contracting State a permanent establishment or a fixed base in connection with which the liability to pay the royalties was incurred, and such royalties are borne by such permanent establishment or fixed base, then such royalties shall be deemed to arise in the State in which the permanent establishment or fixed base is situated.

(c) Notwithstanding subparagraphs (a) and (b), royalties paid for the use of, or the right to use, property in a Contracting State shall be deemed to arise therein.

(d) Royalties shall be deemed to be paid to the beneficial owner at the latest when they are taken into

account as expenses for tax purposes in the Contracting State in which they arise.

7. Where, by reason of a special relationship between the payer and the beneficial owner or between both of them and some other person, the amount of the royalties, having regard to the use, right, or information for which they are paid, exceeds the amount which would have been agreed upon by the payer and the beneficial owner in the absence of such relationship, the provisions of this Article shall apply only to the last-mentioned amount. In such case the excess part of the payments shall remain taxable according to the laws of each Contracting State, due regard being had to the other provisions of this Convention.

ARTICLE 13

Capital Gains

1. Gains from the alienation of real property situated in a Contracting State may be taxed in that State.

2. For purposes of paragraph 1, the term "real property situated in a Contracting State" means:

(a) where the United States is the Contracting State, real property referred to in Article 6 (Real Property) that is situated in the United States, a United States real property interest (as defined in section 897 of the Internal Revenue Code, as it may be amended from time to time without changing the general

principle thereof), and an interest in a partnership, trust, or estate, to the extent attributable to real property situated in the United States; and

(b) where France is the Contracting State,

(i) real property referred to in Article 6 (Real Property) that is situated in France; and

(ii) shares or similar rights in a company the assets of which consist at least 50 percent of real property situated in France or derive at least 50 percent of their value, directly or indirectly, from real property situated in France;

(iii) an interest in a partnership, a "société de personnes", a "groupement d'interêt économique" (economic interest group), or a "groupement européen d'intérêt économique" (European economic interest group) (other than a partnership, a "société de personnes", a "groupement d'intérêt economique" (economic interest group), or a "groupement européen d'intérêt économique" that is taxed as a company under French domestic law), an estate, or a trust, to the extent attributable to real property situated in France.

3. (a) Gains from the alienation of movable property forming part of the business property of a permanent establishment or fixed base that an enterprise or resident of a Contracting State has in the other

Contracting State, including such gains from the alienation of such permanent establishment (alone or with the whole enterprise) or of such fixed base, may be taxed in that other State. Where the removal of such property from the other Contracting State is deemed to constitute an alienation of such property, the gain that has accrued as of the time that such property is removed from that other State may be taxed by that other State in accordance with its law, and the gain accruing subsequent to that time of removal may be taxed in the first-mentioned Contracting State in accordance with its law.

(b) Any gain attributable to a permanent establishment or a fixed base according to the provisions of subparagraph (a) during its existence may be taxed in the Contracting State in which such permanent establishment or fixed base is situated, even if the payments are deferred until such permanent establishment or fixed base has ceased to exist.

4. Gains derived by an enterprise of a Contracting State that operates ships or aircraft in international traffic from the alienation of such ships or aircraft or movable property pertaining to the operation of such ships or aircraft shall be taxable only in that State.

5. Gains described in subparagraph (c) of paragraph 4 of Article 12 (Royalties) shall be taxable only in accordance with the provisions of Article 12.

6. Subject to the provisions of paragraph 5, gains from the alienation of any property other than property referred to in paragraphs 1 through 4 shall be taxable only in the Contracting State of which the alienator is a resident.

ARTICLE 14

Independent Personal Services

1. Income derived by a resident of a Contracting State in respect of professional services or other activities of an independent character shall be taxable only in that State unless that resident performs activities in the other Contracting State and has a fixed base regularly available to him in that other State for the purpose of performing his activities. In such a case, the income may be taxed in the other State, but only so much of it as is attributable to that fixed base, and according to the principles contained in Article 7 (Business Profits).

2. Any income attributable to a fixed base during its existence, according to the provisions of paragraph 1, may be taxed in the Contracting State in which such fixed base is situated, even if the payments are deferred until such fixed base has ceased to exist.

3. The term "professional services" includes especially independent scientific, literary, artistic, educational, or teaching activities as well as the independent activities of physicians, lawyers, engineers, architects, dentists, and accountants.

4. The provisions of paragraph 4 of Article 7 (Business Profits) shall apply by analogy. In no event, however, shall those provisions or the provisions of Article 4 (Resident) result in France exempting under Article 24 (Relief from Double Taxation) more than 50 percent of the earned income from a partnership accruing to a resident of France. The amount of such a partner's income which is not exempt under Article 24 (Relief from Double Taxation) solely by reason of the preceding sentence shall reduce the amount of partnership earned income from sources within France on which France can tax partners who are not residents of France.

ARTICLE 15

Dependent Personal Services

1. Subject to the provisions of Articles 16 (Directors' Fees), 18 (Pensions), and 19 (Public Remuneration), salaries, wages, and other similar remuneration derived by a resident of a Contracting State in respect of an employment shall be taxable only in that State unless the employment is exercised in the other Contracting

State. If the employment is so exercised, such remuneration as is derived therefrom may be taxed in that other State.

2. Notwithstanding the provisions of paragraph 1, remuneration derived by a resident of a Contracting State in respect of an employment exercised in the other Contracting State shall be taxable only in the first-mentioned State if:

(a) the recipient is present in the other State for a period or periods not exceeding in the aggregate 183 days in any 12-month period commencing or ending in the taxable period concerned;

(b) the remuneration is paid by, or on behalf of, an employer who is not a resident of the other State; and

(c) the remuneration is not borne by a permanent establishment or a fixed base which the employer has in the other State.

3. Notwithstanding the preceding provisions of this Article, remuneration derived by a resident of a Contracting State in respect of an employment exercised as a member of the regular complement of a ship or aircraft operated in international traffic shall be taxable only in that State.

ARTICLE 16

<u>Directors' Fees</u>

Directors' fees and other remuneration derived by a resident of a Contracting State for services rendered in the

other Contracting State in his capacity as a member of the board of directors of a company that is a resident of the other Contracting State may be taxed in that other State.

ARTICLE 17

Artistes and Sportsmen

1. Notwithstanding the provisions of Articles 14 (Independent Personal Services) and 15 (Dependent Personal Services), income derived by a resident of a Contracting State as an entertainer, such as a theatre, motion picture, radio, or television artiste or a musician, or as a sportsman, from his personal activities as such exercised in the other Contracting State, may be taxed in that other State. However, the provisions of this paragraph shall not apply where the amount of the gross receipts derived by such entertainer or sportsman from such activities, including expenses reimbursed to him or borne on his behalf, does not exceed 10,000 United States dollars or its equivalent in French francs for the taxable period concerned.

2. Where income in respect of personal activities exercised by an entertainer or sportsman in his capacity as such accrues not to the entertainer or sportsman but to another person, whether or not a resident of a Contracting State, that income may, notwithstanding the provisions of Articles 7 (Business Profits), 14 (Independent Personal Services), and 15 (Dependent Personal Services), be taxed in

the Contracting State in which the activities of the entertainer or sportsman are exercised. However, the provisions of this paragraph shall not apply where it is established that neither the entertainer or sportsman nor persons related to him derive from that other person any income, directly or indirectly, in respect of such activities that in the aggregate exceeds the amount specified in paragraph 1 for the taxable period concerned.

3. The provisions of paragraphs 1 and 2 shall not apply to income derived by a resident of a Contracting State as an entertainer or a sportsman from his personal activities as such exercised in the other Contracting State if the visit to that other State is principally supported, directly or indirectly, by public funds of the first-mentioned State or a political subdivision (in the case of the United States) or local authority thereof. In such case the income shall be taxable only in the first-mentioned State.

ARTICLE 18

Pensions

1. Subject to the provisions of paragraph 2 of Article 19 (Public Remuneration):

(a) except as provided in subparagraph (b), pensions and other similar remuneration, including distributions from pension and other retirement

arrangements, derived and beneficially owned by a resident of a Contracting State in consideration of past employment, whether paid periodically or in a lump sum, shall be taxable only in that State;

(b) pensions and other payments made under the social security legislation of a Contracting State to a resident of the other Contracting State shall be taxable only in the first-mentioned State. Pensions and other payments made under the social security legislation of France to a resident of France who is a citizen of the United States shall be taxable only in France. The term "social security legislation" includes the Railroad Retirement Act in the case of the United States and the French social security regimes which are of a mandatory character.

2. (a) In determining the taxable income of an individual who renders personal services and who is a resident of a Contracting State but not a national of that State, contributions paid by, or on behalf of, such individual to a pension or other retirement arrangement that is established and maintained and recognized for tax purposes in the other Contracting State shall be treated in the same way for tax purposes in the first-mentioned State as a contribution paid to a pension or other retirement arrangement that is established and maintained and recognized for tax

purposes in that first-mentioned State, provided that the competent authority of the first-mentioned State agrees that the pension or other retirement arrangement generally corresponds to a pension or other retirement arrangement recognized for tax purposes by that State.

(b) For the purposes of subparagraph (a):

(i) where the competent authority of France agrees that a United States pension or other retirement arrangement generally corresponds to a mandatory French pension arrangement (without regard to the mandatory nature of such arrangement), it is understood that contributions to the United States pension or other retirement arrangement shall be treated in France in the same way for tax purposes as contributions to the French mandatory pension arrangement; and

(ii) where the competent authority of the United States agrees that a mandatory French pension or other retirement arrangement generally corresponds to a United States pension or other retirement arrangement (without regard to the mandatory nature of such arrangement), it is understood that contributions to the French pension or other retirement arrangement shall be treated in the United States in the same way for

tax purposes as contributions to the United States pension or other retirement arrangement; and

(iii) a pension or other retirement arrangement is recognized for tax purposes in a State if the contributions to the arrangement would qualify for tax relief in that State.

(c) Payments received by a beneficiary in respect of an arrangement referred to in subparagraph (a) that satisfies the requirements of this paragraph shall be included in income for tax purposes of the Contracting State of which the beneficiary is a resident, subject to the provisions of Article 24 (Relief from Double Taxation), when and to the extent that such payments are considered gross income by the other Contracting State.

ARTICLE 19

Public Remuneration

1. (a) Remuneration, other than a pension, paid by a Contracting State, a political subdivision (in the case of the United States) or local authority thereof, or an agency or instrumentality of that State, subdivision, or authority to an individual in respect of services rendered to that State, subdivision, authority, agency, or instrumentality shall be taxable only in that State.

(b) However, such remuneration shall be taxable

only in the other Contracting State if the services are rendered in that State and the individual is a resident of and a national of that State and not at the same time a national of the first-mentioned State.

2. (a) Any pension paid by, or out of funds created by, a Contracting State, a political subdivision (in the case of the United States) or local authority thereof, or an agency or instrumentality of that State, subdivision, or authority to an individual in respect of services rendered to that State, subdivision, authority, agency, or instrumentality shall be taxable only in that State.

(b) However, such pension shall be taxable only in the other Contracting State if the individual is a resident of and a national of that State and not at the same time a national of the first-mentioned State.

3. The provisions of Articles 14 (Independent Personal Services), 15 (Dependent Personal Services), 16 (Directors' Fees), 17 (Artistes and Sportsmen), and 18 (Pensions) shall apply to remuneration and pensions paid in respect of services rendered in connection with a business carried on by a Contracting State, a political subdivision (in the case of the United States) or local authority thereof, or an agency or instrumentality of that State, subdivision, or authority.

ARTICLE 20

Teachers and Researchers

1. An individual who is a resident of a Contracting State immediately before his visit to the other Contracting State and who, at the invitation of the Government of that other State or of a university or other recognized educational or research institution situated in that other State, visits that other State for the primary purpose of teaching or engaging in research, or both, at a university or other recognized educational or research institution shall be taxable only in the first-mentioned State on his income from personal services for such teaching or research for a period not exceeding 2 years from the date of his arrival in the other State. An individual shall be entitled to the benefits of this paragraph only once.

