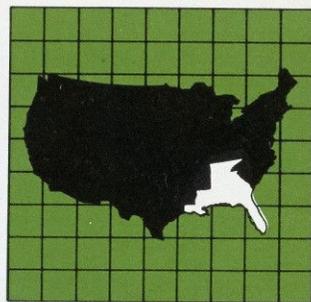


Economic Review



FEDERAL RESERVE BANK OF ATLANTA

OCTOBER 1982

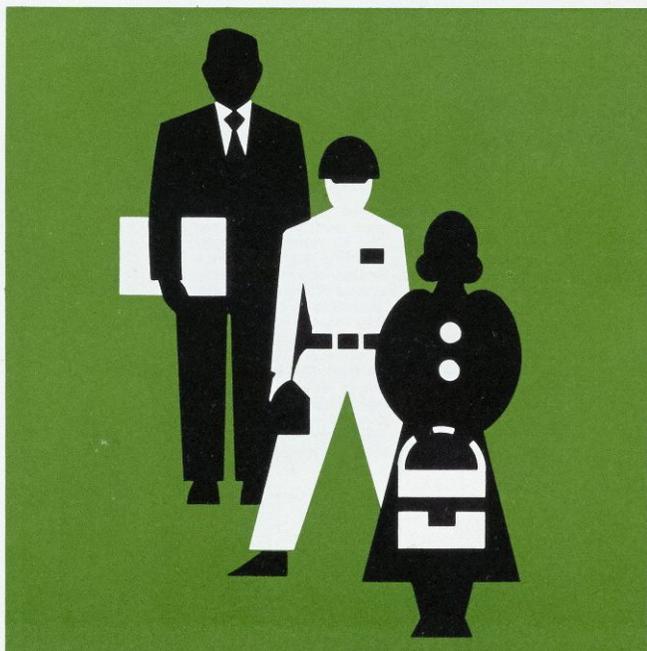
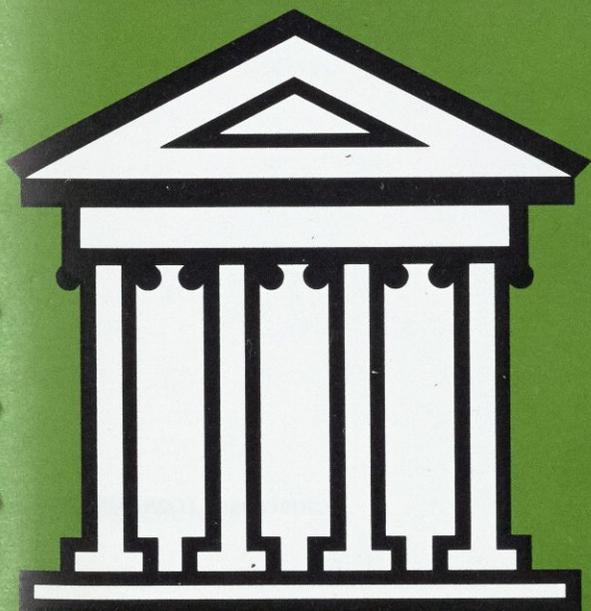
PRODUCTIVITY Regaining the U.S. Edge

BANKING International Activity Booms in Southeast

CHECKS "Safekeeping" as a Transition Product

INVESTMENT U.S. Fiscal Policy and 70s Slowdown

COAL Utilities' Demand Heats Up



Economic Review



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Whatever happened to the Yankee trader?

You remember the Yankee trader. He once commanded the respect overseas that hostile nations usually reserve for the U.S. Marines. He was the aggressive exporter whose vessels sailed the world looking for new markets — and, ironically, prompted Commodore Perry to sail into Japan to open that country to foreign trade less than 130 years ago! We'll talk later about how Japan has taken advantage of that opportunity to compete in the world market — with a vengeance.

Our country emerged from World War II as the globe's unchallenged leader, a country that was a superpower economically as well as militarily. Goods bearing the identification "Made in U.S.A." were prized around the world. We boasted a superiority in quality and productivity that let us dominate world markets, even though our own domestic market was growing so fast that many industries didn't even bother to solicit sales overseas. When foreign goods did find their way onto our domestic shelves, they often were cheap imitations that our comedians used to joke about.

We don't joke about foreign goods any more. Foreign competition is no laughing matter for a nation that suddenly finds itself under siege, challenged not only in foreign markets but in our own automobile showrooms and in our local department stores. Whether we're talking about steel, autos, shirts, shoes, televisions or stereos, we find our markets flooded with goods from overseas. American business people have complained that the foreign firms have won their share of our markets by undercutting our prices, that they are playing dirty pool by relying on government subsidies. Yet, all too frequently these days foreign manufacturers seem to be capturing

Regaining the U.S. Competitive Edge: The Shared Destiny

domestic sales by equalling or even surpassing the quality of goods produced by American industries — while frequently turing them out at lower cost.

What about our own exports? The U.S. accounted for 15 percent of the world's export sales in 1965, just 17 years ago. That share has skidded to 11 percent. Last year, as a strengthening dollar hurt us competitively, we experienced a near-record merchandise trade deficit of \$27.9 billion. Those figures don't indicate how dramatically we've lost markets where we used to be awesome competitors (Chart 1).

We don't even seem capable of transporting goods on our own ships these days. Did you know that our merchant marine, the largest in the world as recently as 1950, has slipped to a distant 11th — trailing such countries as Italy and Singapore? According to the National Maritime Council, the share of U.S. oceanborne foreign trade on registered U.S. flag ships has declined in the last 30 years from over 40 percent to barely 5 percent. Our shipbuilding



To compete in international markets, the three major players on the U.S. side—big business, government, and labor—must recognize their common goals. Excuses about the success of foreign competitors only cloud the issue.

has suffered as well; where we used to rank as the world leader, we're now trailing in fifth place.

If we've had trouble dominating the seas in recent years, we're even beginning to take flak in our skies. Aerospace, of course, has been a winner for us in world markets for decades. It accounted for \$17.7 billion in exports last year and racked up a \$13.1 billion trade surplus — both record highs for our most lucrative export industry.

But competition is threatening even that industry and its most exportable commodity, the jet airliner. Foreign competition, and the recession that has dampened air travel, prompted Lockheed Aircraft to announce recently that it will stop building commercial jets after it phases out production of its TriStar in 1984. Boeing and McDonnell Douglas, the two surviving manufacturers of jetliners, face surprising competition from European producers who have teamed up to make and sell both commercial and military aircraft.

Our planemakers' biggest threat comes from the consortium of European manufacturers that built the A300 Airbus. That collaboration of governments and firms in France, Britain, West Germany and Spain, called Airbus Industries, by 1981 had captured a fourth of the world market for big jets that U.S. companies virtually monopolized a few years back. During the first five months of 1982, Airbus won almost 50 percent of the new orders for large aircraft. What's more, it is working on another new jet transport that could pose tough competition over the next 15 years as airlines phase out their older planes.

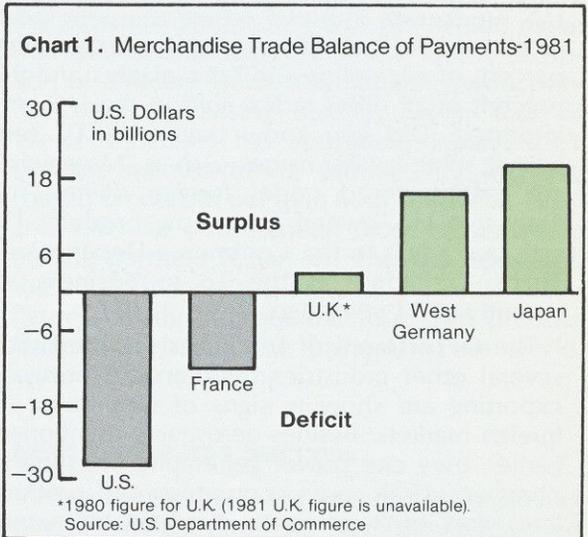
As often seems to happen when U.S. industries find themselves challenged, our aircraft manufacturers are complaining that the Europeans aren't playing fair — that Airbus relies on government subsidies and is boosted by preferential loans to foreign purchasers. Whether it's unfair or not, our own airlines are hungry enough for financing that they are taking the bait. In 1981, foreign imports captured a 6 percent share of the sales of large aircraft in the U.S. market, up from less than 1 percent in 1970. A Florida-based airline (Eastern) is operating the A300, and you'll surely see more flying into major Florida cities as sales increase.

What about the obvious victims of foreign competition? To refresh your memory, let's briefly run through the litany of industries

clobbered by foreign competition over the past 15 years:

○ Automobiles — Imported autos have become such a fact of American life that owners have been known to plaster bumper stickers reading "Buy American" on their Toyotas and Volkswagens. Imports, which used to turn heads when they made their inaugural in U.S. markets a couple of decades ago, accounted for only 7 percent of our domestic sales in 1960. But they passed the 27 percent penetration level in 1981 and 31 percent this past July — and they don't rate a second glance on Main Street these days. Imported cars contributed to the loss of nearly 132,000 American jobs last year. Our own exports? Excluding shipments to Canada, they account for less than 1 percent of our production; they don't buy many Chryslers in Yokohama.

○ Steel — Another of our hardest-hit industries, steel firms have watched the foreign share of our domestic market climb from 5 percent in 1960 to more than 19 percent last year. The competition, along with the national



recession, has idled more than 100,000 American steelworkers. Most of that competition comes from Europe. U.S. firms have gone to court, claiming that European governments sell their steel in this country at a loss because they are more interested in creating jobs than in turning profits.

○ Textiles and apparel — The mills that produce America's fabric and clothing were among the earliest to be challenged by overseas competitors. Textile imports have increased from a 6 percent share of the U.S. market in 1960 to 14 percent in 1981. If current penetration levels continue, imports could claim as much as 40 percent of our total domestic market by the end of the decade; that could cost the U.S. 1.2 million future jobs. U.S. manufacturers are trying to fight back by automating plants, since they can't match the payrolls of low-wage competitors in the Orient. The prospect of future competition from China, with its one billion people, is enough to keep U.S. textile executives awake at night. In the first four months of 1982, China passed South Korea to become the third largest textile exporter to our country, behind Hong Kong and Taiwan.

○ Consumer electronics — An American industry that has watched its markets shrink since the late 1960s, when Japanese producers hurried to fill a gap in our product line by introducing low-cost portable television sets. Did you know that, today, over 90 percent of the black-and-white television sets sold in the U.S. are foreign imports? American-made radio receivers are becoming a rarity. Sixty-seven percent of car radios and tape players and 94 percent of all other radios sold in the U.S. are imported. Did you know that even TV sets bearing some familiar names, such as "Magnavox," are manufactured under foreign ownership? Only five U.S.-owned firms now produce TV sets, according to the Commerce Department. That's a shadow of the 18 in business as recently as 13 years ago.

The Department of Labor has reported that several other industries traditionally strong at exporting are showing signs of weakening in foreign markets. Besides aerospace, mentioned earlier, they cite power generating machinery, pharmaceuticals, even computers. And product lines that can't compete overseas ultimately may not be able to compete at home, either.

We could cite other examples, but that should be depressing enough. Overall, it tells a story that we may not want to hear: that in industry after industry, foreign manufacturers are doing a better job than in the past of slugging it out with American industry — not only overseas, but right here in our own marketplace. And that is truly frightening, considering

the growing importance of international trade to our economy. Even though aggressive competitors have been narrowing our share of world trade, our merchandise exports grew from the equivalent of 4 percent of our nation's output in 1965 to 8 percent now. We are relying more on world trade, in other words, at a time when other countries are beating us at the game.

Japan: An Economic Powerhouse

Various countries have challenged America's leadership in a host of competitive markets: the West Germans in textile machinery, the Italians in shoes, Hong Kong and Taiwan in clothing. But Japan stands alone, depending on your perspective, as either a marvelous success

"We are relying more on world trade . . . at a time when other countries are beating us at the game."

story of international commerce or as an economic threat to our national well-being. As NCR Chairman William S. Anderson observed recently, "It is Japan, more than any other nation, which exemplifies the seriousness of the challenge to American industrial leadership."

Anderson says Japan has struggled up from the humiliation and devastation of defeat to become "the most competitive nation on earth."

There is no question that the island nation has hoisted itself by the bootstraps to earn the respect of trading partners far more richly endowed in natural resources. None of its competitors can claim to be more generously endowed in national will. Over the past 35 years, Japan has developed through a sense of mutual purpose into an economic powerhouse that seems capable of competing with anyone, anywhere, anytime.

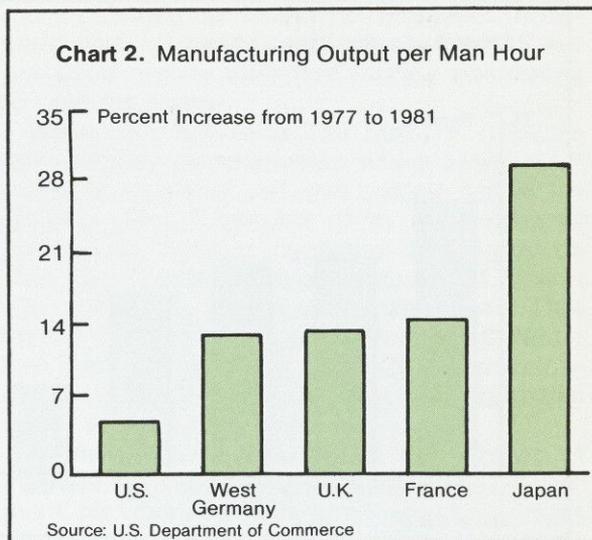
Certainly Japan's success hasn't come without problems. The Japanese government has been experiencing budget deficits since the mid-1970s — and government spending has begun

to crowd private investors out of the capital markets. Another problem is the country's aging population that has strained the pension system and is jeopardizing the national commitment to lifetime employment. Japan's traditionally short average life expectancy at birth had grown to the world's longest by 1981, 75.5 years for the Japanese male compared with 68.7 for his American counterpart.

What's more, Japanese government forecasters recently reduced economic growth projections for 1982 from 5 percent to 2 1/2 percent. Yet even that lower estimate exceeds the expected growth of the United States, Britain or even West Germany. And consider that some expect Japan's economy to continue growing right into the 1990s.

Consider that Japan's export volume climbed over 10 percent in 1981, while our export volume dropped 3 percent. The OECD predicts that during the next two years Japan's export volume will increase 10 percent and ours will decrease 10 percent. Japan's success at exporting helped it to become in 1980 the world's leading maker of automobiles, the largest manufacturing industry in the world. Its exports are continuing to climb although protectionism has flared not only in Europe but in the U.S. Unhappily for the protectionists, they find that when they restrict one Japanese import the Japanese simply move along to another product line. And they seem to come out of it stronger than they were before.

Critics argue that the Japanese can be protectionists in their own way, by erecting a multitude of non-tariff barriers that can make it difficult for American firms to penetrate their tight domestic market. Our government has taken a harder line recently by urging the Japanese to open their markets as freely as we open ours. That's only fair. Our industries should test those markets and determine whether the Japanese are opening the door as wide as they claim. And yet, despite all the alleged barriers, it's interesting to watch a company such as IBM competing successfully by establishing a subsidiary on Japanese turf. IBM has carried the fight to Japan's shores and has kept the local manufacturers on the defensive. (It's also interesting, at least, that IBM has been described as one of the few U.S. companies with characteristics similar to those found frequently in Japanese corporations. Other U.S.