2. The provisions of paragraph 1 shall not apply to income from research if such research is undertaken not in the public interest but primarily for the private benefit of a specific person or persons.

ARTICLE 21

Students and Trainees

1. (a) An individual who is a resident of a Contracting State immediately before his visit to the other Contracting State and who is temporarily present

in the other Contracting State for the primary purpose of:

(i) studying at a university or other recognized educational institution in that other Contracting State;

(ii) securing training required to qualify him to practice a profession or professional specialty; or

(iii) studying or doing research as a recipient of a grant, allowance, or award from a not-for-profit governmental, religious, charitable, scientific, artistic, cultural, or educational organization,

shall be exempt from tax in that other State with respect to amounts referred to in subparagraph (b).

(b) The amounts referred to in subparagraph (a) are:

(i) gifts from abroad for the purposes of his maintenance, education, study, research, or training;

(ii) a grant, allowance, or award described in subparagraph (a)(iii); and

(iii) income from personal services performed in the other Contracting State in an amount not in excess of 5,000 United States dollars or its

equivalent in French francs for any taxable period.

(c) The benefits of this paragraph shall only extend for such period of time as may be reasonably or customarily required to effectuate the purpose of the visit, but in no event shall any individual have the benefits of this Article and Article 20 (Teachers and Researchers) for more than a total of five taxable periods.

(d) The provisions of subparagraph (a) shall not apply to income from research if such research is undertaken not in the public interest but primarily for the private benefit of a specific person or persons.

2. An individual who is a resident of a Contracting State immediately before his visit to the other Contracting State, and who is temporarily present in that other State as an employee of, or under contract with, a resident of the first-mentioned State for the primary purpose of:

(a) acquiring technical, professional, or business experience from a person other than that resident of the first-mentioned State, or

(b) studying at a university or other recognized educational institution in the other State,

shall be exempt from tax by that other State for a period of 12 consecutive months with respect to his income from personal services in an aggregate amount not in excess of

8,000 United States dollars or its equivalent in French francs.

ARTICLE 22

Other Income

1. Items of income of a resident of a Contracting State, wherever arising, not dealt with in the foregoing Articles of this Convention shall be taxable only in that State.

2. The provisions of paragraph 1 shall not apply to income, other than income from real property as defined in paragraph 2 of Article 6 (Income from Real Property), if the recipient of such income, being a resident of a Contracting State, carries on business in the other Contracting State through a permanent establishment situated therein, or performs in that other State independent personal services from a fixed base situated therein, and the right or property in respect of which the income is paid is effectively connected with such permanent establishment or fixed base. In such case the provisions of Article 7 (Business Profits) or Article 14 (Independent Personal Services), as the case may be, shall apply.

ARTICLE 23

Capital

1. (a) Capital represented by real property referred to in Article 6 (Income from Real Property) and situated in a Contracting State may be taxed in that State.

(b) Capital represented by shares, rights, or an interest in a company the assets of which consist at least 50 percent of real property situated in a Contracting State, or derive at least 50 percent of their value, directly or indirectly, from real property situated in a Contracting State, may be taxed in that State.

(c) If and to the extent that the assets of a person other than an individual or a company consist of real property situated in a Contracting State, or derive their value, directly or indirectly, from real property situated in a Contracting State, capital represented by an interest in such person may be taxed in that State.

2. Capital of an individual represented by shares, rights, or an interest (other than shares, rights, or an interest referred to in subparagraph (b) or (c) of paragraph 1) forming part of a substantial interest in a company that is a resident of a Contracting State may be taxed in that State. An individual is considered to have a substantial

interest if he or she owns, alone or with related persons, directly or indirectly, shares, rights, or interests the total of which gives right to at least 25 percent of the corporate earnings.

3. Capital represented by movable property forming part of the business property of a permanent establishment that an enterprise of a Contracting State has in the other Contracting State or by movable property pertaining to a fixed base that is available to a resident of a Contracting State in the other Contracting State for the purpose of performing independent personal services may be taxed in that other State.

4. Capital of an enterprise of a Contracting State that operates ships or aircraft in international traffic represented by such ships or aircraft and movable property pertaining to the operation of such ships or aircraft shall be taxable only in that State.

5. All other elements of capital of a resident of a Contracting State are taxable only in that State.

6. Notwithstanding the provisions of the preceding paragraphs of this Article, for the purposes of taxation with respect to the wealth tax referred to in subparagraph (b)(iv) of paragraph 1 of Article 2 (Taxes Covered) of an individual resident of France who is a citizen of the United States and not a French national, the assets situated outside of France that such a person owns on the first of

January of each of the five years following the calendar year in which he becomes a resident of France shall be excluded from the base of assessment of the above-mentioned wealth tax relating to each of those five years. If such an individual loses the status of resident of France for a duration of at least three years and again becomes a resident of France, the assets situated outside of France that such a person owns on the first of January of each of the five years following the calendar year in which he again becomes a resident of France shall be excluded from the base of assessment of the tax relating to each of those five years.

ARTICLE 24

Relief From Double Taxation

1. (a) In accordance with the provisions and subject to the limitations of the law of the United States (as it may be amended from time to time without changing the general principle hereof), the United States shall allow to a citizen or a resident of the United States as a credit against the United States income tax:

(i) the French income tax paid by or on behalf of such citizen or resident; and

(ii) in the case of a United States company owning at least 10 percent of the voting power of a company that is a resident of France and from

which the United States company receives dividends, the French income tax paid by or on behalf of the distributing corporation with respect to the profits out of which the dividends are paid.

(b) In the case of an individual who is both a resident of France and a citizen of the United States:

(i) the United States shall allow as a credit against the United States income tax the French income tax paid after the credit referred to in subparagraph (a)(iii) of paragraph 2. However, the credit so allowed against United States income tax shall not reduce that portion of the United States income tax that is creditable against French income tax in accordance with subparagraph (a)(iii) of paragraph 2;

(ii) income referred to in paragraph 2 and income that, but for the citizenship of the taxpayer, would be exempt from United States income tax under the Convention, shall be considered income from sources within France to the extent necessary to give effect to the provisions of subparagraph (b)(i). The provisions of this subparagraph (b)(ii) shall apply only to the extent that an item of income is included in gross income for purposes of determining French

tax. No provision of this subparagraph (b) relating to source of income shall apply in determining credits against United States income tax for foreign taxes other than French income tax as defined in subparagraph (e); and

(c) In the case of an individual who is both a resident and citizen of the United States and a national of France, the provisions of paragraph 2 of Article 29 (Miscellaneous Provisions) shall apply to remuneration and pensions described in paragraph 1 or 2 of Article 19 (Public Remuneration), but such remuneration and pensions shall be treated by the United States as income from sources within France.

(d) If, for any taxable period, a partnership of which an individual member is a resident of France so elects, for United States tax purposes, any income which solely by reason of paragraph 4 of Article 14 is not exempt from French tax under this Article shall be considered income from sources within France. The amount of such income shall reduce (but not below zero) the amount of partnership earned income from sources outside the United States that would otherwise be allocated to partners who are not residents of France. For this purpose, the reduction shall apply first to income from sources within France and then to other income from sources outside the United States. If the

individual member of the partnership is both a resident of France and a citizen of the United States, this provision shall not result in a reduction of United States tax below that which the taxpayer would have incurred without the benefit of deductions or exclusions available solely by reason of his presence or residence outside the United States.

(e) For the purposes of this Article, the term "French income tax" means the taxes referred to in subparagraph (b)(i) or (ii) of paragraph 1 of Article 2 (Taxes Covered), and any identical or substantially similar taxes that are imposed after the date of signature of the Convention in addition to, or in place of, the existing taxes.

2. In the case of France, double taxation shall be avoided in the following manner:

(a) Income arising in the United States that may be taxed or shall be taxable only in the United States in accordance with the provisions of this Convention shall be taken into account for the computation of the French tax where the beneficiary of such income is a resident of France and where such income is not exempted from company tax according to French domestic law. In that case, the United States tax shall not be deductible from such income, but the beneficiary shall

be entitled to a tax credit against the French tax. Such credit shall be equal:

(i) in the case of income other than that referred to in subparagraphs (ii) and (iii), to the amount of French tax attributable to such income;

(ii) in the case of income referred to in Article 14 (Independent Personal Services), to the amount of French tax attributable to such income; however, in the case referred to in paragraph 4 of Article 14 (Independent Personal Services), such credit shall not give rise to an exemption that exceeds the limit specified in that paragraph;

(iii) in the case of income referred to in Article 10 (Dividends), Article 11 (Interest), Article 12 (Royalties), paragraph 1 of Article 13 (Capital Gains), Article 16 (Directors' Fees), and Article 17 (Artistes and Sportsmen), to the amount of tax paid in the United States in accordance with the provisions of the Convention; however, such credit shall not exceed the amount of French tax attributable to such income.

(b) In the case where the beneficial owner of the income arising in the United States is an individual who is both a resident of France and a citizen of the

United States, the credit provided in paragraph 2 (a)(i) shall also be granted in the case of:

(i) income consisting of dividends paid by a company that is a resident of the United States, interest arising in the United States, as described in paragraph 5 of Article 11 (Interest), or royalties arising in the United States, as described in paragraph 6 of Article 12 (Royalties), that is derived and beneficially owned by such individual and that is paid by:

(aa) the United States or any political subdivision or local authority thereof; or

(bb) a person created or organized under the laws of a state of the United States or the District of Columbia, the principal class of shares of or interests in which is substantially and regularly traded on a recognized stock exchange as defined in subparagraph (e) of paragraph 6 of Article 30 (Limitation on Benefits of the Convention); or

(cc) a company that is a resident of the United States, provided that less than 10 percent of the outstanding shares of the voting power in such company was owned (directly or indirectly) by the resident of

France at all times during the part of such company's taxable period preceding the date of payment of the income to the owner of the income and during the prior taxable period (if any) of such company, and provided that less than 50 percent of such voting power was owned (either directly or indirectly) by residents of France during the same period; or

(dd) a resident of the United States, not more than 25 percent of the gross income of which for the prior taxable period (if any) consisted directly or indirectly of income derived from sources outside the United States;

(ii) capital gains derived from the alienation of capital assets generating income described in subparagraph (i); however, such alienation shall be taken into account for the determination of the threshold of taxation applicable in France to capital gains on movable property;

(iii) profits or gains derived from transactions on a public United States options or futures market;

(iv) income dealt with in subparagraph (a) of paragraph 1 of Article 18 (Pensions) to the extent attributable to services performed by the beneficiary of such income while his principal place of employment was in the United States;

(v) income that would be exempt from United States tax under Articles 20 (Teachers and Researchers) or 21 (Students and Trainees) if the individual were not a citizen of the United States; and

(vi) U.S. source alimony and annuities.

The provisions of this subparagraph (b) shall apply only if the citizen of the United States who is a resident of France demonstrates that he has complied with his United States income tax obligations, and subject to receipt by the French tax administration of such certification as may be prescribed by the competent authority of France, or upon request to the French tax administration for refund of tax withheld together with the presentation of any certification required by the competent authority of France.

(c) A resident of France who owns capital that may be taxed in the United States according to the provisions of paragraph 1, 2, or 3 of Article 23 (Capital) may also be taxed in France in respect of such capital. The French tax shall be computed by

allowing a tax credit equal to the amount of tax paid in the United States on such capital. That tax credit shall not exceed the amount of the French tax attributable to such capital.

(d) (i) For purposes of this paragraph, the term "resident of France" includes a "société de personnes," a "groupement d'intérêt économique" (economic interest group), or a "groupement européen d'intérêt économique" (European economic interest group) that is constituted in France and has its place of effective management in France.

(ii) The term "amount of French tax attributable to such income" as used in subparagraph (a) means:

(aa) where the tax on such income is computed by applying a proportional rate, the amount of the net income concerned multiplied by the rate which actually applies to that income;

(bb) where the tax on such income is computed by applying a progressive scale, the amount of the net income concerned multiplied by the rate resulting from the ratio of the French income tax actually payable on the total net income in accordance with French law to the amount of that total net income.

(iii) The term "amount of tax paid in the United States" as used in subparagraph (a) means the amount of the United States income tax effectively and definitively borne in respect of the items of income concerned, in accordance with the provisions of the Convention, by the beneficial owner thereof who is a resident of France. But this term shall not include the amount of tax that the United States may levy under the provisions of paragraph 2 of Article 29 (Miscellaneous Provisions).

(iv) The interpretation of subparagraphs (ii) and (iii) shall apply, by analogy, to the terms "amount of the French tax attributable to such capital" and "amount of tax paid in the United States," as used in subparagraph (c).

(e) (i) Where French domestic law allows companies that are residents of France to determine their taxable profits on a consolidation basis, including the profits or losses of subsidiaries that are residents of the United States or of permanent establishments situated in the United States, the provisions of the Convention shall not prevent the application of that law.

(ii) Where in accordance with its domestic law, France, in determining the taxable profits of residents, permits the deduction of the losses of subsidiaries that are residents of the United States or of permanent establishments situated in the United States and includes the profits of those subsidiaries or of those permanent establishments up to the amount of the losses so deducted, the provisions of the Convention shall not prevent the application of that law.

(iii) Nothing in the Convention shall prevent France from applying the provisions of Article 209B of its tax code (code général des impôts) or any substantially similar provisions which may amend or replace the provisions of that Article.

ARTICLE 25

Non-Discrimination

1. Individuals who are nationals of a Contracting State and residents of the other Contracting State shall not be subjected in that other State to any taxation or any requirement connected therewith that is other or more burdensome than the taxation and connected requirements to which individuals who are nationals and residents of that other State in the same circumstances are or may be subjected.

2. The taxation on a permanent establishment that an enterprise of a Contracting State has in the other Contracting State shall not be less favorably levied in that other State than the taxation levied on enterprises of that other State carrying on the same activities. This provision shall not be construed as obliging a Contracting State to grant to residents of the other Contracting State any personal allowances, reliefs, and reductions for taxation purposes on account of civil status or family responsibilities that it grants to its own residents. The provisions of this paragraph shall not prevent the application by either Contracting State of the taxes described in paragraph 7 of Article 10 (Dividends).

3. (a) Except where the provisions of paragraph 1 of Article 9 (Associated Enterprises), paragraph 6 of Article 11 (Interest), or paragraph 7 of Article 12 (Royalties) apply, interest, royalties, and other disbursements paid by an enterprise of a Contracting State to a resident of the other Contracting State shall, for the purposes of determining the taxable profits of such enterprise, be deductible under the same conditions as if they had been paid to a resident of the first-mentioned State. Similarly, any debts of an enterprise of a Contracting State to a resident of the other Contracting State shall, for the purposes of determining the taxable capital of such enterprise, be

deductible under the same conditions as if they had been contracted to a resident of the first-mentioned State.

(b) Nothing in this Convention shall prevent the application of Article 212 of the French tax code (code général des impôts) as it may be amended from time to time without changing the general principle thereof, or of any substantially similar provisions which may be enacted in addition to or in substitution for that provision (including provisions substantially similar to those applicable in the other Contracting State), to the extent that such application is consistent with the principles of paragraph 1 of Article 9 (Associated Enterprises).

4. Enterprises of a Contracting State, the capital of which is wholly or partly owned or controlled, directly or indirectly, by one or more residents of the other Contracting State, shall not be subjected in the first-mentioned State to any taxation or any requirement connected therewith which is other or more burdensome than the taxation and connected requirements to which other similar enterprises of the first-mentioned State are or may be subjected.

5. The provisions of this Article shall, notwithstanding the provisions of Article 2 (Taxes Covered), apply to taxes of every kind and description imposed by a

Contracting State or a political subdivision (in the case of the United States) or local authority thereof.

ARTICLE 26

Mutual Agreement Procedure

1. Where a person considers that the actions of one or both of the Contracting States result or will result for him in taxation not in accordance with the provisions of this Convention, he may, irrespective of the remedies provided by the domestic law of those States, present his case to the competent authority of the Contracting State of which he is a resident or national. The case must be presented within three years of the notification of the action resulting in taxation not in accordance with the provisions of this Convention.

2. The competent authority shall endeavor, if the objection appears to it to be justified and if it is not itself able to arrive at a satisfactory solution, to resolve the case by mutual agreement with the competent authority of the other Contracting State, with a view to the avoidance of taxation which is not in accordance with the Convention. Any agreement reached shall be implemented notwithstanding any time limits or other procedural limitations in the domestic law of the Contracting States.

3. The competent authorities of the Contracting States shall endeavor to resolve by mutual agreement any

difficulties or doubts arising as to the interpretation or application of the Convention. In particular, they may agree:

(a) to the same attribution of profits to a resident of a Contracting State and its permanent establishment situated in the other Contracting State;

(b) to the same allocation of income between a resident of a Contracting State and any associated enterprise described in paragraph 1 of Article 9 (Associated Enterprises);

(c) to the same determination of the source of particular items of income;

(d) concerning the matters described in subparagraphs (a), (b), and (c) of this paragraph with respect to past or future years; or

(e) to increase the money amounts referred to in Articles 17 (Artistes and Sportsmen) and 21 (Students and Trainees) to reflect economic or monetary developments.

They may also agree to eliminate double taxation in cases not provided for in the Convention.

5. The competent authorities of the Contracting States may communicate with each other directly for the purpose of reaching an agreement in the sense of the preceding paragraphs. When it seems advisable for the purpose of reaching agreement, the competent authorities or

their representatives may meet together for an oral exchange of opinions.

6. If an agreement cannot be reached by the competent authorities pursuant to the previous paragraphs of this Article, the case may, if both competent authorities and the taxpayer agree, be submitted for arbitration, provided that the taxpayer agrees in writing to be bound by the decision of the arbitration board. The competent authorities may release to the arbitration board such information as is necessary for carrying out the arbitration procedure. The decision of the arbitration board shall be binding on the taxpayer and on both States with respect to that case. The procedures, including the composition of the board, shall be established between the Contracting States by notes to be exchanged through diplomatic channels after consultation between the competent authorities. The provisions of this paragraph shall not have effect until the date specified in the exchange of diplomatic notes.

ARTICLE 27

Exchange of Information

1. The competent authorities of the Contracting States shall exchange such information as is pertinent for carrying out the provisions of this Convention and of the domestic laws of the Contracting States concerning taxes covered by this Convention insofar as the taxation

thereunder is not contrary to this Convention. The exchange of information is not restricted by Article 1 (Personal Scope). Any information received by a Contracting State shall be treated as secret in the same manner as information obtained under the domestic laws of that State and shall be disclosed only to persons or authorities (including courts and administrative bodies) involved in the assessment, collection, or administration of, the enforcement or prosecution in respect of, or the determination of appeals in relation to, the taxes covered by this Convention. Such persons or authorities shall use the information only for such purposes. They may disclose the information in public court proceedings or in judicial decisions.

2. In no case shall the provisions of paragraph 1 be construed so as to impose on a Contracting State the obligation:

(a) to carry out administrative measures at variance with the laws or the administrative practice of that or of the other Contracting State;

(b) to supply particulars that are not obtainable under the laws or in the normal course of the administration of that or of the other Contracting State;

(c) to supply information that would disclose any trade, business, industrial, commercial, or professional secret or trade process, or information,

the disclosure of which would be contrary to public policy (ordre public).

3. The exchange of information shall be on request with reference to particular cases, or spontaneous, or on a routine basis. The competent authorities of the Contracting States shall agree on the list of information which shall be furnished on a routine basis.

4. (a) If information is requested by a Contracting State in accordance with this Article, the other Contracting State shall obtain the information to which the request relates in the same manner and to the same extent as if its own taxation were involved, notwithstanding the fact that the other State may not, at that time, need such information for purposes of its own tax.

(b) If specifically requested by the competent authority of a Contracting State, the competent authority of the other Contracting State shall, if possible, provide information under this Article in the form of depositions of witnesses and authenticated copies of unedited original documents (including books, papers, statements, records, accounts, and writings), to the same extent such depositions and documents can be obtained under the laws and administrative practices of that other State with respect to its own taxes.

(c) A Contracting State shall allow representatives of the other Contracting State to enter the first-mentioned State to interview taxpayers and look at and copy their books and records, but only after obtaining the consent of those taxpayers and the competent authority of the first-mentioned State (who may be present or represented, if desired), and only if the two Contracting States agree, in an exchange of diplomatic notes, to allow such inquiries on a reciprocal basis. Such inquiries shall not be considered audits for purposes of French domestic law.

5. Notwithstanding the provisions of Article 2 (Taxes Covered), all taxes imposed on behalf of a Contracting State shall be considered as taxes covered by the Convention for purposes of this Article.

ARTICLE 28

Assistance in Collection

1. The Contracting States undertake to lend assistance and support to each other in the collection of the taxes to which this Convention applies (together with interest, costs, and additions to the taxes and fines not being of a penal character) in cases where the taxes are definitively due according to the laws of the State making the application.

2. Revenue claims of each of the Contracting States which have been finally determined will be accepted for enforcement by the State to which application is made and collected in that State in accordance with the laws applicable to the enforcement and collection of its own taxes.

3. The application will be accompanied by such documents as are required by the laws of the State making the application to establish that the taxes have been finally determined.

4. If the revenue claim has not been finally determined, the State to which application is made will take such measures of conservancy (including measures with respect to transfer of property of nonresident aliens) as are authorized by its laws for the enforcement of its own taxes.

5. The assistance provided for in this Article shall not be accorded with respect to citizens, companies, or other entities of the Contracting State to which application is made except in cases where the exemption from or reduction of tax or the payment of tax credits provided for in paragraph 4 of Article 10 (Dividends) granted under the Convention to such citizens, companies, or other entities has, according to mutual agreement between the competent authorities of the Contracting States, been enjoyed by persons not entitled to such benefits.

ARTICLE 29

Miscellaneous Provisions

1. The Convention shall not restrict in any manner any exclusion, exemption, deduction, credit, or other allowance now or hereafter accorded by

(a) the laws of:

(i) the United States;

(ii) France, in the case of a resident (within the meaning of Article 4 (Resident)) or citizen of the United States. However, notwithstanding the preceding sentence, the provisions of paragraph 5 of Article 6 (Income from Real Property), Article 19 (Public Remuneration), Article 20 (Teachers and Researchers), and Article 24 (Relief from Double Taxation) shall apply, regardless of any exclusion, exemption, deduction, credit, or other allowance accorded by the laws of France; or

(b) by any other agreement between the Contracting States.

2. Notwithstanding any provision of the Convention except the provisions of paragraph 3, the United States may tax its residents, as determined under Article 4 (Resident), and its citizens as if the Convention had not come into effect. For this purpose, the term "citizen" shall include a former citizen whose loss of citizenship had as one of its

principal purposes the avoidance of income tax, but only for a period of 10 years following such loss.

3. The provisions of paragraph 2 shall not affect:

(a) the benefits conferred under paragraph 2 of Article 9 (Associated Enterprises), under paragraph 1(b) of Article 18 (Pensions), and under Articles 24 (Relief From Double Taxation), 25 (Non-Discrimination), and 26 (Mutual Agreement Procedure); and

(b) the benefits conferred under Articles 19 (Public Remuneration), 20 (Teachers and Researchers), 21 (Students and Trainees), and 31 (Diplomatic and Consular Officers), upon individuals who are neither citizens of, nor have immigrant status in, the United States.

4. Notwithstanding the provisions of Article 2 (Taxes Covered), any transaction in which an order for the purchase, sale, or exchange of stocks or securities originates in one Contracting State and is executed through a stock exchange in the other Contracting State shall be exempt in the first-mentioned State from stamp or like tax otherwise arising with respect to such transaction.