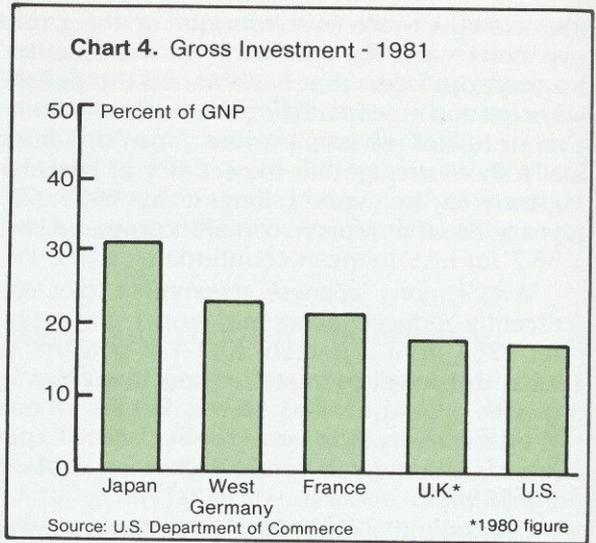
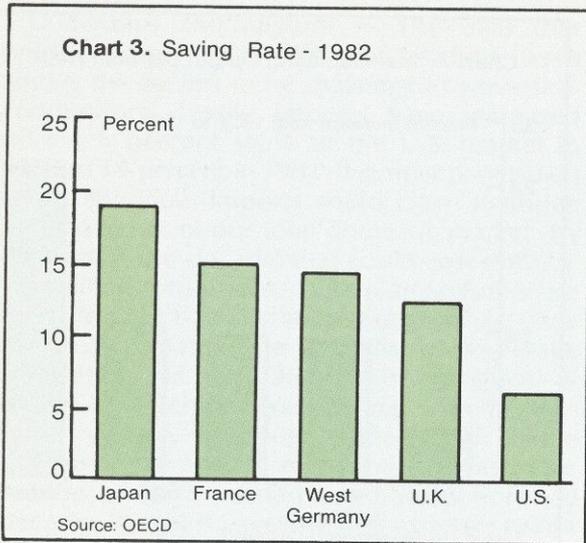
firms with similar characteristics include Eastman Kodak, Texas Instruments, Hewlett-Packard, Procter & Gamble and Delta Airlines — all of which have been described as being among the best-managed in the world.)

Advocates of protectionism cannot ignore the Japanese productivity that has helped make that country such a competitor. With the exception of a recent weakening, Japan's productivity has been increasing steadily while that of Western nations has stagnated. Japan's 29.1 percent manufacturing productivity increase (based on output per man hour) between 1977 and 1981 far outdistanced those of her major trading partners (Chart 2). The U.S. registered the smallest increase, only 4.5 percent. Those figures clearly indicate that our own productivity, though still the highest in the world, seems to be withering.

Keys to Japan's Success

How do the Japanese succeed in improving productivity? How, in fact, have they performed such an economic miracle? There are a number of contributing factors:

High on any list of factors encouraging productivity is a Japanese financial and economic climate that encourages the world's highest personal saving rate, around 19 percent this year (Chart 3). Compare that with a U.S. rate of 6 percent, the poorest of any industrialized nation.



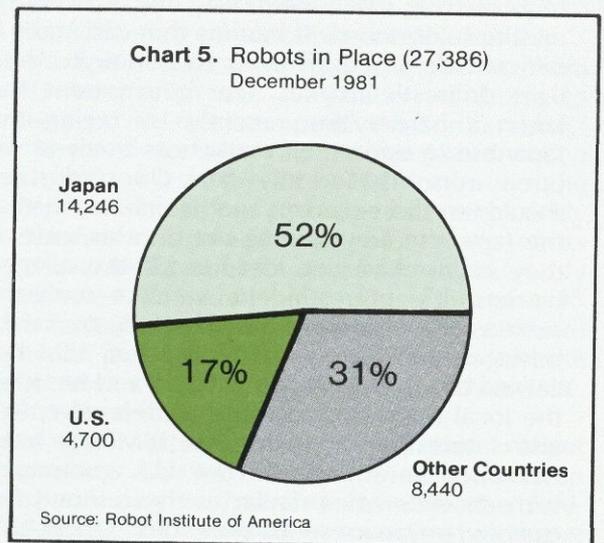
Japan's savings have helped generate a high level of investment that has channeled billions of yen into new plants and equipment. In 1981, Japan's gross investment was 31 percent of the nation's GNP — much higher than in other industrialized countries (Chart 4). Consider that the average machine tool in Japan is half the age of its counterpart in America — and consider the implications of that fact for productivity. Japan's rapid expansion into robotics also is revealing from the standpoint of industrial investment. According to the Robot Institute of America, Japanese industry counted 14,246 robots in action as of last December; our country, although the world runnerup, could claim only 4,700 — less than a third as many (Chart 5).

step toward redirecting our capital away from housing and into savings and thus into plants and equipment.

Some economists project that the new Individual Retirement Accounts, coupled with reductions in the top tax rate, the liberalization of estate taxes and other changes, could boost our national savings rate by 2 or 3 percent of GNP. That's still nothing to shout about by international standards, but it is an encouraging shift. We'll still need fundamental changes in the incentives to save if we as a nation are to

A related factor in Japan's success in the world marketplace is the nation's determination to place a higher priority on investment than on consumption. Japanese investment funds tend to flow into productive enterprises rather than into housing and real estate, while we emphasize the latter through tax writeoffs on consumer borrowing.

Our nation has been devoting a disproportionately large share of both its GNP and its savings to housing. That has been great for builders and realtors and for the southeastern economy, but it has proven to be a depressant for industrial productivity. We as a nation are finally becoming concerned with such things; the new tax law represented an encouraging



generate the investment cash for massive reindustrialization.

We'll need continued progress at restraining inflation if we are to convince our public to save money and encourage investment. By robbing us of our incentives to save, inflation has been sapping our national capability to modernize and expand our facilities. The Federal Reserve is dedicated to thwarting inflation, and we'll work for continued progress in that truly crucial fight.

Patience, Reward and Cooperation

Let's look at some of the other factors that have contributed to Japan's emergence as a world trader:

Japan's industry is characterized by an emphasis on the group rather than the individual, a phenomenon reflected in the close and cooperative interaction between business, workers and the government. Participatory management generates both new ideas and a sense of teamwork between management and labor. In major firms, those workers enjoy the promise of lifetime employment and an accompanying sense of loyalty uncommon in our industry.

We can't overlook Japan's dedication to projects with a long-term payout, so unlike our own corporate preoccupation with prompt bottom-line results. "Japan," as one analyst summed it up recently, "has patient money." That's one reason the Japanese are leaders in semiconductors, a field we pioneered but in effect shelved because it didn't promise immediate results. Japan's longer-range philosophy is reflected in the fact that its industries report profits only yearly, not quarterly as is standard in American industry.

Corporate success is rewarded in Japan for the employee as well as for his company. Employees in successful companies receive larger paychecks and more attractive benefits than those in less productive firms. And the concept of lifetime employment doesn't necessarily percolate down from the big companies to less favored firms, where employees may be subject to layoff in a slowdown. The Japanese distinction between successful and less successful firms has generated some impressive dynamism. It stands as an interesting contrast to our system, which in recent years has expended a disproportionate amount of energy and tax

money shoring up inefficient companies threatened with failure. Misguidedly, in the U.S. we put good money after bad money attempting to save the losers.

Japan also has benefited from its freedom from military commitments, which account for a sizable chunk of our own budget. Japan has spent a mere 1 percent of its gross national product on military personnel and hardware over the past two decades, about \$1 trillion less than the U.S. over those same years. That means the Japanese government can spend far less than we spend on research and development, yet achieve a more substantial industrial return for its investment.

As mentioned previously, a high degree of internalized cooperation between big government, big labor and big business also characterizes the Japanese style. In Japan these Big Three work together instead of working against each other, as happens far too often in our country. Japan's cooperative spirit may grow from its national emphasis on pulling together with a single-minded purpose. Government, labor and industry are so mutually supportive that their collaborative effort has come to be characterized by outsiders as "Japan Incorporated." A trace of sarcasm may creep into that characterization, but I think it reflects a lot of respect and awe as well.

This cooperation is reflected in the role of MITI, the Ministry of International Trade and Industry. MITI is the influential government ministry that encourages industries that seem to hold a promising future in international trade — and to deemphasize those, such as aluminum, chemicals and shipbuilding, deemed to have less prospect for real growth in the global market. This ministry function has been dubbed "helping the winners and identifying the losers." Japanese officials insist that MITI relinquished that role in 1980, when it lost the power to grant licenses to companies seeking to deal in foreign exchange. Just the same, the ministry retains substantial power over the nation's industry, channeling billions of yen into research in chosen areas such as bio-high technology and nuclear fission.

What We Can Use

What can we learn from the Japanese experience? Can we create our own "U.S.A. Incorporated?" Do we want to?

Some things clearly are not exportable. Japan's emphasis on the group rather than the individual, for instance, is deeply rooted in the national heritage. I don't expect that we'll be seeing American workers dressed in company uniforms and singing corporate anthems. We don't want to give up our individuality, which among other things has given us an advantage over the Japanese when it comes to innovation. Nor are we likely to endorse lifetime employment, not yet.

We can learn a lesson from Japan by working to eliminate or reduce the adversarial barriers that have grown up between our government, our businesses and our workers. Far too few American companies exhibit the kind of management-labor teamwork that shows up in Delta Airlines, with its history of internal cooperation and career security. Yet we must work together if we are to out-produce a competitor

“For our economy, the destiny of any one element [government, business, labor] is the destiny of us all.”

as unified as Japan, where the number of man-days lost to strikes has declined steadily since 1974. For our economy, the destiny of any one element is the destiny of us all.

How can we all assure that this destiny that we share, for better or worse, will turn out to be a fruitful one? Let's look at the three elements in our economy and consider their responsibilities.

First, how can “big business” help achieve the sort of national turnaround that the times seem to demand? Certainly, management should set an example of leadership that will encourage the achievement of super-ordinary goals. It can emphasize the quality of every employee's contribution, whether that employee ranks at the executive or blue-collar level, rather than permitting nepotism or favoritism to influence staff advancement. Management can avoid flaunting perquisites, the corporate jets, executive condos and the like.

We have learned from the Japanese experience that corporations must strive to make the work experience both more fulfilling and more profitable — goals they can achieve through programs that give the rank-and-file a personal stake in their companies' success or failure. That includes laying a solid foundation of participatory management that can bring rank-and-file workers into the mainstream of decisions.

One step toward teamwork that's being exported to this country on a growing scale is “quality circles,” a form of joint decisionmaking widely used in Japan since the 1960s. Supervisors and workers meet together voluntarily in a team effort to brainstorm solutions to corporate problems. Some estimates are that as many as 3,000 firms nationwide, including AT&T, General Motors, J.C. Penney and Westinghouse, hold quality circle meetings in some of their facilities.

Japan learned early that such cooperation makes sense: potential solutions to a production bottleneck may come more readily to the blue-collar worker on the factory floor than to the executive who is distant, both physically and emotionally, from the problem.

Quality circles offer an encouraging response to the frequent criticism that American management ignores the expertise and latent creativity of its rank-and-file. It is an oversight that has cost management valuable input that workers might have contributed. In many corporations, it has also contributed to the alienation of employees, who tend to view management from the perspective of “us against them.” The corporate snub has encouraged American labor to turn to third parties that workers believe can help defend their interests — third parties such as labor unions.

Ironically, some unions have been known to resist the quality circles concept precisely because it DOES tend to tear down walls between management and labor. If employees start thinking of themselves as part of a corporate team, the labor leaders fear, it could erode some of their hold on workers' hearts and minds.

Of course, labor has its responsibility, just as does management. If corporations have the responsibility to provide fair and enlightened management, labor has the responsibility to provide a day's work for a day's pay. We're seeing recognition now in such industries as automobiles that the worker has a crucial stake in turning out a quality product that can compete

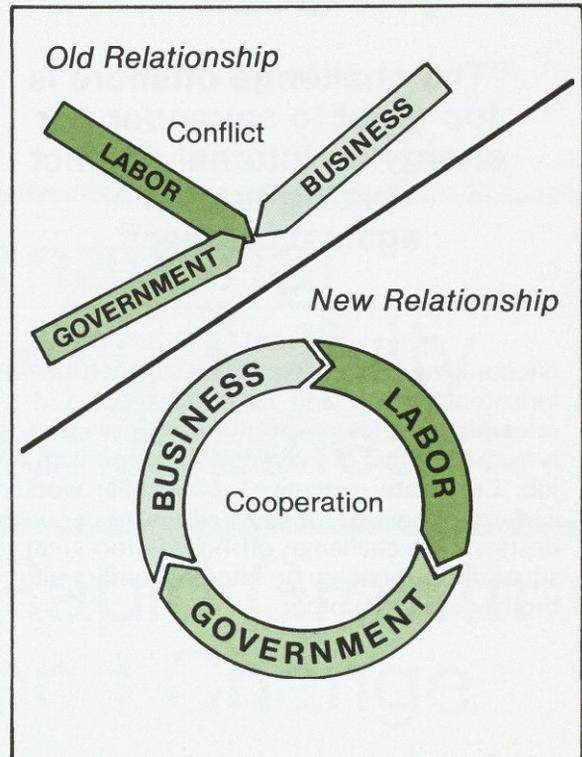
in world markets. In a very real sense, workers' jobs are on the line just as surely as stockholders' dollars.

Government? What's its responsibility? Certainly it is not to be a second-guesser, looking critically over the shoulder of every CEO and ready to clobber him with a regulation book if he unwittingly violates some bureaucratic "no-no." Government naturally must provide a measure of protection against irresponsible corporations that would abuse the rights of their employees and the integrity of the environment. But government's role must not be primarily adversarial. Its role should be to provide an umbrella under which capitalism can function most efficiently—not an umbrella over the inefficient. On the whole, government's responsibility should be to help clear the way for American productivity—not to stand in the way.

The current administration has accorded a high priority to reducing government's role as a policeman. It is heeding the plea of business men and women that they need cooperation, not antagonism, if they are to compete worldwide. The President's Task Force on Regulatory Relief has projected that the administration's efforts would save businesses around the country \$12.6 billion during the first half of 1982. Our own Atlanta Fed analysis concluded that Southeastern companies would save about \$1.75 billion over that six-month period and another \$1 billion a year in recurring costs because of the effort to clear away regulatory obstructions.

We're even seeing encouraging steps toward cooperation by the Occupational Safety and Health Administration, frequently criticized in the past for its hostility toward business. OSHA plans to launch an experimental program in seven Sunbelt states, including Florida and Georgia, that will offer businesses a "comprehensive safety consultation" free of the threat of penalties.

Reasonably enough, firms determined in that inspection to have serious hazards will be required to correct them and to maintain an effective safety and health program. But participating companies will be exempted for a full year from time-consuming scheduled inspections by OSHA. That's a departure from past practice. In the past, employers that invited the agency's inspectors into their workplaces for advice risked being slapped with a penalty if violations were found — an all-too-typical



example of government working at cross purposes with industry.

Government can also encourage the development of trading companies, which play a significant role in Japan's exporting effort. Japan's trading companies, in fact, handle more than half of that country's exporting. And those firms are backed by the Japanese Export Trading Organization, which has mobilized nearly 1,300 workers to scout out opportunities and to drum up business for Japanese exporters around the world. In our country, the House and Senate have passed different versions of a bill that would promote the formation of export trading companies. If Congress can agree on a final bill, it could speed the creation of trading companies to seek out overseas buyers of American goods and otherwise assist small and medium-sized U.S. companies to expand their international business.

Meeting the Challenge

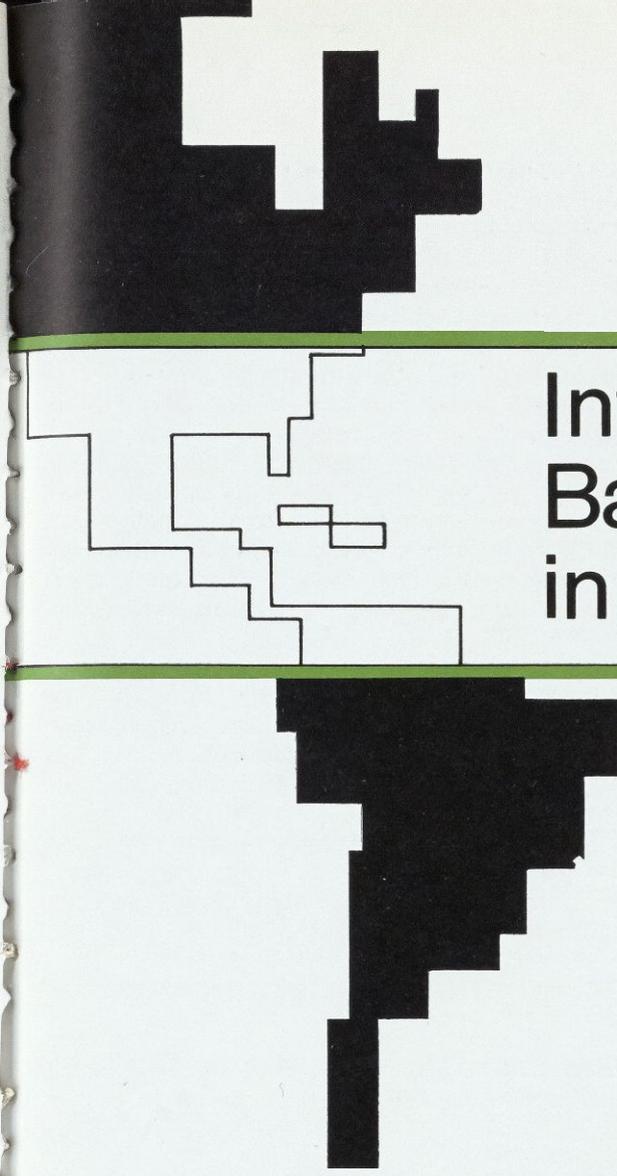
So it's clear that we are taking the first steps toward reinstating our national competitiveness — by eliminating regulatory obstructions, by

“The challenge offshore is too great to squander our energy on internal conflict pitting brother against brother.”

encouraging the savings that we need to fuel industrial growth and modernization, and by relearning the lesson of mutual cooperation. It is in the interest of everyone to get on with the job. Corporate executives, blue-collar workers and government officials all share a single destiny. The challenge offshore is too great to squander our energy on internal conflict pitting brother against brother .

Despite recent progress, much remains to be done. We must continue the fight against inflation, we must continue weeding out costly regulations that breed inefficiency, we must give serious consideration to initiatives such as trading firms that have proven effective in such countries as Japan. In a mutual recognition of our shared destiny, we must marshal the resources of business, labor and government to compete more effectively with the Japanese — with all our trading partners — in management, in technology and in productivity. And we must commit ourselves to work in our institutions and corporations to revisit the spirit of American enterprise and ingenuity that made the Yankee trader — and his wares — a competitor to be reckoned with.

This article is based on a speech Donald L. Koch delivered to the Florida Economics Club. Pamela Whigham contributed valuable research in its preparation.



International Banking Activity in the Southeast:

Rapid Growth and Change

Booming international trade and financial deregulation have fueled a surge in international banking activity in the Southeast. Most of the region's activity is with Latin American and Caribbean countries.

International banking offices in the Southeast increased dramatically in the 1970s, rising from 33 in 1970 and 56 in 1975 to 125 in 1980.* Amazingly, growth still appears to be gathering steam. By mid-year 1982, the number had increased to nearly 300. Three-fourths of these offices are in Florida—primarily in Miami—and another 15 percent are in Atlanta.

Lending and deposit-taking activities of these southeastern offices are growing substantially faster than for the nation. Since 1976, loans and other claims on foreigners have increased at about a 40 percent average annual compound

rate, or 10 percent faster than the national growth. Foreign deposits in the region expanded at a similarly higher margin than the nation in this period—the Southeast's foreign liabilities grew at a 30 percent compound rate versus 20 percent for the nation. Altogether, southeastern claims on foreigners have increased sevenfold and liabilities fivefold in the 1976-1982 period. This new business is benefiting people across the region.

What are the Dimensions of Growth and Importance of International Banking?

International banking institutions facilitate international economic transactions the same way hometown banks help local business. Both finance

*For the purposes of this article, the Southeast¹ refers to the Sixth Federal Reserve District—Alabama, Florida, Georgia, and parts of Mississippi, Louisiana and Tennessee.

trade and investment by creating money and credit and by channeling resources from savers to borrowers. International banking and finance, however, is often more complex than the domestic version. Complications arise partly because of possible problems with foreign currencies and partly because physical and legal barriers limit the free flow of goods, services and payments across national boundaries. Useful credit information on business firms in foreign countries is also relatively scarce.

“Lending and deposit-taking activities of these southeastern offices are growing substantially faster than for the nation.”

Despite these complications, the nation's international banking activity has grown enormously in recent years. In part, this trend reflects the growth of international commerce. But it is also a result of U.S. and foreign banks' establishing more offices outside their home countries. As the world's economies become more entwined, these banks are motivated to serve existing customers better, to attract new customers, and to diversify their sources of earnings and funds.

Let's look at international trade. U.S. and world trade have grown more rapidly than production in the past decade. During the 1970s, U.S. merchandise exports virtually doubled as a percentage of GNP, to 8.5 percent in 1980. This means that exports have been growing much faster than U.S. output as a whole. As a result, trade financing also has been growing relatively fast.

Some idea of the size of U.S. banks' involvement in financing international trade is revealed by the flow of funds through the international payments system. International payments flows exceeded \$100 trillion in 1979. By the end of this year, these flows may approach \$200 trillion at an annual rate, with 60 to 70 million transactions a year.¹

International lending by commercial banks in the western industrialized countries has also

expanded dramatically in recent years. One estimate shows a more than fivefold increase, to \$940 billion, in net loans outstanding in the 1973-81 period.² Large U.S. banks are active lenders; at year-end 1981, these banks held \$320 billion in loans to foreigners.³

U.S. banks' important role in financing expanded world trade and investment also shows up in increased bank income. Interest receipts of U.S. banks on loans, deposits, and other claims on foreigners was one of the fastest-growing components of the 1970s' surge in U.S. services receipts in the nation's balance of payments. These bank earnings grew at a 40 percent average annual compound rate in the 1970s, raising bank interest from 4 percent of service exports in 1970 to 22 percent in 1980.

The fast growth of bank interest has helped offset the emergence in the 1970s of persistent U.S. deficits in merchandise trade. Despite the sharp rise for U.S. merchandise exports in the 1970s, imports spurted even more, as other nations became more competitive with U.S. producers of cars, steel, textiles and other goods. The growing surplus on U.S. service transactions typically offset the negative merchandise balance. By 1980, the surplus on these transactions (bank interest surplus was \$14 billion) exceeded by \$11 billion the \$25 billion deficit on merchandise trade.

How Important is International Banking in the Southeast?

Nowhere is U. S. trade growth more visible today than at southeastern seaports. International trade through the region's ports grew much faster in the 1970s than in the rest of the nation.⁴ The growing importance of this trade has contributed to, and benefited from, the increase in international banking in the Southeast. Banks in New Orleans and Mobile boast the longest tradition in international banking, dating to before World War II, because of the historical importance of foreign trade through the ports. More recently, Miami and Atlanta have emerged as the largest and fastest-growing centers of southeastern international banking.

²Bank for International Settlements, "International Banking Developments," (mimeo), May, 1982.

³Federal Financial Institutions Examination Council, "Country Exposure Lending Survey" E.16(126), June, 1982.

⁴See William J. Kahley, "Southeast's Ships Come In: Bright Outlook for Exports," this Review, May, 1982.

¹United States Banker, June, 1982, p. 40.

Table 1. Number of International Banking Offices in the Sixth District*

	AL	FL	GA	LA	MS	TN	District
Active U.S. bank lenders (foreign-owned; 6/1/82)	3	21 (7)	4	5	2	4	39 (7)
All foreign-owned U.S. commercial banks (4/1/82)	—	26	2	1	—	1	30
Foreign agencies (5/6/82)	—	36	14	1	—	—	51
Representative offices (5/25/82)	—	7	3	—	—	—	10
Edge Act corporations (5/25/82)	2	45	8	1	—	—	56
District banks with foreign branches (5/20/82)	2	7	4	3	1	3	20
IBFs (7/15/82)	—	71	6	1	—	—	78
District	7	213	41	12	3	8	284

*As of dates in parentheses. Data include pending and approved, but unopened, offices in Florida and Georgia.

The explosive growth of international banking activity in Miami has been spurred by the growth of international trade, particularly with Latin America and the Caribbean. More importantly, Miami banking offices attract a substantial volume of foreign nonbank deposits, mostly from Latin America. Miami's Latin atmosphere has attracted Latin businessmen and caused U. S. multinational corporations with commercial interests in Latin America to locate in the area. Miami's attractive deposit base and foreign business growth are attracting numerous banking organizations lured by the opportunities there. In Atlanta, international banking activity is growing in response to the international business demands of large corporate customers throughout the Southeast.

The total dollar benefit of international banking to the Southeast is an elusive figure. It can be seen directly (on Brickell Avenue in Miami, for example) in employment and office occupancy, as well as in air travel, hotel use, and retailing. Indirectly, dollars flow through the economy as accountants, lawyers, and other vendors of goods and service are hired and paid. Or, the availability of international banking services may help attract businesses to an area.

The growth of southeastern international banking activity—when measured by loans, deposits, or number of banking offices—has proven remarkable in recent years. An even clearer picture of the growing importance of such activity emerges when we examine the activities of particular

types of international banking institutions operating in the region.

Who are the Players?

International banking activity is conducted by a variety of domestic and foreign-controlled banking organizations—U.S. or foreign-owned commercial banks, U.S. branches of foreign banks, foreign bank agencies and representative offices, U.S. or foreign-controlled Edge Act corporations, and International Banking Facilities. In addition, U.S. banks have branches and subsidiary offices in foreign countries (see Box). This broad array of financial offices, numbering 284, spans the Southeast (see Table 1).⁵

Commercial Banks

Several of the region's commercial banks have maintained active international departments for years. Their number has also grown steadily in recent years. Currently, about 40 commercial banks in the Southeast, a majority of them in Florida, report "active" international departments.

Commercial banks chartered in the Southeast account for a little over 1 percent of large U. S.-chartered banks' lending to foreigners.⁶ However, lending by the region's banks is accelerating

⁵IBFs, while similar to offshore branches, are not separately-chartered institutions.

⁶According to the "Country Exposure Lending Survey," op. cit.

TYPES OF INTERNATIONAL BANKING OFFICES

Commercial Banks. The larger commercial banks in the Southeast usually have both domestic and international operations. The international departments make international loans and deal in letters of credit and collections, often through their correspondent foreign banks. They may also deal in foreign exchange and provide trust and other services to corporate customers and individuals. Deposits they take in U. S. offices are subject to reserve requirements, and Regulation Q limits the interest rates that banks may pay (except for IBF deposits—see below) on demand and time deposits. The maximum loan a bank may make to any one customer is subject to regulatory limits based on the bank's capital. U.S. chartered (federal or state) banks may be wholly or partly owned by foreigners. A subsidiary bank is incorporated separately from the foreign bank which owns it.

Foreign Bank Branches. This organization is an integral part of the foreign bank that establishes it. A full service branch can perform the full range of banking services; its lending limit is based on the parent bank's capital. Foreign banks have established full service branches in the U. S. just as U. S. banks have established full-service branches in other countries. Limited operations, or "shell," branches (like those located in the Bahamas and the Cayman Islands) are used by U. S. and foreign banks to avoid home country regulations and for tax purposes. These branches exist "on paper" only; loan and deposit transactions are determined at the parent bank and then legally recorded or "booked" at the bank's offshore branch. State laws prohibit foreign banks from establishing branches in all six southeastern states.

Foreign Bank Agencies. Agencies are authorized to make business loans, finance international trade, and conduct money market and foreign exchange operations, but they may not perform trust functions. They also may not accept demand or time deposits but may hold credit balances for customers. Agencies' funds are obtained mainly by borrowing from foreign affiliates or in the U.S. money market. There is no regulatory limit on the size of a loan to a particular borrower.

Edge Act Corporations. The Edge Act (1919) permits domestic banks and the International Banking Act of 1978 permits foreign banks to establish either banking or investment Edge corporations. The dominant form, the banking Edge, functions like a full service bank—but only for international business. Investment Edges do not engage in banking activities; instead, they exist to hold and manage an equity portfolio of foreign investments.

International Banking Facilities. IBFs may be established by U.S. depository institutions and U.S. offices of foreign banks to serve as record-keeping entities at mainland offices. They are similar to the offshore "shell" branches that banks have maintained in such places as the Bahamas and Cayman Islands to handle foreign business. IBFs are permitted to conduct only international banking business such as taking foreign deposits and making foreign loans.

compared to banks elsewhere in the nation. In the period 1978-1981, southeastern banks' foreign lending tripled as a result of their 43 percent average annual compound growth. Meanwhile, foreign lending by other U.S. banks was increasing at only one-third that rate. The rapid gain by southeastern banks is attributable to more banks participating in foreign lending and to increased lending by other banks, particularly in the interbank market in Caribbean offshore banking centers.

Thirty foreign-owned commercial banking organizations operate in the Southeast, about one-fourth of them active international lenders. As of year-end 1981, these banks accounted for 35 percent of the foreign-owned U.S. commercial banks and 5.5 percent of the \$121.8 billion in foreign-owned commercial bank assets in the United States. By contrast, only one foreign-owned bank operated in the Southeast in 1970.

The recent rapid increase in foreign-owned U.S. banks in the region follows the movement of U.S. banks into foreign markets in earlier years. Generally, foreigners enter the U.S. banking market to expand or diversify their international activities. Acquisition of U.S. banks gives foreign banks a deposit base in the world's largest banking industry and commercial markets. On the asset side of the ledger, foreign banks extend loans primarily to commercial and industrial firms, particularly multinational corporations. In addition to foreign bank purchases of U. S. banks, wealthy individuals also purchase U. S. banks for investment purposes.