5. A resident of a Contracting State that maintains one or several abodes in the other Contracting State shall not be subject in that other State to an income tax according to an "imputed income" based on the rental value of that or those abodes.

6. Nothing in this Convention shall affect the U.S. taxation of an excess inclusion with respect to a residual interest in a real estate mortgage investment conduit under section 860G of the Internal Revenue Code, as it may be amended from time to time without changing the general principle thereof.

7. For purposes of the taxation by France of residents of France who are citizens of the United States:

(a) benefits other than capital gain received by reason of the exercise of options with respect to shares of companies resident in the United States shall be considered income when and to the extent that the exercise of the option or disposition of the stock gives rise to ordinary income for United States tax purposes;

(b) United States state and local income taxes on income from personal services and any other business income (except income that is exempt under subparagraph 2(a)(i) or (ii) of Article 24 (Relief from Double Taxation)) shall be allowed as business expenses.

8. Notwithstanding the provisions of subparagraph 1(b):

(a) Notwithstanding any other agreement to which the Contracting States may be parties, a dispute concerning whether a measure is within the scope of this Convention shall be considered only by the

competent authorities of the Contracting States, as defined in subparagraph 1(h) of Article 3 (General Definitions) of this Convention, and the procedures under this Convention exclusively shall apply to the dispute.

(b) Unless the competent authorities determine that a taxation measure is not within the scope of this Convention, the nondiscrimination obligations of this Convention exclusively shall apply with respect to that measure, except for such national treatment or most-favored-nation obligations as may apply to trade in goods under the General Agreement on Tariffs and Trade. No national treatment or most-favored-nation obligation under any other agreement shall apply with respect to that measure.

(c) For the purpose of this paragraph, a "measure" is a law, regulation, rule, procedure, decision, administrative action, or any other form of measure.

ARTICLE 30

Limitation on Benefits of the Convention

1. A resident of a Contracting State that derives income from the other Contracting State shall be entitled in that other State to all of the benefits of this Convention only if such resident is one of the following:

(a) an individual;

(b) a Contracting State, a political subdivision (in the case of the United States) or local authority thereof, or an agency or instrumentality of that State, subdivision, or authority;

(c) a company meeting one of the following conditions:

(i) the principal class of its shares is listed on a recognized securities exchange located in either Contracting State and is substantially and regularly traded on one or more recognized securities exchanges;

(ii) more than 50 percent of the aggregate vote and value of its shares is owned, directly or indirectly, by any combination of companies that are resident in either Contracting State, the principal classes of the shares of which are listed and traded as described in subparagraph (c)(i), persons referred to in subparagraph (b), and companies of which more than 50 percent of the aggregate vote and value is owned by persons referred to in subparagraph (b);

(iii) (aa) at least 30 percent of the aggregate vote and value of its shares is owned, directly or indirectly, by any combination of companies that are resident in

the first-mentioned Contracting State, the principal classes of the shares of which are listed and traded as described in subparagraph (c)(i), persons referred to in subparagraph (b), and companies of which more than 50 percent of the aggregate vote and value is owned by persons referred to in subparagraph (b); and

(bb) at least 70 percent of the aggregate vote and value of its shares is owned, directly or indirectly, by any combination of companies that are residents of either Contracting State or of one or more member states of the European Union, the principal classes of shares of which are listed and substantially and regularly traded on one or more recognized stock exchanges, persons referred to in subparagraph (b), companies of which more than 50 percent of the aggregate vote and value is owned by persons referred to in subparagraph (b), one or more member states of the European Union, political subdivisions or local authorities thereof, or agencies or instrumentalities of those member states, subdivisions, or authorities, and companies of which more than

50 percent of the aggregate vote and value is owned by such member states, subdivisions, authorities, or agencies or instrumentalities;

(d) a person, if 50 percent or more of the beneficial interest in such person (or, in the case of a company, 50 percent or more of the vote and value of the company's shares) is not owned, directly or indirectly, by persons that are not qualified persons, and:

(i) less than 50 percent of the gross income of such person is used, directly or indirectly, to make deductible payments to persons that are not qualified persons; or

(ii) less than 70 percent of such gross income is used, directly or indirectly, to make deductible payments to persons that are not qualified persons and less than 30 percent of such gross income is used, directly or indirectly, to make deductible payments to persons that are neither qualified persons nor residents of member states of the European Union;

(e) a pension trust or an organization referred to in subparagraph (b)(ii) of paragraph 2 of Article 4 (Resident), provided that more than half of its

beneficiaries, members, or participants, if any, are qualified persons; or

(f) an investment entity referred to in subparagraph (b)(iii) of paragraph 2 of Article 4 (Residence), provided that more than half of the shares, rights, or interests in such entity is owned by qualified persons.

2. (a) A resident of a Contracting State shall also be entitled to the benefits of the Convention with respect to income derived from the other Contracting State if:

(i) such resident is engaged in the active conduct of a trade or business in the first-mentioned State (other than the business of making or managing investments, unless the activities are banking or insurance activities carried on by a bank or insurance company);

(ii) the income is connected with or incidental to the trade or business in the first-mentioned State; and

(iii) the trade or business is substantial in relation to the activity in the other State that generated the income.

(b) For purposes of subparagraph (a), whether the trade or business of the resident in the first-mentioned State is substantial in relation to the

activity in the other State will be determined based on all of the facts and circumstances. In any case, however, the trade or business will be deemed substantial if, for the first preceding taxable period or for the average of the three preceding taxable periods, each of the following ratios equals at least 7.5 percent and the average of the ratios exceeds 10 percent:

(i) the ratio of the value of assets used or held for use in the conduct of the trade or business of the resident in the first-mentioned State to the value of assets used or held for use in the conduct of the activity in the other State;

(ii) the ratio of the gross income derived from the conduct of the trade or business of the resident in the first-mentioned State to the gross income derived from the conduct of the activity in the other State;

(iii) the ratio of the payroll expense of the trade or business of the resident in the first-mentioned State for services performed in that State to the payroll expense of the activity in the other State for services performed in that other State.

In determining the above ratios, assets, income, and payroll expense shall be taken into account only to the

extent of the resident's direct or indirect ownership interest in the activity in the other State. If neither the resident nor any of its associated enterprises has an ownership interest in the activity in the other State, the resident's trade or business in the first-mentioned State shall be considered substantial in relation to such activity.

3. A resident of a Contracting State shall also be entitled to the benefits of this Convention if that resident functions as a headquarter company for a multinational corporate group.

4. A company resident in a Contracting State shall also be entitled to the benefits of the Convention in respect of income referred to in Articles 10 (Dividends), 11 (Interest), or 12 (Royalties) if:

(a) more than 30 percent of the aggregate vote and value of all of its shares is owned, directly or indirectly, by qualified persons resident in that State;

(b) more than 70 percent of all such shares is owned, directly or indirectly, by any combination of one or more qualified persons and persons that are residents of member states of the European Union; and

(c) such company meets the base reduction test described in subparagraphs (d)(i) and (ii) of paragraph 1.

5. Notwithstanding the provisions of paragraphs 1 through 4, where an enterprise of a Contracting State that is exempt from tax in that State on the profits of its permanent establishments which are not situated in that State derives income from the other Contracting State, and that income is attributable to a permanent establishment which that enterprise has in a third jurisdiction, the tax benefits that would otherwise apply under the other provisions of the Convention will not apply to any item of income on which the combined tax in the first-mentioned State and in the third jurisdiction is less than 60 percent of the tax that would be imposed in the first-mentioned State if the income were earned in that State by the enterprise and were not attributable to the permanent establishment in the third jurisdiction. Any dividends, interest, or royalties to which the provisions of this paragraph apply shall be subject to tax in the other State at a rate not exceeding 15 percent of the gross amount thereof. Any other income to which the provisions of this paragraph apply shall be subject to tax under the provisions of the domestic law of the other Contracting State, notwithstanding any other provision of the Convention. The provisions of this paragraph shall not apply if:

(a) the income derived from the other Contracting State is in connection with or incidental to the active conduct of a trade or business carried on by the

permanent establishment in the third jurisdiction (other than the business of making or managing investments unless these activities are banking or insurance activities carried on by a bank or insurance company); or

(b) when France is the first-mentioned State, France taxes the profits of such permanent establishment according to the provisions of its domestic law referred to in subparagraph (e)(iii) of paragraph 2 of Article 24 (Relief from Double Taxation) or the United States taxes such profits according to the provisions of subpart F of part II of subchapter N of chapter 1 of subtitle A of the Internal Revenue Code, as it may be amended from time to time without changing the general principle thereof.

6. The following definitions shall apply for purposes of this Article:

(a) The reference in subparagraphs (c)(ii) and (c)(iii) of paragraph 1 to shares that are owned "directly or indirectly" shall mean that all companies in the chain of ownership must be residents of a Contracting State or of a member state of the European Union, as defined in subparagraph (d) of paragraph 6.

(b) The term "gross income," as used in subparagraph (d) of paragraph 1, means gross income for the first taxable period preceding the current taxable

period, provided that the amount of gross income for the first taxable period preceding the current taxable period shall be deemed to be no less than the average of the annual amounts of gross income for the four taxable periods preceding the current taxable period.

(c) The term "deductible payments" as used in subparagraph (d) of paragraph 1 includes payments for interest or royalties, but does not include payments at arm's length for the purchase or use of or the right to use tangible property in the ordinary course of business or remuneration at arm's length for services performed in the Contracting State in which the person making such payments is a resident. Types of payments may be added to, or eliminated from, the exceptions mentioned in the preceding definition of "deductible payments" by mutual agreement of the competent authorities.

(d) The term "resident of a member state of the European Union," as used in paragraph 1, means a person that would be entitled to the benefits of a comprehensive income tax convention in force between any member state of the European Union and the Contracting State from which the benefits of this Convention are claimed, provided that if such convention does not contain a comprehensive Limitation on Benefits article (including provisions similar to

those of subparagraphs (c) and (d) of paragraph 1 and paragraph 2 of this Article), the person would be entitled to the benefits of this Convention under the principles of paragraph 1 if such person were a resident of one of the Contracting States under Article 4 (Resident) of this Convention.

(e) The term "recognized securities exchange" as used in paragraph 1 means:

(i) the NASDAQ System owned by the National Association of Securities Dealers, Inc. and any stock exchange registered with the U.S. Securities and Exchange Commission as a national securities exchange for purposes of the U.S. Securities Exchange Act of 1934;

(ii) the French stock exchanges controlled by the "Commission des opérations de bourse," and the stock exchanges of Amsterdam, Brussels, Frankfurt, Hamburg, London, Madrid, Milan, Sydney, Tokyo, and Toronto;

(iii) any other stock exchanges agreed upon by the competent authorities of both Contracting States.

(f) The term "qualified person" as used in paragraphs 1 and 4 means any person that is entitled to the benefits of the Convention under paragraph 1 or who is a citizen of the United States;

(g) the term "engaged in the active conduct of a trade or business" as used in paragraph 2 applies to a person that is directly so engaged or is a partner in a partnership that is so engaged, or is so engaged through one or more associated enterprises (wherever resident);

(h) the term "headquarter company" as used in paragraph 3 means a person fulfilling the following conditions:

(i) it provides in the Contracting State of which it is a resident a substantial portion of the overall supervision and administration of a multinational corporate group, which may include, but cannot be principally, group financing;

(ii) the corporate group consists of companies that are resident in, and engaged in an active business in, at least five countries, and the business activities carried on in each of the five countries (or five groupings of countries) generate at least 10 percent of the gross income of the group;

(iii) the business activities carried on in any one country other than the Contracting State of which the headquarter company is a resident generate less than 50 percent of the gross income of the group;

(iv) no more than 25 percent of its gross income is derived from the other State;

(v) it has, and exercises, independent discretionary authority to carry out the functions referred to in subparagraph (i);

(vi) it is subject to the same income taxation rules in the Contracting State of which it is a resident as persons described in paragraph 2; and

(vii) the income derived in the other Contracting State either is derived in connection with, or is incidental to, the active business referred to in subparagraph (ii).

If the gross income requirements of subparagraph (ii), (iii), or (iv) of this paragraph are not fulfilled, they will be deemed to be fulfilled if the required ratios are met when calculated on the basis of the average gross income of the headquarters company and the average gross income of the group for the preceding four taxable periods.

7. A resident of a Contracting State that is not entitled to the benefits of the Convention under the provisions of the preceding paragraphs of this Article shall, nevertheless, be granted the benefits of the Convention if the competent authority of the other Contracting State determines, upon such person's request,

(a) that the establishment, acquisition, or maintenance of such person and the conduct of its operations did not have as one of its principal purposes the obtaining of benefits under the Convention, or

(b) that it would not be appropriate, having regard to the purpose of this Article, to deny the benefits of the Convention to such person.

The competent authority of the other Contracting State shall consult with the competent authority of the first-mentioned State before denying the benefits of the Convention under this paragraph.

8. The competent authorities of the Contracting States may consult together with a view to developing a commonly agreed application of the provisions of this Article.

ARTICLE 31

Diplomatic and Consular Officers

1. Nothing in this Convention shall affect the fiscal privileges of diplomatic agents or consular officers under the general rules of international law or under the provisions of special agreements.

2. Notwithstanding the provisions of Article 4 (Resident), an individual who is a member of a diplomatic mission, consular post, or permanent mission of a

Contracting State that is situated in the other Contracting State or in a third State shall be deemed for the purposes of the Convention to be a resident of the sending State if he is liable therein to the same obligations in relation to tax on his total income or capital as are residents of that State.

3. The Convention shall not apply to international organizations, to organs or officials thereof, or to persons who are members of a diplomatic mission, consular post, or permanent mission of a third State, who are present in a Contracting State and are not liable in either Contracting State to the same obligations in respect of taxes on income or on capital as are residents of that State.

ARTICLE 32

Provisions for Implementation

1. Notwithstanding the provisions of subparagraph 4(i) of Article 10 (Dividends) and of paragraph 8 of Article 30 (Limitation on Benefits of the Convention), the competent authorities of the Contracting States may prescribe rules and procedures, jointly or separately, to determine the mode of application of the provisions of this Convention.

2. The requirements to which a resident of a Contracting State may be subjected in order to obtain in the other Contracting State the tax reductions, exemptions, or other advantages provided for by the Convention shall,

unless otherwise settled, jointly or separately, by the competent authorities, include the presentation of a form providing the nature and the amount or value of the income or capital concerned, the residence of the taxpayer, and other relevant information. If so agreed by the competent authorities, the form shall include such certification by the tax administration of the first-mentioned State as may be prescribed by them.

ARTICLE 33

Entry Into Force

1. The Contracting States shall notify each other when their respective constitutional and statutory requirements for the entry into force of this Convention have been satisfied. The Convention shall enter into force on the date of receipt of the later of such notifications.

2. The provisions of the Convention shall have effect:

(a) in respect of taxes withheld at source on dividends, interest, and royalties and the U.S. excise tax on insurance premiums paid to foreign insurers, for amounts paid or credited on or after the first day of the second month next following the date on which the Convention enters into force;

(b) in respect of other taxes on income, for taxable periods beginning on or after the first day of

January of the year following the year in which the Convention enters into force; and

(c) in respect of taxes not mentioned in subparagraph (a) or (b), for taxes on taxable events occurring on or after the first day of January of the year following the year in which the Convention enters into force.

3. Notwithstanding the provisions of paragraph 2,

(a) the provisions of subparagraph (e) of paragraph 4 of Article 10 (Dividends) and of Article 12 (Royalties) shall have effect for dividends and royalties paid or credited on or after the first day of January 1991;

(b) The provisions of Article 26 shall apply in respect of cases presented to the competent authorities on or after the date of entry into force of the Convention.

4. The Convention Between the United States of America and the French Republic with Respect to Taxes on Income and Property, Signed on July 28, 1967 and Amended by Protocols of October 12, 1970, November 24, 1978, January 17, 1984 and June 16, 1988 and the exchanges of letters attached thereto shall cease to have effect from the date on which the provisions of this Convention become effective in accordance with the provisions of this Article.

ARTICLE 34

Termination

This Convention shall remain in force indefinitely. However, either Contracting State may terminate the Convention by giving notice of termination through diplomatic channels at least six months before the end of any calendar year after the expiration of a period of five years from the date on which the Convention enters into force. In such event, the Convention shall cease to have effect:

(a) in respect of taxes withheld at source on dividends, interest, and royalties and the U.S. excise tax on insurance premiums paid to foreign insurers, for amounts paid or credited on or after the first day of January next following the expiration of the six-month period;

(b) in respect of other taxes on income, for taxable periods beginning on or after the first day of January next following the expiration of the six-month period; and

(c) in respect of taxes not described in subparagraph (a) or (b), for taxes on taxable events occurring on or after the first day of January of the year following the expiration of the six-month period.

DONE at Paris, this ______________ day of ______________, 1994, in duplicate, in the English and French languages, both texts being equally authentic.

FOR THE GOVERNMENT OF THE UNITED STATES OF AMERICA:	FOR THE GOVERNMENT OF THE FRENCH REPUBLIC:

1st exchange of letters

US REPLY

EXCELLENCY:

I have the honor to acknowledge receipt of your Note of today's date which reads as follows:

"In connection with the Income Tax Convention between France and the United States, signed today, I should like, on behalf of my Government, to propose to you a common position with respect to the two following points.

With respect to the provisions of subparagraph 2 (b)(iv) of Article 4 (Resident), to the extent that the members of a "société de personnes," a "groupement d'intérêt économique" (economic interest group) or a "groupement européen d'intérêt economique" (European economic interest group) that is constituted in France and has its place of effective management in France and that is not subject to company tax therein are residents of a third State, the U.S. income tax liability in the case of such "société de personnes" or group shall be determined under the U.S. Income Tax Convention, if any, with that third State, it being understood that such "société de personnes" or group shall be treated as a partnership for the purposes of U.S. tax benefits under that Convention.

With respect to the application of Article 8 (Shipping and Air Transport), notwithstanding Article 2, under which the Convention applies only to taxes imposed by the national governments, France agrees that enterprises of the United States that operate ships or aircraft in international traffic shall be automatically relieved from the "taxe professionnelle" in France in respect of such operations, provided that enterprises of France that operate ships or aircraft in international traffic are not subject to state income taxes in the United States in respect of such operations.

If this is in accord with your understanding, I would appreciate a confirmation from you tothis effect. If so, this understanding and your reply agreeing to its terms shall constitute an integral part of the Convention."

I have the honor to confirm the agreement of my Government on the preceding points.

[Complimentary closing.]

To be signed by
Ambassador Harriman

2cnd exchange of Letters

EXCELLENCY:

I have the honor to refer to the Income Tax Convention between the United States and France, signed today.

During the course of discussions leading to the development of the Convention, the United States and French delegations agreed that nothing in paragraph 5 of Article 11 (Interest) shall be understood to prevent or limit the application by a Contracting State of its internal law, or of its income tax treaty with a third State, with respect to interest paid by a permanent establishment located in that Contracting State. The provisions of internal law referred to in the preceding sentence are, in the case of the United States, those provisions of the Internal Revenue Code that impose a tax on interest described in section 884(f)(1)(A) of such Code, and in the case of France articles 119 bis and 125 A of the code général des impôts.

The United States and French delegations further agreed that the term "business property," as used in paragraph 3 of Article 13 (Capital Gains) and paragraph 3 of Article 23 (Capital), has a narrower meaning in some cases than does the term "assets," as used in paragraph 2 of Article 13 and paragraph 1 of Article 23, notwithstanding that the single French term "actif" is used throughout.

If this is in accord with your understanding, I would appreciate a confirmation from you to this effect. If so, this understanding and your reply agreeing to its terms shall constitute an integral part of the Convention.

Accept, Excellency the renewed assurances of my highest consideration.

To be signed by
Ambassador Harriman

PROTOCOL AMENDING THE CONVENTION BETWEEN THE UNITED STATES OF AMERICA AND CANADA WITH RESPECT TO TAXES ON INCOME AND ON CAPITAL SIGNED AT WASHINGTON ON SEPTEMBER 26, 1980, AS AMENDED BY THE PROTOCOLS SIGNED ON JUNE 14, 1983 AND MARCH 28, 1984

The United States of America and Canada, desiring to conclude a Protocol to amend the Convention with Respect to Taxes on Income and on Capital signed at Washington on September 26, 1980, as amended by the Protocols signed on June 14, 1983 and March 28, 1984 (hereinafter referred to as "the Convention"), have agreed as follows:

ARTICLE 1

1. Paragraphs 2 to 4 of Article II (Taxes Covered) of the Convention shall be deleted and replaced by the following:

"2. Notwithstanding paragraph 1, the taxes existing on ______________________________ to which the Convention shall apply are:

(a) In the case of Canada, the taxes imposed by the Government of Canada under the Income Tax Act; and

(b) In the case of the United States, the Federal income taxes imposed by the Internal Revenue Code of 1986. However, the Convention shall apply to:

(i) The United States accumulated earnings tax and personal holding company tax, to the extent, and only to the extent, necessary to implement the provisions of paragraphs 5 and 8 of Article X (Dividends);

(ii) The United States excise taxes imposed with respect to private foundations, to the extent, and only to the extent, necessary to implement the provisions of paragraph 4 of Article XXI (Exempt Organizations);

(iii) The United States social security taxes, to the extent, and only to the extent, necessary to implement the provisions of paragraph 2 of Article XXIV (Elimination of Double Taxation) and paragraph 4 of Article XXIX (Miscellaneous Rules); and

(iv) The United States estate taxes imposed by the Internal Revenue Code of 1986, to the extent, and only to the extent, necessary to implement the provisions of Article XXIX B (Taxes Imposed by Reason of Death).

3. The Convention shall apply also to:

(a) Any taxes identical or substantially similar to those taxes to which the Convention applies under paragraph 2; and

(b) Taxes on capital;

which are imposed after ______________________________
in addition to, or in place of, the taxes to which the Convention applies under paragraph 2."

ARTICLE 2

Subparagraphs (c) and (d) of paragraph 1 of Article III (General Definitions) of the Convention shall be deleted and replaced by the following:

"(c) The term "Canadian tax" means the taxes referred to in Article II (Taxes Covered) that are imposed on income by Canada;

(d) The term "United States tax" means the taxes referred to in Article II (Taxes Covered), other than in subparagraph (b)(i) to (iv) thereof, that are imposed on income by the United States;"

ARTICLE 3

1. Paragraph 1 of Article IV (Residence) of the Convention shall be deleted and replaced by the following:

"1. For the purposes of this Convention, the term "resident" of a Contracting State means any person that, under the laws of that State, is liable to tax therein by reason of that person's domicile, residence, citizenship, place of management, place of incorporation or any other criterion of a similar nature, but in the case of an estate or trust, only to the extent that income derived by the estate or trust is liable to tax in that State, either in its hands or in the hands of its beneficiaries. For the purposes of this paragraph, an individual who is not a resident of Canada under this paragraph and who is a United States citizen or an alien admitted to the United States for permanent residence (a "green card" holder) is a resident of the United States only if the individual has a substantial presence, permanent home or habitual abode in the United States, and that individual's personal and economic relations are closer to the United States than to any third State. The term "resident" of a Contracting State is understood to include:

(a) The Government of that State or a political subdivision or local authority thereof or any agency or instrumentality of any such government, subdivision or authority, and

(b) (i) A trust, organization or other arrangement that is operated exclusively to administer or provide pension, retirement or employee benefits; and

(ii) A not-for-profit organization

that was constituted in that State and that is, by reason of its nature as such, generally exempt from income taxation in that State."