Foreign Agencies and Representative Offices

The Florida International Banking Act of 1977 permitted foreign banks to establish agencies or representative offices in the Sunshine State. Georgia's legislature had passed a similar law a year earlier to permit foreign banks to locate offices in that state. Since passage of these bills, 60 offices have opened in the two states, the bulk of them in Florida. The particularly fast growth in Florida reflects the emergence of Miami as a banking center for Latin America, while Atlanta's growth reflects its importance as regional financial center of the burgeoning Southeast.

Nationally, the 194 foreign agencies at year-end 1981 counted total assets of \$65.4 billion.

“The recent rapid increase in foreign-owned U.S. banks in the region follows the movement of U.S. banks into foreign markets in earlier years.”

Foreign bank agencies in the Southeast account for a growing share of this total—currently, about 5 percent. In both the region and nation, agencies, like banks, are involved primarily in financing international trade transactions. Like banks, they also finance medium-term loans between their home country borrowers and countries, particularly when such activity is difficult in those other countries.

The 10 representative offices in the Southeast account for a small fraction of the nation's 268 total, most of which operate out of New York.

Edge Act Corporations

The recent growth of southeastern Edge corporations has been dramatic. Atlanta's Citizens and Southern Bank established the region's first banking Edge corporation in Miami in 1969, and there were only 10 Edge corporations in the region as late as 1976. In the early and mid-1970s, money-center and regional banks created Edges for trade-financing purposes in various port cities. Liberalization of Edge regulation after 1976 paved the way for a near sixfold increase in the region's Edges, to 56 today. In terms of the number of banking Edges—if not asset size—Miami's concentration of offices now outranks New York.

The changes in Edge regulation that spurred this concentration were the 1978 International Banking Act (IBA) and accompanying alterations in 1979 to the Federal Reserve System's Regulation K.⁷ These regulatory changes permit domestic and foreign banks to establish separately chartered subsidiaries, or “Super-Edges,” with branches nationwide, that can provide full-service

banking to international businesses and foreigners.

The uses of Edges vary, however, depending on the parent company's purposes. In Miami, for example, Edges often serve as the regional center for a parent bank's Latin American and Caribbean business and as a safe haven to attract foreign flight capital deposits. In contrast, Atlanta Edges are oriented more toward trade financing, including the financing of production of exported goods and services. In New York, Edges provide out-of-state banks with an international New York presence for clearings and to gather information on financial developments.

Foreign Branches

Southeastern banks have opened nine foreign branches since mid-1979, as the number of banks in the region with foreign branches increased to 20. These branches, four in Nassau and 16 in the Cayman Islands, were established to permit the banks to operate in the “Eurodollar” market.

Eurodollar (or, more generally, Eurocurrency) market activities consist of deposits and loans in currencies other than that of the country where the deposit or loan is located or “booked.” For example, a dollar loan to a Latin American government or corporation from a U.S. or foreign bank's Nassau “shell” branch is a Eurodollar transaction. One very broad measure of “the” size of the Eurocurrency market estimates the end-1981 gross (that is, including interbank deposits) amount of Eurocurrency liabilities at \$1,800 billion, up from \$210 billion at end-1972.⁸ Eurodollars account for about three-fourths of all Eurocurrencies.

Several explanations have been offered for the extremely rapid growth of the Eurodollar market during the past decade. Those include U.S. balance of payments deficits; government taxes and regulations (reserve requirements, interest rate limitations); inflation; the expansion of world trade and the use of the dollar in oil and other transactions.

International Banking Facilities

U.S. banks, increasingly dissatisfied with the regulations that caused them to establish offshore shell branches, first proposed the creation of International Banking Facilities (IBFs) to the Federal Reserve Board in 1978. As of December 3, 1981,

⁷See Donald Baer, “Behind Miami's Surge in International Banking,” *This Review*, April, 1981, for a detailed discussion.

⁸Morgan Guaranty Trust Company, *World Financial Markets*, July, 1982.

the Board agreed to permit U.S. depository institutions, Edge corporations, and U.S. offices of foreign banks to establish mainland offices similar to the offshore shell branches. Those regulatory changes exempt deposits accepted at an IBF from foreign residents and corporations from reserve requirements and interest rate ceilings imposed on domestic deposits. That exemption extends to foreign subsidiaries of U.S. firms.

To prevent the leakage of nonreservable funds into domestic credit and the erosion of monetary policy's effectiveness, the Board prohibited eligible borrowers from using IBF loans for U.S. activities. Also, IBFs are not allowed to issue negotiable CDs. Two other conditions imposed by the Board are that the minimum size non-bank transaction be \$100,000 and that foreign nonbank depositors give two days' notice for withdrawal. These conditions enable small financial institutions to operate IBFs while preserving the wholesale nature of IBF transactions.

Several state legislatures, including Florida and Georgia, have exempted IBF transactions from state and local taxes. This exemption erases any tax disadvantage IBFs may have suffered compared to tax-free transactions permitted in offshore banking centers in the Caribbean and elsewhere. IBF deposits also are not subject to the FDIC insurance assessment. However, IBFs don't enjoy the secrecy law advantages of the Caribbean offshore banking centers, nor is a minimum IBF deposit insured as a \$100,000 domestic deposit.

Assets for the weekly reporting IBFs with at least \$50 million in assets or liabilities grew from about \$65 billion at the end of 1981 to \$102 billion in March 1982, and \$126 billion in June, after the first six months of operation. In the Southeast, total IBF assets in March, 1981, were \$1.8 billion; of that total, about 95 percent, or \$1.7 billion, was accounted for by IBFs with assets or liabilities greater than \$50 million. Altogether, 78 IBFs were approved by mid-July 1982, and the region's IBFs in the over \$50 million category accounted for two percent of all assets in that category nationwide.⁹

It is clear that IBFs have grown rapidly in both the region and across the country since their inception last December; they have already captured perhaps 10 percent of the Eurodollar

market. Initially, U.S.-owned banks established IBF accounts largely with assets and liabilities shifted from their offshore branches; by contrast, branches and agencies of foreign banks in the U.S. relied heavily on assets and liabilities already on the books of their U.S. offices.¹⁰ With few exceptions, experiences in the Southeast have mirrored that across the nation.

Who are the Major Customers?

Two prominent trends emerge from the lending and deposit data for southeastern banking entities. First, over three-fourths of total lending and four-fifths of foreign deposits (by institutions which report their international banking activities regularly to the U.S. Treasury) in the Southeast are with the countries of Latin America and the Caribbean (Table 2). These March 1982 concentrations are roughly the same as in 1970 and 1976.¹¹ Second, commercial banks dominate lending and deposit-taking, with market shares of 53 percent and 42 percent, respectively (Table 3).

Commercial banks dominate lending to all borrowing groups except the "all other" category comprised of foreign nonfinancial corporations and individuals. Edge corporations dominate that category (Table 4). Bank lending is directed primarily (and equally) toward affiliated and unaffiliated banks; 88 percent of all bank loans go to other banks (Table 5). By contrast, half of Edge corporations' loans are to nonbank foreigners. The overall dominance of banks in deposit-taking and lending and the composition of lending in the region reflect important supply-demand forces.

It is understandable that commercial banks have dominant overall shares in foreign loans and deposits. For years, state and national regulations limited nonlocal banking organizations from competing with local banks for international

¹⁰Survey of Current Business, March, 1982, p. 44. As of June, 1982, about 55 percent of IBF assets were owned by U.S. agencies and branches of foreign banks (from H.14, 518), suggesting that IBFs are quite attractive to foreigners.

¹¹See John E. Leimone, "The Spread of International Banking: A Regional View," this Review, August, 1971; also Donald Baer and David Garlow, "International Banking in the Sixth District," this Review, September, 1977. It should also be pointed out that these data do not include all transactions with foreigners, nor do they include all internationally-oriented transactions. Assets and liabilities of foreign branches of U.S. banks are excluded as are assets and liabilities associated with bank international transactions with domestic residents. Finally, banks with average liabilities due to foreigners, or average claims on foreigners of less than \$10 million for less than six months, do not report these items.

⁹As of June 2, 1982, there were 188 weekly reporters in the nation; 15 of them were in this District. Data from Federal Reserve Statistical Release H.14(518).

Table 2. Geographical Distribution of District International Banking (Percent of Total, March, 1982)*

Reporting Entity	Customer Location			Total
	Europe	Latin America & Caribbean	Other	
<u>Claims</u>				
Banks	10.0	74.2	15.8	100
Edges	19.4	77.8	2.8	100
Agencies	6.5	88.4	5.1	100
IBFs	11.4	87.1	1.5	100
All	12.6	77.6	9.8	100
<u>Liabilities</u>				
Banks	5.7	89.5	4.8	100
Edges	4.8	94.0	1.2	100
Agencies	13.8	57.4	28.8	100
IBFs	9.1	80.8	10.1	100
All	7.3	84.7	8.0	100

*Data from U.S. Treasury. The number of reporters, march, 1982: Banks-16, Edges-19, Agencies-12, and IBFs-16.

Table 3. Geographic Market Share of Activity with Foreigners (Percent of Total, March, 1982)*

Reporting Entity	Customer Location			Total
	Europe	Latin America & Caribbean	Other	
<u>Claims</u>				
Banks	42.2	50.9	86.4	53.3
Edges	44.1	28.8	8.3	28.7
Agencies	3.6	7.9	3.6	6.9
IBFs	10.1	12.4	1.7	11.1
All	100.0	100.0	100.0	100.0
<u>Liabilities</u>				
Banks	33.5	44.8	25.3	42.4
Edges	13.2	22.5	3.0	20.2
Agencies	19.9	.1	37.7	10.5
IBFs	33.4	25.6	34.0	26.9
All	100.0	100.0	100.0	100.0

*Data from U.S. Treasury. The number of reporters, March, 1982: Banks-16, Edges-19, Agencies-12, and IBFs-16.

business. Elimination of these barriers might be expected to lead to erosion, but not collapse, of commercial banks' entrenched position in the short time market penetration has been allowed. Indeed, because commercial banks have developed close business relationships with their corporate customers over the years, and because they can offer full banking services (including domestic services) to these customers, banks seem likely to remain dominant for some time. Meanwhile, the newcomers may have enlarged the market by attracting new international business through their out-of-region affiliates. If so, commercial bank activity may be growing with increased competition even as its share of the market declines.

The heavy concentration of commercial bank lending to unaffiliated foreign banks represents trade-financing through lines of credit established with foreign correspondent banks. Affiliated bank lending largely represents funds placed into the interbank Euromarket in the Caribbean offshore banking centers. On the demand side, the close trade connection between this region and Latin America accounts for the networks of southeastern and foreign correspondent banks through which much trade-financing flows. By contrast, the ample supply of funds deposited by foreigners

explains the high share of affiliated bank lending. Four-fifths of all the Southeast's foreign liabilities fall into the "all other foreigners" category (Table 5), compared to 11 percent for the nation. These deposits exceed the amount needed for lending operations and are placed into the Euromarket through offshore branches; over two-fifths of the region's banks total claims, in fact, are on their offshore branches.¹²

The pattern of lending to nonfinancial corporations and individual foreigners also seems logical. Small foreign and domestic businesses and individuals, particularly in Latin America, have turned to southeastern bankers for funds to finance production or trade. Consequently, this lending represents a hodgepodge of letters of credit, bankers acceptances, and loans to small-to-medium size firms in Latin America and the United States. Edge banks are often members of worldwide banking networks created by money

¹²If we exclude transactions with "own foreign offices" from all of the data, the business distributions and market shares by customer group and geographic area change somewhat. Principally, claims on Latin America and the Caribbean fall to 67.4 percent of the total, with most of the reduction due to a drop in banks' claims on Latin America to 54 percent from 74 percent. As a consequence, this share of Edges' claims on Latin America slightly exceeds the banks' share (38.1 percent compared to 36.1 percent) and market shares of banks and Edges converge, to 45.1 percent and 35.7 percent, respectively.

Table 4. Entities' Market Shares by Customer Group
(Percent of Total, March, 1982)*

Reporting Entity	Customer Group				Total
	Foreign Public Borrowers	Unaffiliated Foreign Banks	Own Foreign Offices	All Other Foreigners	
	<u>Claims</u>				
Banks	52.3	62.2	69.4	13.5	53.3
Edges	21.3	23.9	14.8	60.4	28.7
Agencies	7.0	5.6	4.5	12.8	6.9
IBFs	19.4	8.3	11.3	13.3	11.1
	100.0	100.0	100.0	100.0	100.0
	<u>Liabilities</u>				
Banks	69.0	38.2	14.8	46.5	42.4
Edges	30.0	32.6	9.1	20.7	20.2
Agencies	—	6.0	44.7	5.7	10.5
IBFs	1.0	23.2	31.4	27.1	26.9
All	100.0	100.0	100.0	100.0	100.0

*Data from U.S. Treasury. The number of reporters, March, 1982: Banks-16, Edges-19, Agencies-12, and IBFs-16.

center banks. Thus, they bring considerable expertise to the market. Frequently, their parent corporations or sister affiliates also provide valuable business information or referrals that can give them a competitive advantage over regional banks for foreign business. Finally, there is some evidence the region's commercial banks prefer to lend to foreign banks rather than to nonfinancial borrowers.¹³ A correspondent relationship with a foreign bank and short-term trade financing of U.S. corporate customers is less risky and thus sometimes preferred to direct lending to foreign corporations or individuals.

A cautious attitude toward making long-term loans may also explain the limited amount of direct lending to public borrowers, which remains small despite the well-publicized large credits to troubled foreign governments and other public agencies or authorities. Few commercial banks in the region are active in originating, or even participating in, large-scale syndicated loans. These loans, normally booked offshore by the large money center banks, usually have maturities of five to seven years.

¹³See Baer and Garlow, *op. cit.* However, it is emphasized that it is difficult to generalize about the motivations and activities of these different entities. That is, some banks, or Edges, may focus on direct lending to the foreign private sector while others specialize in correspondent banking or in sovereign risk (country) lending.

What is the Outlook for International Banking in the Southeast?

The regulatory, tax, commercial, and geographical advantages of locating international banking activities in the Southeast have improved substantially over the past decade. Future growth prospects for international banking in the region appear good, but the short-term outlook is cloudy. And the longer-run outlook, while bright, shines differently depending upon which crystal ball is consulted.

In the short run, economic weakness in the U.S. and abroad seems likely to continue limiting international banking activity, particularly with the countries of Latin America. In addition, bankers appear to be taking a more cautious look at lending to foreign countries. They are concerned about the high level of debt in several Latin American countries and may be more conservative in their near-future lending activity.