2. A new sentence shall be added at the end of paragraph 3 of Article IV (Residence) of the Convention as follows:

"Notwithstanding the preceding sentence, a company that was created in a Contracting State, that is a resident of both Contracting States and that is continued at any time in the other Contracting State in accordance with the corporate law in that other State shall be deemed while it is so continued to be a resident of that other State."

ARTICLE 4

Paragraphs 3 and 4 of Article IX (Related Persons) of the Convention shall be deleted and replaced by the following:

"3. Where an adjustment is made or to be made by a Contracting State in accordance with paragraph 1, the other Contracting State shall (notwithstanding any time or procedural limitations in the domestic law of that other State) make a corresponding adjustment to the income, loss or tax of the related person in that other State if:

(a) It agrees with the first-mentioned adjustment; and

(b) Within six years from the end of the taxable year to which the first-mentioned adjustment relates, the competent authority of the other State has been notified of the first-mentioned adjustment. The competent authorities, however, may agree to consider cases where the

corresponding adjustment would not otherwise be barred by any time or procedural limitations in the other State, even if the notification is not made within the six-year period.

4. In the event that the notification referred to in paragraph 3 is not given within the time period referred to therein, and the competent authorities have not agreed to otherwise consider the case in accordance with paragraph 3(b), the competent authority of the Contracting State which has made or is to make the first-mentioned adjustment may provide relief from double taxation where appropriate."

ARTICLE 5

1. The references in paragraphs 2(a) and 6 of Article X (Dividends) of the Convention to a rate of tax of "10 per cent" shall be deleted and replaced by references to a rate of tax of "5 per cent".

2. Paragraph 7 of Article X (Dividends) of the Convention shall be deleted and replaced by the following:

"7. Notwithstanding the provisions of paragraph 2,

(a) Dividends paid by a company that is a resident of Canada and a non-resident-owned investment corporation to a company that is a resident of the United States, that owns at least 10 per cent of the voting stock of the company paying the dividends and that is the beneficial owner of such dividends, may be taxed in Canada at a rate not exceeding 10 per cent of the gross amount of the dividends;

(b) Paragraph 2(b) and not paragraph 2(a) shall apply in the case of dividends paid by a resident of the United States that is a Regulated Investment Company; and

(c) Paragraph 2(a) shall not apply to dividends paid by a resident of the United States that is a Real Estate Investment Trust, and paragraph 2(b) shall apply only where such dividends are beneficially owned by an individual holding an interest of less than 10 per cent in the trust; otherwise the rate of tax applicable under the domestic law of the United States shall apply.

Where an estate or a testamentary trust acquired its interest in a Real Estate Investment Trust as a consequence of an individual's death, for the purposes of the preceding sentence the estate or trust shall for the five-year period following the death be deemed with respect to that interest to be an individual."

ARTICLE 6

1. The reference in paragraph 2 of Article XI (Interest) of the Convention to "15 per cent" shall be deleted and replaced by a reference to "10 per cent".

2. Paragraph 3(d) of Article XI (Interest) of the Convention shall be deleted and replaced by the following:

"(d) The interest is beneficially owned by a resident of the other Contracting State and is paid with respect to indebtedness arising as a consequence of the sale on credit by a resident of that other State of any equipment, merchandise or services except where the sale or indebtedness was between related persons; or"

3. A new paragraph 9 shall be added to Article XI (Interest) of the Convention as follows:

"9. The provisions of paragraphs 2 and 3 shall not apply to an excess inclusion with respect to a residual interest in a Real Estate Mortgage Investment Conduit to which Section 860G of the United States Internal Revenue Code, as it may be amended from time to time without changing the general principle thereof, applies."

ARTICLE 7

1. Paragraph 3 of Article XII (Royalties) of the Convention shall be deleted and replaced by the following:

"3. Notwithstanding the provisions of paragraph 2,

(a) Copyright royalties and other like payments in respect of the production or reproduction of any literary, dramatic, musical or artistic work (other than payments in respect of motion pictures and works on

film, videotape or other means of reproduction for use in connection with television);

(b) Payments for the use of, or the right to use, computer software;

(c) Payments for the use of, or the right to use, any patent or any information concerning industrial, commercial or scientific experience (but not including any such information provided in connection with a rental or franchise agreement); and

(d) Payments with respect to broadcasting as may be agreed for the purposes of this paragraph in an exchange of notes between the Contracting States;

arising in a Contracting State and beneficially owned by a resident of the other Contracting State shall be taxable only in that other State."

2. Paragraph 6 of Article XII (Royalties) of the Convention shall be deleted and replaced by the following:

"6. For the purposes of this Article,

(a) Royalties shall be deemed to arise in a Contracting State when the payer is a resident of that State. Where, however, the person paying the royalties, whether he is a resident of a Contracting State or not, has in a State a permanent establishment or a fixed base in connection with which the obligation to pay the royalties was incurred, and such royalties are borne by such permanent establishment or fixed base, then such royalties shall be deemed to arise in the State in which the permanent establishment or fixed base is situated and not in any other State of which the payer is a resident; and

(b) Where subparagraph (a) does not operate to treat royalties as arising in either Contracting State and the royalties are for the use of, or the right to use, intangible property or tangible personal property in a Contracting State, then such royalties shall be deemed to arise in that State."

ARTICLE 8

Paragraph 8 of Article XIII (Gains) of the Convention shall be deleted and replaced by the following:

> "8. Where a resident of a Contracting State alienates property in the course of a corporate or other organization, reorganization, amalgamation, division or similar transaction and profit, gain or income with respect to such alienation is not recognized for the purpose of taxation in that State, if requested to do so by the person who acquires the property, the competent authority of the other Contracting State may agree, in order to avoid double taxation and subject to terms and conditions satisfactory to such competent authority, to defer the recognition of the profit, gain or income with respect to such property for the purpose of taxation in that other State until such time and in such manner as may be stipulated in the agreement."

ARTICLE 9

1. Paragraph 3 of Article XVIII (Pensions and Annuities) of the Convention shall be deleted and replaced by the following:

> "3. For the purposes of this Convention, the term "pensions" includes any payment under a superannuation, pension or other retirement arrangement, Armed Forces retirement pay, war veterans pensions and allowances and amounts paid under a sickness, accident or disability plan, but does not include payments under an income-averaging annuity contract or any benefit referred to in paragraph 5."

2. Paragraph 5 of Article XVIII (Pensions and Annuities) of the Convention shall be deleted and replaced by the following:

> "5. Benefits under the social security legislation in a Contracting State (including tier 1 railroad benefits but not including unemployment benefits) paid to a resident of the other Contracting State (and in the case of Canadian benefits, to a citizen of the United States) shall be taxable only in the first-mentioned State."

3. A new paragraph 7 shall be added to Article XVIII (Pensions and Annuities) of the Convention as follows:

"7. A natural person who is a citizen or resident of a Contracting State and a beneficiary of a trust, company, organization or other arrangement that is a resident of the other Contracting State, generally exempt from income taxation in that other State and operated exclusively to provide pension, retirement or employee benefits may elect to defer taxation in the first-mentioned State, under rules established by the competent authority of that State, with respect to any income accrued in the plan but not distributed by the plan, until such time as and to the extent that a distribution is made from the plan or any plan substituted therefor."

ARTICLE 10

1. Paragraphs 2 and 3 of Article XXI (Exempt Organizations) of the Convention shall be deleted and replaced by the following:

"2. Subject to the provisions of paragraph 3, income referred to in Articles X (Dividends) and XI (Interest) derived by:

(a) A trust, company, organization or other arrangement that is a resident of a Contracting State, generally exempt from income taxation in a taxable year in that State and operated exclusively to administer or provide pension, retirement or employee benefits; or

(b) A trust, company, organization or other arrangement that is a resident of a Contracting State, generally exempt from income taxation in a taxable year in that State and operated exclusively to earn income for the benefit of an organization referred to in subparagraph (a);

shall be exempt from income taxation in that taxable year in the other Contracting State.

3. The provisions of paragraphs 1 and 2 shall not apply with respect to the income of a trust, company, organization or other arrangement from carrying on a trade or business or from a related person other than a person referred to in paragraph 1 or 2."

2. A new sentence shall be added at the end of paragraph 5 of Article XXI (Exempt Organizations) of the Convention as follows:

"For the purposes of this paragraph, a company that is a resident of Canada and that is taxable in the United States as if it were a resident of the United States shall be deemed to be a resident of the United States."

3. Paragraph 6 of Article XXI (Exempt Organizations) of the Convention shall be deleted and replaced by the following:

"6. For the purposes of Canadian taxation, gifts by a resident of Canada to an organization that is a resident of the United States, that is generally exempt from United States tax and that could qualify in Canada as a registered charity if it were a resident of Canada and created or established in Canada, shall be treated as gifts to a registered charity; however, no relief from taxation shall be available in any taxation year with respect to such gifts (other than such gifts to a college or university at which the resident or a member of the resident's family is or was enrolled) to the extent that such relief would exceed the amount of relief that would be available under the Income Tax Act if the only income of the resident for that year were the resident's income arising in the United States. The preceding sentence shall not be interpreted to allow in any taxation year relief from taxation for gifts to registered charities in excess of the amount of relief allowed under the percentage limitations of the laws of Canada in respect of relief for gifts to registered charities."

ARTICLE 11

A new paragraph 3 shall be added to Article XXII (Other Income) of the Convention as follows:

"3. Losses incurred by a resident of a Contracting State with respect to wagering transactions the gains on which may be taxed in the other Contracting State shall, for the purpose of taxation in that other State, be deductible to the same extent that such losses would be deductible if they were incurred by a resident of that other State."

ARTICLE 12

1. Paragraphs 2(a) and 2(b) of Article XXIV (Elimination of Double Taxation) of the Convention shall be deleted and replaced by the following:

"(a) Subject to the provisions of the law of Canada regarding the deduction from tax payable in Canada of tax paid in a territory outside Canada and to any subsequent modification of those provisions (which shall not affect the general principle hereof)

(i) Income tax paid or accrued to the United States on profits, income or gains arising in the United States, and

(ii) In the case of an individual, any social security taxes paid to the United States (other than taxes relating to unemployment insurance benefits) by the individual on such profits, income or gains

shall be deducted from any Canadian tax payable in respect of such profits, income or gains;

(b) Subject to the existing provisions of the law of Canada regarding the taxation of income from a foreign affiliate and to any subsequent modification of those provisions -- which shall not affect the general principle hereof -- for the purpose of computing Canadian tax, a company which is a resident of Canada shall be allowed to deduct in computing its taxable income any dividend received by it out of the exempt surplus of a foreign affiliate which is a resident of the United States; and"

2. Paragraph 5 of Article XXIV (Elimination of Double Taxation) of the Convention shall be deleted and replaced by the following:

"5. Notwithstanding the provisions of paragraph 4, where a United States citizen is a resident of Canada, the following rules shall apply in respect of the items of income referred to in Article X (Dividends), XI (Interest) or XII (Royalties) that arise (within the meaning of paragraph 3) in the United States and that would be subject to United States tax if the resident of Canada were not a citizen of the United States, as long as the law in force in Canada allows a deduction in computing income for the portion of any foreign tax

paid in respect of such items which exceeds 15 per cent of the amount thereof:

(a) The deduction so allowed in Canada shall not be reduced by any credit or deduction for income tax paid or accrued to Canada allowed in computing the United States tax on such items;

(b) Canada shall allow a deduction from Canadian tax on such items in respect of income tax paid or accrued to the United States on such items, except that such deduction need not exceed the amount of the tax that would be paid on such items to the United States if the resident of Canada were not a United States citizen; and

(c) For the purposes of computing the United States tax on such items, the United States shall allow as a credit against United States tax the income tax paid or accrued to Canada after the deduction referred to in subparagraph (b). The credit so allowed shall reduce only that portion of the United States tax on such items which exceeds the amount of tax that would be paid to the United States on such items if the resident of Canada were not a United States citizen."