Over the longer haul, world trade, foreign investment, and internationalization of capital markets will expand briskly if the current trends of deregulation of markets and increased reliance on competitive forces continue. The overall growth of international trade and banking in the Southeast appears likely to continue to outpace national

Table 5. Entities' Business Distribution by Customer Group
(Percent of Total, March, 1982)*

Reporting Entity	Customer Group				Total
	Foreign Public Borrowers	Unaffiliated Foreign Banks	Own Foreign Offices	All Other Foreigners	
		<u>Claims</u>			
Banks	6/3	44.3	43.8	5.6	100
Edges	4.8	31.6	17.4	46.2	100
Agencies	6.6	30.8	22.0	40.6	100
IBFs	11.2	28.4	34.2	26.2	100
All	6.4	37.9	33.7	22.0	100
		<u>Liabilities</u>			
Banks	2.9	6.1	4.4	86.6	100
Edges	2.8	10.6	5.9	80.7	100
Agencies	—	3.9	53.0	43.1	100
IBFs	0.1	5.9	14.5	79.5	100
All	1.8	6.8	12.5	78.9	100

*Data from U.S. Treasury. The number of reporters, March, 1982: Banks-16, Edges-19, Agencies-12, and IBFs-16.

growth. In part, the region's expectations for more rapid trade growth reflect the projected continuation of southern migration of businesses and potential long-term growth prospects for Latin America. Service firms, such as banks, should continue to come into the region to take advantage of the new opportunities created by this growth.

Other factors that should affect international banking in the Southeast positively are the Reagan administration's Caribbean Basin Initiative (CBI), the Export Trading Company (ETC) legislation, and initiatives by the Commerce Department to create a greater trade awareness among small- to medium-size firms. The CBI aims to spur economic development in the Caribbean Basin by fostering trade and the growth of the private sectors in target economies of the Basin. Because of their well-established trade connections in the Basin, Florida banks stand to gain substantially.

Legislation pending in the Congress to establish ETCs is intended to strengthen the U.S. export sector. It proposes that bank holding companies and possibly Edges, depending on the bill's final version, be permitted to hold an interest in trading companies. The banking organizations would help generate additional business opportunities for U.S. firms while offering them a wide

variety of bank services. Export trading companies might provide particularly valuable assistance to small- and medium-size U.S. businesses engaged in producing goods and services that can be marketed abroad. Producers would benefit from lower unit costs of delivered goods because of economies of scale.

Small- and medium-size firms are a key to continued U.S. export expansion. The Commerce Department estimates that roughly 20,000 of the 50,000 American firms "capable of" exporting, don't.¹⁴ In the 1974-79 period, the number of small manufacturing establishments in southeastern states grew by 7.2 percent, triple the growth rate for the nation.¹⁵ These rapidly multiplying firms provide healthy opportunities for ETC-connected banking organizations in the Southeast; an estimated one-fourth of the firms with sales in the \$5-\$9 million range require international banking services. Edge corporation subsidiaries of money center banks might benefit, in particular, from the ETC legislation because of their membership in worldwide banking organizations.

¹⁴Congressional Quarterly, May 23, 1981, p. 901.

¹⁵David Avery, "Small Business: Linchpin for the Southeast?" this Review, July, 1982.

There is ample evidence that international banking activity in the Southeast is in the midst of a growth spurt. Miami in particular is developing as an international banking center. Evidence points to continued strong growth of international banking activity in the region at least through this decade. A remaining question, and one of the most interesting concerning the future of international banking in the Southeast, is whether an international financial center will emerge eventually in the region.

Measured by lines of newsprint, the most likely candidate as an international financial center appears to be Miami, already a major banking center in terms of its concentration of banking entities. Most observers believe the same factors that have caused Miami to emerge as a banking center will lead eventually to money center status. They believe Miami will develop some of the banking activities characteristic of financial centers: a local foreign exchange and short-term capital market, including the sale of deposits between banks and a strong bankers acceptance market, plus widespread originations of syndicated loans. Currently, these activities are only at the early stage of development in the city's banking community.

An opposing view is that Atlanta eventually will emerge as the region's international financial center. In this view, "quality of life" factors favor

. . . economic weakness in the U.S. and abroad seems likely to continue limiting international banking activity, particularly with the countries of Latin America.

Atlanta over Miami, and will offset Miami's attractive deposit base lure. Atlanta's proponents say many of these deposits are placed outside Miami anyway, and there is no reason why they could not flow to Atlanta.

Still another view, and the most likely outcome, is that Miami and Atlanta are simply not competitors and that both will grow in importance as financial centers. Miami, because of its geographic location, will continue to grow as the Latin American financial center. Atlanta, because of its geographic advantage in the Southeast, similarly will continue its growth as the financial center of that region.

Whatever the actual outcome, the remaining years of this decade promise to be pivotal ones for international banking in the Southeast.

—William J. Kahley

Check Safekeeping: Transition to the Electronic Future

More financial institutions are promoting check safekeeping as a transition product on the way to paperless payments. Public acceptance, however, depends on the resolution of legal, technical and promotional problems.

The wave of computer technology sweeping U.S. industries is not transforming these industries instantaneously. Firms have a substantial investment in traditional ways of doing business, and many people remain resistant to change. For many companies, the problem with the futuristic vision is, "how do we get there from here?"

For the financial services industry, facing deregulation, increasing costs, and outside competition, the future includes a fully electronic payments system that will control costs and boost profits. Such a paperless system could reduce costly branch office networks and provide greater variety and convenience to customers. The paper check system, however, is firmly entrenched; the shift to an electronic payments system will not occur overnight.

What the financial services industry needs is a "transition product" to ease the change from paper to a paperless payments system. Check safekeeping, in which financial institutions keep the checks and send the customer only a statement, has the potential to be that transition product. Whether it emerges as a success-

ful product, however, depends on whether certain technical and legal issues can be resolved, and whether the public will accept it.

Potential Advantages of Check Safekeeping

Check safekeeping has several potential advantages for consumers and financial institutions. It can help financial institutions stay profitable and competitive as deregulation progresses, and it can help consumers control their checking account costs.

Specific items on the deregulation agenda suggest that check safekeeping may become a more important element in the retail product line. Ceilings on checking account interest rates are on the way out. When they go, financial institutions will be able to pay market rates on checking accounts. To pay these rates and recover their check processing costs, banks and thrifts will be inclined to unbundle checking accounts.

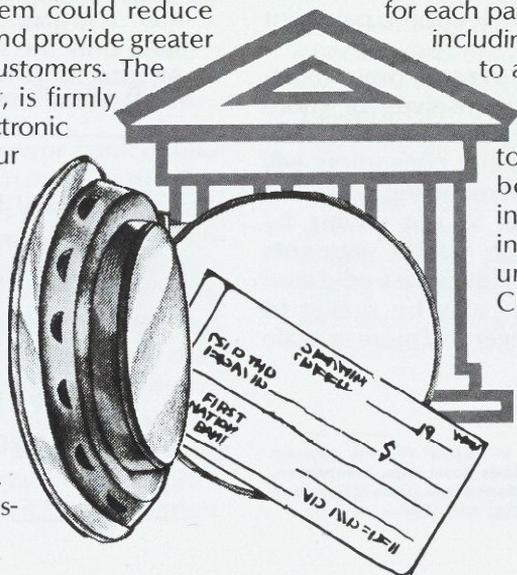
They will tend to charge an explicit fee for each particular element of the service, including returning cancelled checks

to account holders. At the same time, competition among de-

pository and nondepository financial institutions will be intense. This will provide an incentive to add value to checking account services without unduly increasing their costs.

Check safekeeping, positioned as a better alternative than check return, offers both possibilities.

As a transition product, check safekeeping can transfer volume from the check collection system to the net-



work of automated clearing houses (ACHs) and reduce check collection costs. A substantial number of transactions are necessary to reap the benefits of the electronic ACH technology; however, the number of transactions flowing through the ACH network today is miniscule compared to the number of checks being collected in the traditional way. The industry is supporting two parallel payments systems, checks and ACH. Most of the volume is flowing through the check-collection system, which may suffer diseconomies of scale industrywide as it does in the Federal Reserve System. Meanwhile, the economies of scale associated with the ACH network are barely being tapped.¹ A concerted industry effort to develop interbank check safekeeping along the lines of a program being developed by the National Association for Check Safekeeping could reverse this inefficient use of existing resources.

Check safekeeping can play a transitional role in the marketplace, too. Adoption of retail electronic banking services has been slow, with many consumers reluctant to change their payment habits radically. Check safekeeping, as practiced by most institutions already offering the service, requires a much less abrupt change. It allows customers to continue making payments by check, and, even though it doesn't give customers physical possession of every cancelled check they might need, check safekeeping permits them to secure specific cancelled checks or copies when a real need does arise. It is a small change, but by weaning customers away from receiving cancelled checks for all payment transactions, check safekeeping makes a real contribution to the evolution of electronic payment services.

Check safekeeping can also serve those reluctant or unable to avail themselves of more sophisticated electronic payment services now or in the future. In time, many consumers will make the transition from not receiving cancelled checks in their statements to not paying by check at all. However, some market segments may never make the change. Elderly, less-educated and less-affluent customers may be slower to adopt innovations than younger and more upscale

consumers. Check safekeeping may be a practical way of providing low-cost checking services to those customers after more "profitable" customers have changed to electronic alternatives. In short, check safekeeping has the potential to help consumers retain their freedom of choice.

By marketing check safekeeping, even financial institutions not yet offering electronic services can participate in the process of educating customers. Participating in the customer education process gives banks a chance to understand their customers and to respond to their concerns about the technological changes taking place in banking today. If the industry is to achieve its goal of an electronic payments system, all financial institutions must help customers to make informed decisions and to understand why their checking account costs have risen so rapidly in recent months. Providing information that helps customers understand and adopt check safekeeping also helps them realize that other technological innovations in the financial services industry are for their benefit as well as for the benefit of financial institutions.

Check safekeeping holds considerable potential both as a product that speeds transition and as a way of reducing present operating costs. However, development of the service has just begun. This article examines how check safekeeping works and presents some of the issues critical to the product's success.

The Check Safekeeping Concept

Check safekeeping is a simple concept. Instead of returning cancelled checks to customers in their monthly statements, financial institutions send only the statement and retain the checks. An integral part of the concept is a mechanism

“. . . by weaning customers away from receiving cancelled checks for all payment transactions, check safekeeping makes a real contribution to the evolution of electronic payment services.”

¹For a discussion of scale economies in Federal Reserve payment services, see: David B. Humphrey, **Costs, Scale Economies, Competition, and Product Mix In the U.S. Payments Mechanism**. Board of Governors of the Federal Reserve System (Washington, April 1982).

It explained:

The bank statement shows the amount of each check in numerical order, the date the check was paid and the amount of the check. The bank does not return the cancelled checks with your monthly statement, but holds them and will send you a copy of any check you need. These copies are legally acceptable.³

When presented with a neutral description, consumers seem unable to conceptualize any benefits from check safekeeping. When asked why they were not interested in this service, 78.8 percent said they wanted their cancelled checks. Only 6.8 percent believed it would be inconvenient or too time consuming to obtain copies of checks, however, and fewer (5.8 percent) expressed fear of computer or bank errors.⁴ Negative aspects of the service, then, did not appear responsible for the low interest level. The findings suggest that banks will have to stress the benefits of check safekeeping in their sales efforts to gain consumer acceptance. This requires a well-trained staff, and employee familiarity with the service through direct experience with their own accounts is preferred. Benefits cited most often by EBI survey respondents who used check safekeeping services were the elimination of check storage problems and the convenience of having the bank store checks and retrieve specific items on request. A large majority of users (87.0 percent) expressed satisfaction with check safekeeping.⁵

Experiences in the bank credit card and credit union industries provide evidence that retail customers will accept non-return of signed transaction documents, even though they may not solicit that system. Visa began truncating sales drafts in 1974 after a 1973 pilot program using computer-produced facsimiles of sales drafts printed with the statement "signature on original document on file" in place of the original draft. During the pilot program 1.8 million sales drafts were truncated, and only 11 customers of the 19 participating banks cancelled their accounts.⁶

Credit unions simply incorporated safekeeping as a part of the initial design of their share draft services. Instead of returning cancelled share

drafts to their account holders, credit unions provide them with two-part, carbonless copy checks. The success of this approach is evidenced by the number of credit unions that have begun to offer share draft services since the U.S. District Court in Washington ruled them legal for federal credit unions in 1978. As of May, 2,799 credit unions offered ICU share draft services. ICU, a service affiliate of the Credit Union National Association, estimates that about 75 percent of the credit unions that offer share drafts use its services. The number of credit unions providing this service to members may exceed 3,700.

Valley National Bank of Arizona, a pioneer in check safekeeping, has been more successful than it hoped to be in selling the service. Since its check safekeeping program reached full operation at all 210 branches in May 1981, more than 71 percent of all new accounts throughout the Valley National system have adopted the service. The Valley new-account staff explain the benefits of the bank's check safekeeping service and offer new customers the choice of the new service or a traditionally processed checking account. The bank does not offer a price incentive to encourage new customers to adopt Check Safekeeping.⁷

By using a non-response, direct-mail marketing approach, Valley has also enjoyed considerable success converting existing accounts. During two check safekeeping pilots and recently as part of an account conversion campaign, Valley mailed letters to checking account holders explaining the service and stating that the bank would provide it to them automatically. Customers received a card they could return to the bank if they did not want the service. Valley used a follow-up letter approach to ensure that all customers had two chances to reject check safekeeping. By selling the service on the basis of convenience, privacy, safety and storage space benefits and by using the non-response approach for account conversion, Valley has achieved a 43.1 percent penetration of its personal checking accounts. Over 200,000 Valley National account holders were using check safekeeping at the end of June.⁸

³Ibid., p. 15.

⁴Ibid., p. 32.

⁵Ibid., p. 27.

⁶Charles T. Russell. "The Credit Card Experience." In **Check Truncation: Progress '80**. Electronic Banking, Inc. (Atlanta, 1980), p. 14.

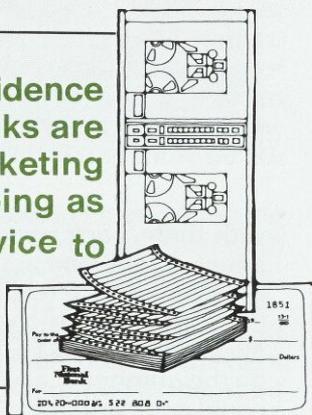
⁷Telephone interview with Robert V. Sabeck, Executive Vice President, Valley National Bank, July 16, 1982.

⁸Telephone interview with Robert V. Sabeck, July 16, 1982.

Check Safekeeping for Corporate Accounts

There is little evidence that payor banks are actively marketing check safekeeping as a separate service to their corporate accounts; however, banks sometimes provide check storage as part of their account reconciliation services. Reconciliation services are offered by most of the nation's larger banks. Thus it is difficult to determine how extensive payor-bank check safekeeping is among corporate accounts. An Electronic Banking, Inc. nationwide survey of 133 companies of all sizes found 63 using reconciliation services,⁹ and only two relied on the banks to store their cancelled checks; however, 42.9 percent of the survey respondents expressed interest in the concept of check safekeeping at the payor

“There is little evidence that payor banks are actively marketing check safekeeping as a separate service to their corporate accounts . . .”



bank.¹⁰ Predictably, interest in check safekeeping was directly related to company size.

While the EBI findings suggest that banks may be missing an opportunity to reduce some commercial check processing costs immediately, the industry appears to be taking a longer-range view. It is leaping over the safekeeping-at-the-payor-bank phase of development and proceeding directly to truncating corporate checks at earlier points in the check-collection flow.