3. Paragraph 7 of Article XXIV (Elimination of Double Taxation) of the Convention shall be deleted and replaced by the following:

"7. For the purposes of this Article, any reference to "income tax paid or accrued" to a Contracting State shall include Canadian tax and United States tax, as the case may be, and taxes of general application which are paid or accrued to a political subdivision or local authority of that State, which are not imposed by that political subdivision or local authority in a manner inconsistent with the provisions of the Convention and which are substantially similar to the Canadian tax or United States tax, as the case may be."

4. A new paragraph 10 shall be added to Article XXIV (Elimination of Double Taxation) of the Convention as follows:

"10. Where in accordance with any provision of the Convention income derived or capital owned by a resident of a Contracting State is exempt from tax in that State, such State may nevertheless, in calculating the amount of tax on other income or capital, take into account the exempted income or capital."

ARTICLE 13

1. Paragraph 3 of Article XXV (Non-Discrimination) of the Convention shall be deleted and replaced by the following:

"3. In determining the taxable income or tax payable of an individual who is a resident of a Contracting State, there shall be allowed as a deduction in respect of any other person who is a resident of the other Contracting State and who is dependent on the individual for support the amount that would be so allowed if that other person were a resident of the first-mentioned State."

2. Paragraph 10 of Article XXV (Non-Discrimination) of the Convention shall be deleted and replaced by the following:

"10. Notwithstanding the provisions of Article II (Taxes Covered), this Article shall apply to all taxes imposed by a Contracting State."

ARTICLE 14

A new paragraph 6 shall be added to Article XXVI (Mutual Agreement Procedure) of the Convention as follows:

"6. If any difficulty or doubt arising as to the interpretation or application of the Convention cannot be resolved by the competent authorities pursuant to the preceding paragraphs of this Article, the case may, if both competent authorities and the taxpayer agree, be submitted for arbitration, provided that the taxpayer agrees in writing to be bound by the decision of the arbitration board. The decision of the arbitration board in a particular case shall be binding on both States with respect to that case. The procedures shall be established in an exchange of notes between the Contracting States. The provisions of this paragraph shall have effect after the Contracting States have so agreed through the exchange of notes."

ARTICLE 15

A new Article XXVI A (Assistance in Collection) shall be added to the Convention as follows:

"Article XXVI A
Assistance in Collection

1. The Contracting States undertake to lend assistance to each other in the collection of taxes referred to in paragraph 9, together with interest, costs, additions to such taxes and civil penalties, referred to in this Article as a "revenue claim".

2. An application for assistance in the collection of a revenue claim shall include a certification by the competent authority of the applicant State that, under the laws of that State, the revenue claim has been finally determined. For the purposes of this Article, a revenue claim is finally determined when the applicant State has the right under its internal law to collect the revenue claim and all administrative and judicial rights of the taxpayer to restrain collection in the applicant State have lapsed or been exhausted.

3. A revenue claim of the applicant State that has been finally determined may be accepted for collection by the competent authority of the requested State and, subject to the provisions of paragraph 7, if accepted shall be collected by the requested State as though such revenue claim were the requested State's own revenue claim finally determined in accordance with the laws applicable to the collection of the requested State's own taxes.

4. Where an application for collection of a revenue claim in respect of a taxpayer is accepted

(a) By the United States, the revenue claim shall be treated by the United States as an assessment under United States laws against the taxpayer as of the time the application is received; and

(b) By Canada, the revenue claim shall be treated by Canada as an amount payable under the Income Tax Act, the collection of which is not subject to any restriction.

5. Nothing in this Article shall be construed as creating or providing any rights of administrative or judicial review of the applicant State's finally determined revenue claim by the requested State, based on any such rights that may be available under the laws of either Contracting State. If, at any time pending execution of a request for assistance under this Article, the applicant State loses the right under its internal law to collect the revenue claim, the

competent authority of the applicant State shall promptly withdraw the request for assistance in collection.

6. Subject to this paragraph, amounts collected by the requested State pursuant to this Article shall be forwarded to the competent authority of the applicant State. Unless the competent authorities of the Contracting States otherwise agree, the ordinary costs incurred in providing collection assistance shall be borne by the requested State and any extraordinary costs so incurred shall be borne by the applicant State.

7. A revenue claim of an applicant State accepted for collection shall not have in the requested State any priority accorded to the revenue claims of the requested State.

8. No assistance shall be provided under this Article for a revenue claim in respect of a taxpayer to the extent that the taxpayer can demonstrate that

(a) Where the taxpayer is an individual, the revenue claim relates to a taxable period in which the taxpayer was a citizen of the requested State, and

(b) Where the taxpayer is an entity that is a company, estate or trust, the revenue claim relates to a taxable period in which the taxpayer derived its status as such an entity from the laws in force in the requested State.

9. Notwithstanding the provisions of Article II (Taxes Covered), the provisions of this Article shall apply to all categories of taxes collected by or on behalf of the Government of a Contracting State.

10. Nothing in this Article shall be construed as:

(a) Limiting the assistance provided for in paragraph 4 of Article XXVI (Mutual Agreement Procedure); or

(b) Imposing on either Contracting State the obligation to carry out administrative measures of a different nature from those used in the collection of its own taxes or that would be contrary to its public policy (ordre public).

11. The competent authorities of the Contracting States shall agree upon the mode of application of this Article, including agreement to ensure comparable levels of assistance to each of the Contracting States."

ARTICLE 16

1. Paragraph 1 of Article XXVII (Exchange of Information) of the Convention shall be deleted and replaced by the following:

"1. The competent authorities of the Contracting States shall exchange such information as is relevant for carrying out the provisions of this Convention or of the domestic laws of the Contracting States concerning taxes to which the Convention applies insofar as the taxation thereunder is not contrary to the Convention. The exchange of information is not restricted by Article I (Personal Scope). Any information received by a Contracting State shall be treated as secret in the same manner as information obtained under the taxation laws of that State and shall be disclosed only to persons or authorities (including courts and administrative bodies) involved in the assessment or collection of, the administration and enforcement in respect of, or the determination of appeals in relation to the taxes to which the Convention applies or, notwithstanding paragraph 4, in relation to taxes imposed by a political subdivision or local authority of a Contracting State that are substantially similar to the taxes covered by the Convention under Article II (Taxes Covered). Such persons or authorities shall use the information only for such purposes. They may disclose the information in public court proceedings or in judicial decisions. The competent authorities may release to an arbitration board established pursuant to paragraph 6 of Article XXVI (Mutual Agreement Procedure) such information as is necessary for carrying out the arbitration procedure; the members of the arbitration board shall be subject to the limitations on disclosure described in this Article."

2. Paragraph 4 of Article XXVII (Exchange of Information) of the Convention shall be deleted and replaced by the following:

"4. For the purposes of this Article, the Convention shall apply, notwithstanding the provisions of Article II (Taxes Covered):

(a) To all taxes imposed by a Contracting State; and

(b) To other taxes to which any other provision of the Convention applies, but only to the extent that the information is relevant for the purposes of the application of that provision."

ARTICLE 17

1. Paragraph 3(a) of Article XXIX (Miscellaneous Rules) of the Convention shall be deleted and replaced by the following:

"(a) Under paragraphs 3 and 4 of Article IX (Related Persons), paragraphs 6 and 7 of Article XIII (Gains), paragraphs 1, 3, 4, 5, 6(b) and 7 of Article XVIII (Pensions and Annuities), paragraph 5 of Article XXIX (Miscellaneous Rules), paragraphs 3 and 5 of Article XXX (Entry into Force), and Articles XIX (Government Service), XXI (Exempt Organizations), XXIV (Elimination of Double Taxation), XXV (Non-Discrimination), XXVI (Mutual Agreement Procedure) and XXIX B (Taxes Imposed by Reason of Death);"

2. Paragraphs 5 to 7 of Article XXIX (Miscellaneous Rules) of the Convention shall be deleted and replaced by the following:

"5. Where a person who is a resident of Canada and a shareholder of a United States S corporation requests the competent authority of Canada to do so, the competent authority may agree, subject to terms and conditions satisfactory to such competent authority, to apply the following rules for the purposes of taxation in Canada with respect to the period during which the agreement is effective:

(a) The corporation shall be deemed to be a controlled foreign affiliate of the person;

(b) All the income of the corporation shall be deemed to be foreign accrual property income;

(c) For the purposes of subsection 20(11) of the Income Tax Act, the amount of the corporation's income that is included in the person's income shall be deemed not to be income from a property; and

(d) Each dividend paid to the person on a share of the capital stock of the corporation shall be excluded from the person's income and shall be deducted in computing the adjusted cost base to the person of the share.

6. For purposes of paragraph 3 of Article XXII (Consultation) of the General Agreement on Trade in Services, the Contracting States agree that:

(a) A measure falls within the scope of the Convention only if:

(i) The measure relates to a tax to which Article XXV (Non-Discrimination) of the Convention applies; or

(ii) The measure relates to a tax to which Article XXV (Non-Discrimination) of the Convention does not apply and to which any other provision of the Convention applies, but only to the extent that the measure relates to a matter dealt with in that other provision of the Convention; and

(b) Notwithstanding paragraph 3 of Article XXII (Consultation) of the General Agreement on Trade in Services, any doubt as to the interpretation of subparagraph (a) will be resolved under paragraph 3 of Article XXVI (Mutual Agreement Procedure) of the Convention or any other procedure agreed to by both Contracting States.

7. The appropriate authority of a Contracting State may request consultations with the appropriate authority of the other Contracting State to determine whether change to the Convention is appropriate to respond to changes in the law or policy of that other State. Where domestic legislation enacted by a Contracting State unilaterally removes or significantly limits any material benefit otherwise provided by the Convention, the appropriate authorities shall promptly consult for the purpose of considering an appropriate change to the Convention."

ARTICLE 18

A new Article XXIX A (Limitation on Benefits) shall be added to the Convention as follows:

"Article XXIX A
Limitation on Benefits

1. For the purposes of the application of this Convention by the United States,

(a) A qualifying person shall be entitled to all of the benefits of this Convention, and

(b) Except as provided in paragraphs 3, 4 and 6, a person that is not a qualifying person shall not be entitled to any benefits of the Convention.

2. For the purposes of this Article, a qualifying person is a resident of Canada that is:

(a) A natural person;

(b) The Government of Canada or a political subdivision or local authority thereof, or any agency or instrumentality of any such government, subdivision or authority;

(c) A company or trust in whose principal class of shares or units there is substantial and regular trading on a recognized stock exchange;

(d) A company more than 50 per cent of the vote and value of the shares (other than debt substitute shares) of which is owned, directly or indirectly, by five or fewer persons each of which is a company or trust referred to in subparagraph (c), provided that each company or trust in the chain of ownership is a qualifying person or a resident or citizen of the United States;

(e) (i) A company 50 per cent or more of the vote and value of the shares (other than debt substitute shares) of which is not owned, directly or indirectly, by persons other than qualifying persons or residents or citizens of the United States, or

(ii) A trust 50 per cent or more of the beneficial interest in which is not owned,

directly or indirectly, by persons other than qualifying persons or residents or citizens of the United States,

where the amount of the expenses deductible from gross income that are paid or payable by the company or trust, as the case may be, for its preceding fiscal period (or, in the case of its first fiscal period, that period) to persons that are not qualifying persons or residents or citizens of the United States is less than 50 per cent of its gross income for that period;

(f) An estate;

(g) A not-for-profit organization, provided that more than half of the beneficiaries, members or participants of the organization are qualifying persons or residents or citizens of the United States; or

(h) An organization described in paragraph 2 of Article XXI (Exempt Organizations) and established for the purpose of providing benefits primarily to individuals who are qualifying persons, persons who were qualifying persons within the five preceding years, or residents or citizens of the United States.