Interbank Check Safekeeping

In interbank check safekeeping operations, items to be truncated are identified by a special

indicator in the MICR line (the coded information at the bottom of the check). Data from the MICR line are used to prepare a magnetic tape in the 80-character NACHA format as modified to include truncation entries. Collection, presentment and settlement are made via the automated clearing house (ACH) network. Return items also are processed electronically through the ACH. As in the safekeeping-at-the-payor-bank process, both the cancelled checks and a microfilm copy are kept for 90 days, after which the checks are destroyed. The microfilm is retained for seven years.

The difference between check safekeeping at the payor bank and interbank check safekeeping is that, rather than the payor bank retaining the cancelled checks and microfilm, the items are stored at a bank of deposit—either the first bank to receive the item or another processor later in the check-collection flow. This is transparent to the customer, who still calls his bank if he needs a check copy. Yet it necessitates a system for banks to communicate the retrieval requests among themselves. At present this is being done through the administrative message capability of the Bankwire—an electronic communication network used to transfer messages between subscribing banks. Thus, both funds transfers and interbank communications are handled electronically.

Physical transportation systems are virtually eliminated. They are necessary only to deliver a requested item from the bank of deposit to the payor bank, and from the payor bank to its customer. This is usually done by first class mail, but facsimile transmission can respond to an urgent request. Retrieval requests have not been a significant problem in payor-bank or interbank check safekeeping to date. Only 30 items were retrieved during the first year of the pilot program being conducted by the National Association for Check Safekeeping.¹¹ The retrieval request rate at Valley National Bank has ranged from .06 to .09 percent of all truncated items.¹²

Pilots in Interbank Check Safekeeping

Two pilot programs in interbank check safekeeping currently are underway, one sponsored privately by the Equitable Life Assurance Society of the United States and one under the auspices

⁹Thomas R. Maschall, **Research Report: Corporate Views of Check Truncation**. Electronic Banking, Inc. (Atlanta, 1981), pp.56-57.

¹⁰Ibid., p. 12.

¹¹National Association for Check Safekeeping, monthly update, June 15, 1982.

¹²Telephone interview with Robert V. Sabeck, July 16, 1982.

of the National Association for Check Safekeeping (NACS). The Equitable pilot, which got underway in June 1981, involves payroll checks drawn on Equitable's account at the Chase Manhattan Bank in New York and deposited at Manufacturers Hanover Trust. Checks are safekept at Manufacturers Hanover, and data are transmitted electronically to Chase. Equitable's program closely parallels the NACS effort.

After a year of operation about 3,500 checks were being truncated each month. Nevertheless, Equitable is dismantling its pilot. Because the national pilot is being converted to an ongoing operation in January 1983 and NACS appears likely to govern the further development of interbank check safekeeping, Chase has asked Equitable to join the national effort. Equitable has agreed; it will begin participating in the NACS pilot as soon as it exhausts its supply of checks with its own truncation indicator and acquires a supply with the NACS preferred constant 1.

Since Equitable already had full account reconciliation (reconciliation with check storage), it has not experienced any cost savings as a result of truncation. The fees for truncated items are the same as for regularly processed checks. Nevertheless, Equitable will continue to support interbank check safekeeping. With greater volume in the future, the fees might fall below those for a paper check. According to William Herzog, Equitable vice president, "There's no reason not to truncate checks."¹³

The initial design of the NACS program, outlined in the previous section, was developed through the cooperative effort of over 40 banks working with the ABA Check Safekeeping Task Force. In April 1981 the ABA "announced the successful live test of interbank truncation," and the NACS was formed as "a national clearinghouse association to administer check safekeeping."¹⁴ The ABA now serves as the NACS secretariat.

Initially the items eligible for check safekeeping under the NACS pilot were limited to corporate dividend and rebate checks of less than \$300. Accounts on which the checks were drawn had to have full account reconciliation services, including storage at the payor bank, associated

Table 1. Number of Items Eligible for Check Safekeeping and Number of Items Safekept in National Check Safekeeping Pilot April 1981–June 1982

Period	Number Eligible	Number Safekept	Percent of Eligible Items Safekept
April–September 1981	279,888	7,916	2.8%
October 1981	74,546	3,898	5.2
November 1981	38,813	1,354	3.5
December 1981	69,563	4,363	6.2
Subtotal	462,810	17,531	3.8%
January 1982	102,992	8,158	7.9
February 1982	41,934	4,124	9.8
March 1982	108,282	5,593	5.2
April 1982	87,878	15,005	17.1
May 1982	41,250	4,611	11.2
June 1982	73,355	4,648	6.3
Subtotal	455,691	42,139	9.2%
TOTAL	918,501	59,670	6.5%

Source: National Association for Check Safekeeping

with them. Each operating bank was limited to entering only one account into the check safekeeping pilot. Effective last January, however, the NACS raised the ceiling on the value of eligible items to \$1,500, removed the limitation on the number of accounts each operating bank could enter into the pilot, and added retirement, annuity and pension checks, payroll checks and bank money orders to the list of eligible items.

The effect of liberalizing the NACS restrictions and the admission of three more operating banks into the pilot program can be seen in Table 1. In the first six months of operations the pilot banks truncated 2.8 percent of eligible items. By the end of 1981, the proportion had grown to 3.8 percent. The 1982 data show significant improvement. In terms of the percentage of eligible items truncated, the low months in 1982 were equal to the high months in 1981. It is important to note that "eligible items" comprise **all** checks of the specified types that fell under the ceiling on dollar amounts and were drawn on the corporate accounts participating in the pilot. Some of these items could have been deposited first at the bank on which they were drawn and, thus, not available for interbank check safekeeping. Others never passed through the hands of the NACS

¹³Telephone interview with William J. Herzog, Vice President, Equitable Life Assurance Society of the United States, July 16, 1982.

¹⁴**Check Safekeeping; Guidelines for Inter Bank Implementation.** American Bankers Association (Washington, 1981), p. v.

operating banks. However, dividend checks were chosen for the first phase of the NACS pilot because generally they are distributed nationwide. NACS believes the addition of three new operating banks, which may be viewed as concentration points for the widely dispersed dividend checks, was the primary factor contributing to the improvement shown by the 1982 data.¹⁵

Unresolved Issues in Check Safekeeping

The fact that payor bank and interbank check safekeeping programs are functioning successfully does not imply that all the issues surrounding check safekeeping have been resolved fully. Indeed, experimentation has just begun. Safekeeping at the payor bank is straightforward since it involves only a bank and the customers it serves. Because more than one institution is involved in interbank truncation transactions, this type of check safekeeping is more complex. Standards and agreements are necessary for interbank check safekeeping; and if it is to expand beyond its present limited status, liability, technology, and profitability issues must be addressed.

Legal issues. The legal issues center around the right of customers to receive their cancelled checks and on payor banks' responsibility to examine items presented to them to ascertain that they are properly payable. The consensus of legal opinion is that customers do have the right to have cancelled originals returned to them and that this right may be waived. How these waivers are obtained, however, is an issue that can be resolved between a bank and its customer. The cautious approach being taken in interbank check safekeeping stems from the issue of examining items. Using the MICR line as the source of data to be captured and transmitted precludes the payor bank's ability to examine the checks. This is the reason the NACS check safekeeping program is limited to accounts that have full reconciliation services. When the pilot was first proposed in 1979, the ABA's Check Safekeeping Legal Subcommittee's position was "...that the payor bank's procedure of reconciliation with the information provided in advance by the customer concerning the check, and with the information transmitted to it by the truncating

bank, should serve as a valid legal substitute and satisfy the bank's legal responsibilities for check-signature verification."¹⁶

Lacking any equivalent of full account reconciliation for consumer accounts, banks have been hesitant to expand interbank check safekeeping to retail accounts. The primary concern is that a payor bank could be held liable for failing to verify signatures. Most banks today do not verify signatures on every check they process because they believe the cost of doing so is greater than the risk involved. Nevertheless, this does not preclude banks from being held liable for failing to exercise due care. A court addressed the issue in **Jackson vs. First National Bank of Memphis, Inc.** in 1966 and found the bank guilty of negligence.¹⁷ This does not close the issue, of course, for common law changes, albeit slowly.

In the meantime, there are alternatives. Banks participating in an interbank check safekeeping program could agree to share in the liability. The U.C.C. could be changed. And one writer has suggested that the Federal Reserve could use its power to "vary the effect of Article 4" granted to it under U.C.C. 4-103(2), (3) to relieve banks of their duty to verify signatures.¹⁸ The first option is probably the most feasible short-term solution. Once banks have gained enough check safekeeping experience to permit them to assess the risks more accurately, they may be more willing to allocate the risks among themselves. Legislative and regulatory changes probably will follow more slowly.

Technology issues. The need to verify signatures also raises the issue of check safekeeping technology. It is technologically feasible to transmit a digitized image of the entire check, or part of it, from the keeper to the payor bank. Known as image lift, this technology "optically captures and digitizes the image of the check as it is processed while simultaneously capturing the accounting information in the MICR line."¹⁹

From the point of view of converting the present check collection process into an electronic medium, image lift technology seems like a practical solution, but limitations associated

¹⁵Telephone interview with Rebecca Childress, Research Associate, American Bankers Association, June 1982.

¹⁶Edward F. Dobbins, Jr. "Legal Aspects." In **Check Safekeeping: A Proposal for Inter Bank Check Truncation**. American Bankers Association (Washington, 1979), p. 13.

¹⁷**Legal Issues in Check Truncation**. Electronic Banking, Inc. (Atlanta, 1981), pp. 15-16.

¹⁸*Ibid.*, pp. 11 and 15.

¹⁹David M. Smith. "Truncation: Image vs. Nonimage." **The Magazine of Bank Administration**. December 1981, p. 50.

with the technology and longer-term implications raise questions about its viability.

The primary technological limitation is data transmission capability. At present data transmission speeds, it could take 11.6 hours to transmit images of 100,000 truncated checks.²⁰

To put this into perspective, the nation's commercial banks received approximately 125.6 million items from their depositors on a typical day in 1979, and over 70 percent of these items were on-other checks²¹ that could have been transmitted electronically in a full truncation environment.

In addition to the data transmission speed problem, the industry must consider the data communication costs and the investment it would have to make in image lift hardware and software. The technology is new. It is relatively expensive. It is not widely used. What's more, there are a limited number of vendors. Even if the cost can be reduced quickly to a level that would make its use feasible, making image lift the foundation technology for interbank check safekeeping would require the commitment of many financial institutions to a new technology that could ultimately perpetuate checks. If the long-term industry objective is primarily to improve the check collection system, and not to reduce the number of paper items processed, the commitment and investment could well be worthwhile. Proponents of image lift technology cite it as a potential solution to the signature verification problem and as a way to meet consumers desires by providing a statement that includes reduced images of cancelled checks. Nevertheless, these benefits contribute little to another industry objective: developing a more fully electronic payments system that encourages customers to access their transaction funds in a variety of ways, not only by checks.

Profitability. The question of profitability must be addressed in terms of costs saved. Profitability refers more specifically to the checking account. At least at this point, it would seem difficult to justify charging a premium for what is essentially a feature to reduce bank costs.

Cost reduction has been the primary impetus for check safekeeping. Federal Reserve **Functional Cost Analysis** reports reveal that the cost to

commercial banks to process on-us debits and transit items and the cost to maintain demand deposit accounts rose an average of 10 percent per year during the 1977-1980 period. Higher postage rates and the pricing of formerly free Federal Reserve check collection services added to the cost burden in 1981. Cost increases are not expected to abate; one bank executive has suggested that total check processing costs for the industry may double during the first half of the 1980s, reaching \$20 billion by 1985.²²

Evidence on the cost savings associated with check safekeeping at payor banks is scanty, but it is encouraging. Prior to implementing a check safekeeping program in 1976, Mercantile-Safe Deposit and Trust Company, a \$402 million bank in Baltimore that processed more than 65 million checks that year, estimated it could save \$60,000 annually by not returning checks to its customers. Most of the expected savings were the result of the elimination of fine-sorting, reduced statement preparation time, and lower postage expense. The estimated savings represented only a fraction of the bank's \$5 million operations budget; however, the bank already had a bulk filing system in place. Greater savings would accrue to banks that instituted bulk filing as part of their safekeeping program.²³

IBM studied payor-bank check safekeeping using image lift technology in 1978. That study indicated that banks could save as much as 12 percent of their check-processing costs by capturing a digitized image at a central site and processing the image instead of the check. When a configuration in which images were captured at branch locations and transmitted to the central processing site was evaluated, however, the net savings was reduced to 3 percent. Using image lift technology to capture check images on a cycle date and using the images to prepare statements produced little in potential savings. Furthermore, software development costs were not estimated for any of the three design configurations.²⁴ Thus the 12 percent savings in the most efficient theoretical configuration is probably somewhat overstated.

Valley National Bank is one institution that readily shares data about its check safekeeping

²⁰Ibid.

²¹Federal Reserve Bank of Atlanta. **A Quantitative Description of the Check Collection System**, Vol. I. (Washington: American Bankers Association; Park, Ridge, IL: Bank Administration Institute, 1981), p. 153.

²²Michael Hosemann. "Future of Debit and Credit Cards." In **The Future of the U.S. Payments System**. Federal Reserve Bank of Atlanta (Atlanta, June 23-25, 1981), p. 126.

²³**Check Safekeeping: Case Studies of Current Truncation Programs**. American Bankers Association (Washington, 1980), p. 2/

Table 2. Valley National Bank Estimated Monthly Costs per Account

Direct Operating Costs		
Safekeeping	Non-Safekeeping	Function
\$.330	\$.330	Capture & Reject/ Cycle Passes
.004	.370	Fine Sort
.002	.035	Storage/Destruction
		Matchmaker
	.027	Operations
.002	.011	Manual Statementing
		Mail Department
\$.338	\$.773	Subtotal
.170	.320	Postage
\$.508	\$ 1.093	Total Monthly Costs
	(.508)	
	\$.585	Monthly Savings Per Safekeeping Account
	\$ 7.02	Annual Savings Per Safekeeping Account
With Indirect Allocation		
Safekeeping	Non-Safekeeping	Function
\$.551	\$.551	Capture & Reject/ Cycle Passes
	.616	Fine Sort
.007		Storage/Destruction
.003	.062	Matchmaker
	.044	Operations
	.017	Manual Statementing
.002		Mail Department
\$.563	\$ 1.290	Subtotal
.170	.320	Postage
\$.733	\$ 1.610	Total Monthly Costs
	(.733)	
	\$.877	Monthly Savings Per Safekeeping Account
	\$ 10.52	Annual Savings Per Safekeeping Account

Source: Valley National Bank, 1982

program. The bank even presents seminars periodically to explain its operation and to let participants experience it on site. The estimated monthly costs per account shown in Table 2 were presented at a Valley seminar last spring. The bank's evidence clearly is encouraging.

Valley National Executive Vice President Robert Sabeck also cites intangible benefits of the check safekeeping program. With over 43 percent of the bank's personal checking customers using the service, the number of "cripples"—statements missing a check that may take considerable personnel time to locate—has been reduced.