3. Where a person that is a resident of Canada and is not a qualifying person of Canada, or a person related thereto, is engaged in the active conduct of a trade or business in Canada (other than the business of making or managing investments, unless those activities are carried on with customers in the ordinary course of business by a bank, an insurance company, a registered securities dealer or a deposit-taking financial institution), the benefits of the Convention shall apply to that resident person with respect to income derived from the United States in connection with or incidental to that trade or business, including any such income derived directly or indirectly by that resident person through one or more other persons that are residents of the United States. Income shall be deemed to be derived from the United States in connection with the active conduct of a trade or business in Canada only if that trade or business is substantial in relation to the activity carried on in the United States giving rise to the income in respect of which benefits provided under the Convention by the United States are claimed.

4. A company that is a resident of Canada shall also be entitled to the benefits of Articles X (Dividends), XI (Interest) and XII (Royalties) if

(a) Its shares that represent more than 90 per cent of the aggregate vote and value represented by all of its shares (other than debt substitute shares) are owned, directly or indirectly, by persons each of whom is a qualifying person, a resident or citizen of the United States or a person who

(i) Is a resident of a country with which the United States has a comprehensive income tax convention and is entitled to all of the benefits provided by the United States under that convention;

(ii) Would qualify for benefits under paragraphs 2 or 3 if that person were a resident of Canada (and, for the purposes of paragraph 3, if the business it carried on in the country of which it is a resident were carried on by it in Canada); and

(iii) Would be entitled to a rate of United States tax under the convention between that person's country of residence and the United States, in respect of the particular class of income for which benefits are being claimed under this Convention, that is at least as low as the rate applicable under this Convention; and

(b) The amount of the expenses deductible from gross income that are paid or payable by the company for its preceding fiscal period (or, in the case of its first fiscal period, that period) to persons that are not qualifying persons or residents or citizens of the United States is less than 50 per cent of the gross income of the company for that period.

5. For the purposes of this Article,

(a) The term "recognized stock exchange" means:

(i) The NASDAQ System owned by the National Association of Securities Dealers, Inc. and any stock exchange registered with the Securities and Exchange Commission as a

national securities exchange for purposes of the Securities Exchange Act of 1934;

(ii) Canadian stock exchanges that are "prescribed stock exchanges" under the Income Tax Act; and

(iii) Any other stock exchange agreed upon by the Contracting States in an exchange of notes or by the competent authorities of the Contracting States;

(b) The term "not-for-profit organization" of a Contracting State means an entity created or established in that State and that is, by reason of its not-for-profit status, generally exempt from income taxation in that State, and includes a private foundation, charity, trade union, trade association or similar organization; and

(c) The term "debt substitute share" means:

(i) A share described in paragraph (e) of the definition "term preferred share" in the Income Tax Act, as it may be amended from time to time without changing the general principle thereof; and

(ii) Such other type of share as may be agreed upon by the competent authorities of the Contracting States.

6. Where a person that is a resident of Canada is not entitled under the preceding provisions of this Article to the benefits provided under the Convention by the United States, the competent authority of the United States shall, upon that person's request, determine on the basis of all factors including the history, structure, ownership and operations of that person whether

(a) Its creation and existence did not have as a principal purpose the obtaining of benefits under the Convention that would not otherwise be available; or

(b) It would not be appropriate, having regard to the purpose of this Article, to deny the benefits of the Convention to that person.

The person shall be granted the benefits of the Convention by the United States where the competent

authority determines that subparagraph (a) or (b) applies.

7. It is understood that the fact that the preceding provisions of this Article apply only for the purposes of the application of the Convention by the United States shall not be construed as restricting in any manner the right of a Contracting State to deny benefits under the Convention where it can reasonably be concluded that to do otherwise would result in an abuse of the provisions of the Convention."

ARTICLE 19

A new Article XXIX B (Taxes Imposed by Reason of Death) shall be added to the Convention as follows:

"Article XXIX B
Taxes Imposed by Reason of Death

1. Where the property of an individual who is a resident of a Contracting State passes by reason of the individual's death to an organization referred to in paragraph 1 of Article XXI (Exempt Organizations), the tax consequences in a Contracting State arising out of the passing of the property shall apply as if the organization were a resident of that State.

2. In determining the estate tax imposed by the United States, the estate of an individual (other than a citizen of the United States) who was a resident of Canada at the time of the individual's death shall be allowed a unified credit in an amount that bears the same ratio to the credit allowed under the law of the United States to the estate of a citizen of the United States as the value of the part of the individual's gross estate that at the time of the individual's death is situated in the United States bears to the value of the individual's entire gross estate wherever situated. The amount of any unified credit otherwise allowable under this paragraph shall be reduced by the amount of any credit previously allowed with respect to any gift made by the individual. The credit otherwise allowable under this paragraph shall be allowed only if all information necessary for the verification and computation of the credit is provided.

3. In determining the estate tax imposed by the United States on an individual's estate with respect to property that would qualify for the estate tax marital deduction under the law of the United States if the surviving spouse were a citizen of the United States and all applicable elections were properly made, a non-refundable credit shall be allowed in addition to, but not in excess of, the amount of the unified credit allowed under paragraph 2 (or, in the case of an individual who was a citizen or resident of the United States, under the law of the United States) before the reduction for any credit allowed previously with respect to any gift made by the individual, provided that

(a) The individual was at the time of death a citizen of the United States or a resident of either Contracting State;

(b) The surviving spouse was at the time of the individual's death a resident of either Contracting State;

(c) If both the individual and the surviving spouse were residents of the United States at the time of the individual's death, one or both was a citizen of Canada; and

(d) The executor of the decedent's estate elects the benefits of this paragraph and waives irrevocably the benefits of any estate tax marital deduction that would be allowed under the law of the United States on a United States Federal estate tax return filed for the individual's estate by the date on which a qualified domestic trust election could be made under the law of the United States.

Solely for purposes of determining other credits allowed under the law of the United States, the credit provided under this paragraph shall be allowed after such other credits.

4. Where an individual was a resident of the United States immediately before the individual's death, for the purposes of subsection 70(6) of the Income Tax Act, both the individual and the individual's spouse shall be deemed to have been resident in Canada immediately before the individual's death. Where a trust that would be a trust described in subsection 70(6) of that Act, if its trustees that were citizens of the United States or domestic corporations under the law of the

United States were residents of Canada, requests the competent authority of Canada to do so, the competent authority may agree, subject to terms and conditions satisfactory to such competent authority, to treat the trust for the purposes of that Act as being resident in Canada for such time as may be stipulated in the agreement.

5. In determining the amount of tax payable in Canada for a taxation year by an individual who died in that year and at a time immediately before which the individual was a resident of Canada, the amount of any estate tax payable in the United States in respect of the individual's property situated in the United States shall be allowed as a deduction from the amount of any tax otherwise payable in Canada on any income, profits or gains of the individual arising (within the meaning of paragraph 3 of Article XXIV (Elimination of Double Taxation)) in the United States in that year, taking into account the deduction for any income tax paid or accrued to the United States that is provided under paragraph 2(a), 4(a) or 5(b) of Article XXIV (Elimination of Double Taxation).

6. In determining the amount of estate tax payable in the United States by the estate of an individual who was a resident or citizen of the United States at the time of death, a credit shall be allowed against any estate tax imposed in respect of property situated outside the United States for the income tax imposed in Canada in respect of such property by reason of the individual's death. The amount of such credit shall be computed in accordance with the provisions and subject to the limitations of the law of the United States regarding credit for foreign death taxes (as it may be amended from time to time without changing the general principle hereof), as though the income tax imposed by Canada were a creditable tax under that law.

7. Provided that the value, at the time of death, of the entire gross estate wherever situated of an individual who was a resident of Canada (other than a citizen of the United States) at the time of death does not exceed 1.2 million U.S dollars or its equivalent in Canadian dollars, the United States may impose its estate tax upon property forming part of the estate of the individual only if any gain derived by the individual from the alienation of such property would have been subject to income taxation by the United States in accordance with Article XIII (Gains)."

ARTICLE 20

1. The appropriate authorities of the Contracting States shall consult within a three-year period from the date on which this Protocol enters into force with respect to further reductions in withholding taxes provided in the Convention, and with respect to the rules in Article XXIX A (Limitation on Benefits) of the Convention.

2. The appropriate authorities of the Contracting States shall consult after a three-year period from the date on which the Protocol enters into force in order to determine whether it is appropriate to make the exchange of notes referred to in of Article XXVI (Mutual Agreement Procedure) of the Convention.

ARTICLE 21

1. This Protocol shall be subject to ratification in accordance with the applicable procedures in Canada and the United States and instruments of ratification shall be exchanged as soon as possible.

2. The Protocol shall enter into force upon the exchange of instruments of ratification, and shall have effect:

(a) For tax withheld at the source on income referred to in Articles X (Dividends), XI (Interest), XII (Royalties) and XVIII (Pensions and Annuities) of the Convention, with respect to amounts paid or credited on or after the first day of the second month next following the date on which the Protocol enters into force, except that the reference in paragraph 2(a) of Article X (Dividends) of the Convention, as amended by the Protocol, to "5 per cent" shall be read, in its application to amounts paid or credited on or after that first day:

(i) After 1994 and before 1996, as "7 per cent"; and

(ii) After 1995 and before 1997, as "6 per cent"; and

(b) For other taxes, with respect to taxable years beginning on or after the first day of January next following the date on which the Protocol enters into force, except that the reference in paragraph 6 of Article X (Dividends) of the Convention, as amended by the Protocol, to "5 per cent" shall be read, in its

application to taxable years beginning on or after that first day and ending:

(i) After 1994 and before 1996, as "7 per cent"; and

(ii) After 1995 and before 1997, as "6 per cent".

3. Notwithstanding the provisions of paragraph 2, Article XXVI A (Assistance in Collection) of the Convention shall have effect for revenue claims finally determined by a requesting State after the date that is 10 years before the date on which the Protocol enters into force.

4. Notwithstanding the provisions of paragraph 2, paragraphs 2 through 7 of Article XXIX B (Taxes Imposed by Reason of Death) of the Convention (and paragraph 2 of Article II (Taxes Covered) and paragraph 3(a) of Article XXIX (Miscellaneous Rules) of the Convention, as amended by the Protocol, to the extent necessary to implement paragraphs 2 through 7 of Article XXIX B (Taxes Imposed by Reason of Death) of the Convention) shall, notwithstanding any limitation imposed under the law of a Contracting State on the assessment, reassessment or refund with respect to a person's return, have effect with respect to deaths occurring after the date on which the Protocol enters into force and, provided that any claim for refund by reason of this sentence is filed within one year of the date on which the Protocol enters into force or within the otherwise applicable period for filing such claims under domestic law, with respect to benefits provided under any of those paragraphs with respect to deaths occurring after November 10, 1988.

IN WITNESS WHEREOF, the undersigned, duly authorized thereto by their respective Governments, have signed this Protocol.

Done in two copies at Washington this ____________ _____day of _______________ 1994, in the English and French languages, each text being equally authentic.

For the Government of the United States of America:	For the Government of Canada:

PUBLIC DEBT NEWS

Department of the Treasury • Bureau of the Public Debt • Washington, DC 20239

FOR IMMEDIATE RELEASE
August 31, 1994

CONTACT: Office of Financing
202-219-3350

RESULTS OF TREASURY'S AUCTION OF 16-DAY BILLS

Tenders for $7,005 million of 16-day bills to be issued September 6, 1994 and to mature September 22, 1994 were accepted today (CUSIP: 912794L77).

RANGE OF ACCEPTED
COMPETITIVE BIDS:

	Discount Rate	Investment Rate	Price
Low	4.54%	4.62%	99.798
High	4.60%	4.66%	99.796
Average	4.58%	4.66%	99.796

Tenders at the high discount rate were allotted 80%.
The investment rate is the equivalent coupon-issue yield.

TENDERS RECEIVED AND ACCEPTED (in thousands)

	Received	Accepted
TOTALS	$27,540,000	$7,005,000
Type		
Competitive	$27,540,000	$7,005,000
Noncompetitive	0	0
Subtotal, Public	$27,540,000	$7,005,000
Federal Reserve	0	0
Foreign Official Institutions	0	0
TOTALS	$27,540,000	$7,005,000

LB-1050