Furthermore, the use of check safekeeping reduces the number of misdirected checks (cancelled checks sent to the wrong person) a situation that can be embarrassing for the account holder and the bank. Sabeck believes check safekeeping is a "cleaner operation." The bank is not experiencing a greater volume of telephone calls or increased photocopy expense, as it had anticipated before it actually implemented check safekeeping.²⁵

The cost savings benefits of interbank check safekeeping have not yet been made known. The prices banks will charge each other for interbank safekeeping transactions have not been announced by the NACS, and banks participating in the pilot have been reluctant to share information about their actual costs. A preliminary assessment of potential cost savings conducted before the pilot began indicated that payor banks would save 6.61 cents per item and that the costs at truncating banks would increase 1.46 cents for each item safekept. Thus the industry's net savings in an interbank safekeeping environment would be 5.15 cents per item.²⁶

The preliminary model's estimation of savings under payor-bank and cooperative (interbank) truncation conditions are shown in Table 3. The percentages were developed from information provided by 35 banks that participated in the original research effort. The values (cents saved per item) were calculated by applying the percentages to costs as estimated in the 1978 **Functional Cost Analysis** report. Of course, costs have changed since then; and Fed pricing was not considered in the equation. The ABA, as secretariat to the NACS, is developing a new model based on banks' actual experience in the pilot program. It should enhance other banks' ability to evaluate their own potential costs and benefits.

Conclusion

Check safekeeping holds the potential to be an important product in the transition from a paper-based to an electronic payments system. It could reduce costs, educate consumers and

²⁴E. Clark Grimes. "IBM Study Finds a Potential Savings of 12% from Internal Check Nonreturn." *American Banker*. May 21, 1980, p. 11.

²⁵Telephone interview, July 16, 1982.

²⁶Dr. Allen H. Lipis. "Cost Savings in Truncation." In *Check Safekeeping: A Proposal for Inter Bank Check Truncation*. American Bankers Association (Washington, 1979), p. 5.

Table 3. Present Check Processing Costs (Major Banks)

Functions	%	% Reduction with Truncation		
		Payor Bank Only	Payor	Cooperative Keeper
Statement Processing				
Postage	79.0	44	44	0
Statement Preparation	21.0	60	60	0
	100.0			
Check Processing				
Fine Sorting	21.9	80	100	-20
Check Filming/Sorting	18.5	35	100	-65
Check Filming	13.3	30	100	-70
Inclearing Capture	3.7	0	100	0
Inclearing Reconcilement	9.9	0	100	0
Transit Repass	3.7	0	0	100
Transit Reconcilement	5.0	0	0	100
Branch Capture & Encoding	11.1	0	0	0
Branch Reconcilement	12.9	0	0	0
	100.0			
Account Service				
Item Retrieval/Inquire	?			
Item Storage	?			
Transportation	?			

Source: *Check Safekeeping: A Proposal for Inter Bank Check Truncation*, 1979.

help financial institutions differentiate themselves from their competition. In the long run, check safekeeping probably will be only one item in a vast array of payment services from which account holders can make their choice. It will not necessarily be used by all account holders, nor offered by all financial service providers.

The major impetus for developing check safekeeping has been to reduce or control rising check-collection costs. Where this objective is achieved and banks are willing to share the benefits with their customers, it may lower service charges relative to traditionally processed checks. While the early data on savings that can be attained by check safekeeping seem promising, the jury is still out.

There are unresolved technological and legal issues concerning check safekeeping. These issues center on payor banks' responsibility to examine signatures and check contents prior to payment to be sure the items are properly made. Several approaches to resolving these issues are being considered, including the use of image lift technology and agreements among banks to share liability. Finally, the decision will also be influenced by what each individual financial institution perceives its role in the future payments system to be.

—Veronica M. Bennett

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Government Spending, Tax Rates, and Private Investment in Plant and Equipment

Higher tax rates played a greater role in stifling the investment boom of the 1960s than did government spending. The slowing investment rate contributed significantly to lower productivity and real wages.



Capital Formation and Economic Growth in the 1970s

For the U. S. economy, the 1970s proved to be a decade of contradictions.

By some measures, it was a decade in which the economy faltered more seriously than at any time since the Great Depression. During the first eight years of the decade, real GNP per person of working age grew at a compound annual rate barely in excess of 1 percent (see Table 1). Yet that sluggish GNP growth was contradicted by surging employment, which reached a record level of 97.6 million in November 1979. Not only did aggregate employment reach record levels, but the fraction of the potential work force employed also reached an all-time high during the 1970s. In 1974, the percentage of the population aged 18 to 64 holding market-sector jobs surpassed 70 percent for the first time in history.

How can this rapid employment growth be reconciled with the equally sharp decline in the growth of output? One obvious explanation is that the growth of other production factors failed to keep pace with the growth of labor. An examination of net investment in plants and equipment during the postwar period corroborates this conjecture.

The surge in aggregate employment during the last 15 years can be attributed to two sources. The first, noted above, is the steady increase since World War II in the percentage of the working-age population holding jobs. The second is the rapid growth during the late 1960s and the 1970s in the pool of potential workers. During the 1950s, the working-age population grew at a compound annual rate of 0.7 percent. As those born during the postwar "baby boom" began to reach working age in the late 1960s and the 1970s, this growth rate in the pool of potential workers more than doubled.

In order to keep the stock of capital per worker growing at the rates experienced in the 1950s, this rapid increase in workers would have required an increase in the share of national income invested in plants and equipment. Economic theory suggests that, in the absence of other complicating factors, the prospect of profitable investment opportunities would elicit an increase in the share of national output devoted to net additions to the capital stock. These investment opportunities would have resulted from the impending increase in the size of both the

Table 1. Percent of Working-Age Population Employed and Growth Rates of Working-Age Population and Real GNP

Period	Growth Rate of Real GNP Per Person of Working Age	Percent of Working Age Population Employed	Growth Rate Of Population Of Working Age
1930-39	-1.07	55.5	1.23
1940-49	3.13	62.0	1.15
1950-59	3.14	65.0	0.70
1960-69	2.61	66.8	1.43
1970-77	1.08	68.9	1.64

NOTE: Growth rates are compound annual percentage rates of change. Working-age population is defined as total noninstitutional population of the United States aged 18 to 64, inclusive. Population data are from *Historical Statistics of the United States, Colonial Times to 1970* and *Current Population Reports*. Employment data are from *Long Term Economic Growth, 1860-1970, Business Statistics, 1977*, and the *Survey of Current Business*. Real GNP data are from the *National Income and Product Accounts*.

Table 2. Real Net Private Nonresidential Fixed Investment as a Percentage of Real Net National Product

Period	Investment
1930-39	-2.94
1940-49	1.51
1940-45	-0.30
1946-49	4.21
1950-59	2.86
1960-69	3.42
1960-63	2.40
1964-69	4.11
1970-77	2.70
1970-74	3.25
1975-77	1.79
1946-77	3.16

Note: Numbers are averages of annual figures.

Source: *National Income and Product Accounts*, Tables 1.10 and 5.3.

potential work force and the market for the output of those investments. Because greater investment entails a sacrifice in current consumption, however, it is unlikely that the entire burden of adjustment to a higher capital stock would have been borne immediately. It is unlikely therefore, that the investment rate would have increased sufficiently to maintain the previous rate of growth of net investment (and thus capital stock) per worker. One would thus expect a slowing in the growth rate of labor productivity and also in the real wage of labor.

How well do these predictions accord with actual experience? The ratio of real, gross, private, nonresidential fixed investment to real GNP did hold up in the face of the surge in the work force. It held consistently above its postwar average throughout the entire decade from 1965 through 1974, falling only slightly below the average from 1975 through 1977. Yet the picture resulting from an examination of net additions to the capital stock, after allowing for depreciation of existing plant and equipment, is somewhat different.¹

¹Differences in the behavior of gross and net saving have been noted in Michael J. Boskin, "Taxation, Saving, and the Rate of Interest," *Journal of Political Economy*, 86, No. 2, part 2 (April 1978): S3-S27.

Table 2 shows the ratio of real, net, private, nonresidential fixed investment to real net national product for selected periods. Net investment as a percentage of Net National Product (NNP) was well above its postwar average during the mid and late 1960s. In fact, it was almost as high as during the immediate postwar investment boom when the capital stock was rebuilt after the real declines that had occurred during the Depression and World War II. During the early 1970s, however, the net investment ratio was only slightly above its postwar average and, during the mid-1970s, it was well below this average. In fact, the ratio during 1975 to 1977 lagged below the lowest level recorded for any other single year since World War II. It thus seems that investment indeed did not increase enough to keep the capital stock per worker growing at its average postwar rate.

Further evidence on this point is revealed in the growth rates of labor productivity (as measured by real output per hour in private nonfarm business) and of real wages (Table 3). The figures indicate that both productivity and real wages did grow slowly during the late 1960s and the 1970s. It is interesting that both labor productivity and real wages grew more slowly during the late

Table 3. Growth Rates of Labor Productivity and Real Wages

Period	Productivity ^a	Real Wage ^b
1950-59	2.55	2.63
1950-54	2.61	2.71
1955-59	2.48	2.55
1960-69	2.59	1.48
1960-64	3.03	1.61
1965-69	2.15	1.35
1970-77	1.56	0.79
1970-74	0.95	0.54
1975-77	2.58	1.27

Note: Numbers are compound annual percentage rates of change.

^aOutput per hour in private nonfarm business. Source: **Handbook of Labor Statistics**, 1978.

^bAverage hourly earnings of production workers in manufacturing, deflated by consumer price index. Sources: **Long Term Economic Growth, 1860-1970** and **Handbook of Labor Statistics**, 1978.

mid to late 1960s was not sustained into the 1970s, when the work force grew even faster than it had during the 1960s. A clue to explaining this phenomenon is that effective tax rates on the income from capital were cut substantially in the early 1960s, but had returned to their previous levels by 1970. Indeed, the investment boom followed close on the heels of the Kennedy tax cuts. It might be promising, then, to examine government fiscal policy as an important determinant of private investment.

Government Policy and Capital Formation

With the perceived "capital shortage" publicized in the financial press, one of the most widely recognized issues of public economic policy concerns how government activities affect private capital formation. Government has been empowered to conduct a broad range of policies that can affect even the minute details of our everyday lives. In recent years, we have seen that power exercised more broadly than ever before as programs have extended government control into areas previously reserved for private activity. Many of these programs have potential effects on private investment decisions, whether by design or as an unintended consequence.

For example, regulations designed to protect the environment and to improve occupational health and safety standards raise the cost of doing business, thus discouraging new "productive" investment, while at the same time encouraging investments to meet the newly imposed requirements. Such regulations lower the stock of capital used to produce national output, as conventionally measured; they increase the capital to produce such things as clean air and water, which do not enter into the conventional measures of national output.

The most rapidly growing of all government programs, as measured by budgetary outlays, are those involving transfer payments to people. The effects of such transfer programs on capital formation probably weren't a primary consideration of those who designed them. But like all policies requiring expenditures of public funds, these programs do affect capital formation, however indirectly, because the government must somehow finance its expenditures. This financing may be accomplished (1) by raising tax revenues, (2) by issuing interest-bearing government debt, or (3) by printing money. Each of these actions may discourage capital formation.

1960s than during the first half of that decade, even though the net investment ratio indicates that something of an investment boom began in 1964 and continued throughout the decade. This boom apparently was insufficient to supply the rapidly growing work force with enough capital to maintain the previous rates of increase in productivity and real wages.

"[During the 70s] . . . investment did not increase enough to keep the capital stock per worker growing at its average postwar rate."

Casual examination suggests then that these data are largely, but not completely, in accord with what economic theory would have forecast in the absence of other complicating factors. This suggests that some such complicating factors might have been at work, and might explain discrepancies between the predictions and what actually occurred. The major discrepancy was that the predicted investment increase of the

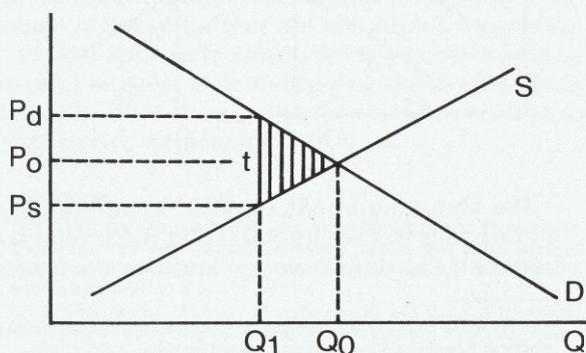
This article examines the effects on private capital formation of the first two of these methods of government financing—the taxation of income from capital and the issuance of government debt. It thus ignores the effects of government policies such as environmental standards, which, important as such policies might be, do not entail large outlays of public funds. It also ignores the composition of public expenditures by assuming that all such spending takes the form of lump-sum payments to private citizens, undoubtedly an over-simplification. Some public expenditures are used to acquire public capital, such as highways, which increases the productivity of private-sector investment. Other forms of government spending, most notably transfer payments, entail disincentives to private productive activity. While such incentive effects are of great importance, we won't consider them here.

Finally, this article does not examine the effects of government monetary policy—in particular the printing of money to finance public spending—on private capital formation. This omission doesn't imply that such effects are unimportant. Many believe that excessive money creation causes inflation and that the interaction of inflation and the tax laws increases the rate of taxation of the true economic income from capital.

The Tax Wedge

An intuitive economic proposition states that taxing an activity reduces the amount of that activity taking place. The tax raises the price paid by the purchaser of a good or service above that received by the supplier and is said to drive a wedge between the two prices (Figure 1). In the

Figure 1. The effect of taxation on output

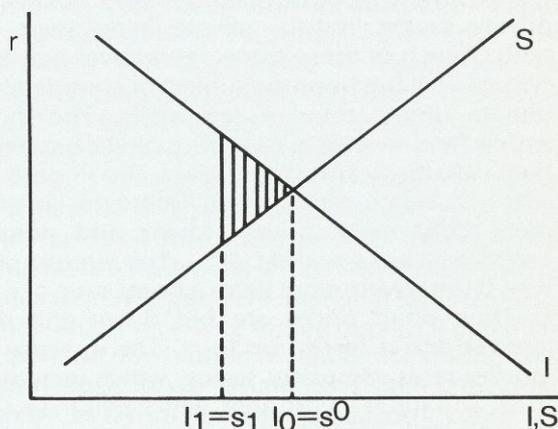


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absence of a tax, the market is in equilibrium at price P_0 and quantity Q_0 . If a tax of t per unit sold is imposed, the price paid by the purchaser rises to P_D , and the price received by the supplier falls to P_S . This reduces the quantity to Q_1 . The size of the wedge is $P_D - P_S$, which is equal to t , the amount of tax per unit.

The wedge analysis can be applied to investment in physical capital as well as to other activities, as illustrated in Figure 2. Here the supply curve refers to aggregate saving out of current income (the supply of funds to the capital market). The demand curve depicts available investment opportunities (the demand for funds). The horizontal axis measures the quantity of saving and investment, and the vertical axis measures the rate of return on saving and investment. According to the wedge analysis, an increase in the tax rate on income from capital ("the tax wedge") will reduce the amount of capital formation taking place.

Figure 2. The effect of a capital income tax on saving and investment

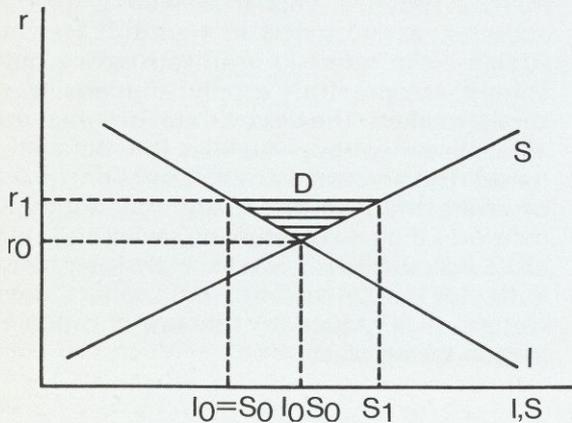


The Deficit Wedge

Government can also finance its expenditures by issuing debt, and we can view such a debt issue as a second wedge impinging upon the capital market. In any period, private saving must exceed private investment by the amount of the government's debt issue. (This ignores the possibility of investing abroad or borrowing from foreigners.) Government securities compete with private securities for investors' dollars, and only

those funds left after the sale of government bonds are available to finance the private sector's accumulation of physical capital. This "deficit wedge" is illustrated in Figure 3.

Figure 3. The effect of deficit finance on saving and investment when government bonds are net wealth.



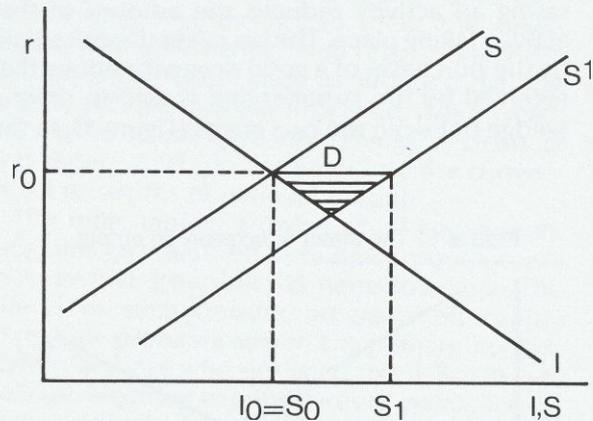
A government debt issue is seen to increase private saving, reduce private investment, or both. Which of these three alternatives actually occurs? That has been the subject of considerable debate during the last few years. The most widely held view, at least until recently, has been the "crowding-out" proposition, one version of which is depicted in Figure 3. Before the government debt issue, private saving and private investment are equal at $I_0=S_0$. The interest rate is r_0 . If the government floats a bond issue of size D , then bond prices are bid down and the interest rate is forced up to r_1 . The increase in interest rates stimulates saving, which increases to S_1 , and stifles investment, which falls to I_1 . On the other hand, if saving is completely insensitive to the interest rate as in the most naive Keynesian models, the saving curve is vertical rather than upward-sloping. In this extreme version of the crowding-out hypothesis, saving remains constant while investment falls by the full amount of the debt issue. Under any version of the crowding-out proposition, however, investment must decrease, while saving may increase or remain constant.

The crowding-out hypothesis has been questioned by those who argue that government bonds aren't perceived as net wealth by the private sector and thus don't reduce private

capital formation. The argument is essentially as follows.² Suppose the government reduces the current tax bill of every taxpayer by \$1 and finances this reduction by issuing bonds which bear the market rate of interest. Suppose that a lump-sum tax equal to \$1 plus interest will be levied on each taxpayer next year in order to retire the current bond issue.

Will taxpayers feel wealthier today as a result of this transaction? Will they therefore increase their consumption and lower private capital accumulation? If people behave rationally, the answers to these questions must be "no." People will save the dollar they currently received so as to be able to meet their increased future tax liabilities. Current saving will increase by the amount of the government debt issue, and no private capital accumulation need be crowded out (Figure 4). Now a debt issue of size D causes the saving schedule to shift rightward by an equal horizontal distance D to S' . Saving increases to S_1 , investment remains constant at I_0 , and the interest rate remains constant at r_0 . According to this view, crowding-out will occur only if the private sector does not fully take account of the future tax liabilities implied by government bonds and thus regards these bonds as a substitute for claims on physical capital.

Figure 4. The effect of deficit finance on saving and investment when government bonds are not net wealth.



The above argument, unobjectionable as far as it goes, fails to take into account the interaction between the deficit wedge and the tax wedge.

²See Robert J. Barro, "Are Government Bonds Net Wealth?" *Journal of Political Economy*, 82 (November/December 1974): 1095-1117.

Governments seldom raise revenues through lump-sum taxes. More commonly, they raise revenues through distortionary taxes on economic activity, that is, through taxes which entail wedges. A deficit today thus indicates not merely tax liabilities tomorrow, but also a tax wedge tomorrow. Consequently, a deficit today will reduce the incentive to acquire assets whose income will be subject to the implied future taxes.

Thus, the statement that government bonds are not net wealth cannot be broadened into a statement that a government debt issue is a neutral economic policy. The latter statement follows the Keynesian tradition of ignoring the incentive effects of fiscal policy and of concentrating only on the effects of policy upon the private sector's wealth or disposable income.

“According to the wedge analysis, an increase in the tax rate on income from capital (‘the tax wedge’) will reduce the amount of capital formation taking place.”

According to this tradition, a current transfer payment financed by current taxes is a neutral policy, since it has no effect on disposable income. If government bonds are not net wealth, then the Keynesian tradition of ignoring incentive effects would argue that a transfer financed by a government debt issue would also be neutral, since it doesn't affect net wealth.³ A more neo-classical approach, emphasizing incentive effects, would suggest that neither of these policies is neutral—that they both involve disincentives to productive activity.⁴

³This rather cautious wording is used to satisfy those who might argue that a true Keynesian must, by definition, believe that bonds are net wealth, since bond illusion is one of the central elements of the standard Keynesian model.

⁴For a more formal treatment of these issues, see Douglas H. Joines, "Government Fiscal Policy and Private Capital Formation," Ph.D. Dissertation, University of Chicago, December 1979.

Empirical Evidence

How large are these wedges and what effect do they have on capital formation? At the theoretical level, the notion of the tax wedge is clear. At the empirical level, however, it is not at all obvious how to go about measuring it. Our evidence rests on several assumptions about the U. S. tax system. The first is that all taxes ultimately fall upon income—all arise from either the generation or the spending of income. This proposition is fairly obvious when applied to personal and corporate income taxes, sales taxes, and payroll taxes, but it is equally applicable to other taxes. For example, we can view property taxes (by far the largest government revenue source not accounted for by the taxes listed above) as tax on the flow of services produced by real property. In constructing effective economy-wide income tax rates, it is thus necessary to take account of all taxes paid in the economy and to take some comprehensive measure of income as the tax base. The income measure used here is Net National Product (NNP).

Construction of effective marginal tax rates on income from labor and income from capital requires that NNP be separated into two components, one attributable to capital and the other to labor. Income attributable to capital was taken to include corporate profits, rental income of persons, and net interest.⁵

The economy-wide marginal tax rate on the income from capital is the fraction of an incremental dollar of income earned by the economy's capital stock taken by the government in taxes. It thus depends upon the marginal tax rates of the individuals receiving the incremental dollar and upon the distribution of that dollar among those individuals. If we assume that each individual's share in an incremental dollar of income produced by the capital stock is equal to his share in existing capital income, then the economy-wide marginal tax rate is equal to a weighted average of the individual marginal tax rates, with the weights being the shares in existing capital income. A similar calculation will give the economy-wide marginal rate of taxation of labor income.⁶

⁵Alternative calculations which attributed business and professional income and farm income to capital did not yield materially different results.

⁶These tax rates on income from labor are not reported here, but may be found in Douglas H. Joines, "Estimates of Effective Marginal Tax Rates on Factor Incomes," *Journal of Business*, 54, No. 2, (April 1981): 191-226.

More specifically, the effective marginal tax rate on income from capital is taken to include three components. The first component represents the federal personal income tax. It is measured by taking a weighted average of the effective marginal federal personal income tax rates in the various income brackets, where the weight for each bracket is the fraction of total income from capital accruing to individuals in that bracket.⁷ The second component is assumed to be a flat-rate tax applicable only to income from capital. It is estimated by taking the ratio of property and corporate profits tax receipts to income from capital. The third component is assumed to be a flat-rate tax applicable to income from all sources. It is estimated by taking the ratio of all remaining taxes (except the Social Security tax, assumed to be labor-specific) to NNP. The most important of these remaining taxes, as judged by revenue raised, is the sales tax. The effective marginal tax rate on income from capital is taken to be the sum of these three components. These calculations were performed for each year between 1929 and 1975, inclusive.⁸ The resulting tax rate series is denoted MTRK.

In principle, the deficit wedge is much easier to measure. It could simply be taken to be the real government deficit per person of working age. Unfortunately, this variable probably is inappropriate for the statistical tests reported below, since a deficit's size almost certainly is determined endogenously within the economic system.⁹ These empirical tests, however, require that the investment series be explained as functions of exogenous variables. A variable more nearly exogenous than the deficit and which can serve as a good proxy for it is real government purchases of goods and services.¹⁰ Consequently, the ratio of such purchases (by federal, state, and local governments) to working-age population is used

in the following statistical tests. This variable is denoted by GXP.

Two measures of capital formation are examined. One is real gross private domestic investment in producers' durable equipment per person of working age (denoted INVE), and the other is real gross private domestic investment in nonresidential structures per person of working age (denoted INVS). All of these variables are listed in Table 4.¹¹

To determine whether the government fiscal policy variables exerted any influence on investment during the 1929-75 sample period, we computed correlation coefficients between the first differences of each of the fiscal policy variables and the first differences of the investment variables.¹² We found that both types of investment showed a negative contemporaneous correlation with government spending. For investment in structures, this negative contemporaneous effect is partially offset by a positive effect one year later.

We also found a negative correlation between current increases in both types of investment and increases in the capital income tax rate which occur one year later. Such an effect has a reasonable interpretation. Since it is future tax rates which affect the profitability of current investment, future changes in tax rates should, to the extent that they are anticipated, show an effect on current investment decisions. It may be difficult to forecast future tax rate changes over a long horizon. Reasonable predictions might be made one year ahead, however, since most tax changes work their way through Congress and state legislatures in the year before they take effect.

The specific statistical relationships fit to the data were the transfer function or rational distributed lag models shown in Table 5. These models, which perform quite well by the usual

⁷These weights sum to less than unity, since some income from capital escapes the federal personal income tax. Data on the federal personal income tax are taken from the **Statistics of Income** series published by the Internal Revenue Service. Other data on income and tax receipts are from the **National Income and Product Accounts**.

⁸For the sake of brevity, this description of the tax rate calculations has been greatly simplified. A more thorough description is contained in Joines, "Estimates of Effective Marginal Tax Rates on Factor Incomes."

⁹This is because the government cannot set tax rates, total spending, and the deficit independently of one another. For example, if the government fixes tax rates and spending, some value of national income will result. This will, in turn, imply some value for total government revenues and thus for the deficit.

¹⁰This variable, rather than total government spending, was chosen because some items of total spending, notably transfer payments to persons, may themselves be endogenous.

¹¹The three real investment series used here were obtained from the **National Income and Product Accounts of the United States, 1929-74 (NIPA)**, table 1.2, lines 8.9, and 10. These figures are based on the revised deflator for structures described in the August 1974 issue of the **Survey of Current Business**. The government purchases variable was obtained from line 21 of the same table. The **NIPA** contains finally revised data only for the years 1929 to 1972. Revised **NIPA** data for 1973 were obtained from the July 1977 issue of the **Survey of Current Business**. Revised **NIPA** data for 1974 and 1975 were obtained from the July 1978 issue of the **Survey of Current Business**. Each series is identified by the same table and line numbers in all these publications.

¹²The correlation coefficients were actually computed using prewhitened values of the fiscal policy series rather than between the raw series, in order that the temporal pattern of the correlations could be more accurately determined.

Table 4. The Data

Year	Effective Marginal Tax Rate on Income from Capital (percent)	Total Government Purchases of Goods and Services Per Person of Working Age (1972 dollars)	Investment in Structures Per Person of Working Age (1972 dollars)	Investment in Equipment Per Person of Working Age (1972 dollars)
1929	29.45	566.9	285.5	227.3
1930	27.76	607.9	237.2	177.2
1931	28.59	622.0	149.4	114.4
1932	33.12	585.5	85.2	65.2
1933	41.08	562.9	64.4	72.3
1934	41.00	632.7	68.9	92.2
1935	41.44	639.3	75.7	123.2
1936	46.20	742.7	101.6	168.9
1937	44.43	707.1	130.6	192.2
1938	41.36	760.9	101.8	131.6
1939	42.55	782.4	105.5	148.4
1940	45.12	791.7	119.7	191.0
1941	55.81	1143.7	141.9	220.6
1942	59.96	2188.3	78.9	128.4
1943	61.99	3116.2	48.9	114.0
1944	59.96	3434.2	63.2	151.7
1945	62.89	3007.6	94.4	218.5
1946	61.71	1049.9	212.0	261.6
1947	59.21	842.1	193.2	352.9
1948	52.90	929.0	203.3	361.2
1949	49.92	1051.1	194.5	308.1
1950	62.03	1058.9	207.0	334.9
1951	64.05	1428.3	221.7	347.6
1952	60.23	1705.6	220.3	336.8
1953	59.92	1806.8	239.1	359.2
1954	54.93	1635.7	248.2	335.8
1955	55.38	1583.2	265.4	376.6
1956	56.52	1586.6	292.5	386.2
1957	55.23	1654.7	290.4	391.7
1958	54.00	1738.8	271.1	333.8
1959	54.29	1739.3	273.1	367.8
1960	54.89	1738.2	289.5	374.0
1961	54.55	1813.3	290.6	360.1
1962	51.45	1894.0	302.1	393.3
1963	51.69	1917.6	198.9	414.4
1964	49.80	1947.6	319.9	458.3
1965	48.91	1975.1	373.2	527.7
1966	48.39	2124.9	393.8	589.4
1967	49.25	2263.2	374.6	568.8
1968	53.60	2325.7	376.9	593.1
1969	53.76	2267.2	388.6	620.9
1970	51.55	2173.9	371.9	583.9
1971	51.15	2131.6	356.4	566.7
1972	51.41	2127.7	357.3	624.6
1973	52.51	2088.9	376.4	707.3
1974	53.43	2098.0	346.0	717.3
1975	49.31	2102.7	297.1	612.6

Note: See pp. 39-43 of the text for a description of these series and their sources.

statistical standards, indicate that government spending exerts a statistically significant but fairly small deterrent effect on capital formation. Specifically, a permanent \$1 increase in annual government spending causes permanent declines of about 3.5 cents in annual investment in

nonresidential structures and about 2.5 cents in annual investment in producers' durable equipment. Alternatively stated, a \$10 billion increase in government spending, holding capital income tax rates constant, reduces investment in plant and equipment by about \$600 million. These

Table 5. Statistical Equations

Real gross private domestic investment in nonresidential structures per person of working age:

$$\Delta \text{INVS}_t = 2.79 + (-0.0610 + 0.0254L)\Delta \text{GXP}_t - 2.06\Delta \text{MTRK}_{t+1} + (1 + 0.486L)\varepsilon_t$$

(5.11) (0.0101) (0.0102) (0.992) (0.152)

Real gross private domestic investment in producers' durable equipment per person of working age:

$$\Delta \text{INVE}_t = 13.9 - 0.0248\Delta \text{GXP}_t - 3.98\Delta \text{MTRK}_{t+1} + (1 - 0.263L^2)\varepsilon_t$$

(4.32) (0.0155) (1.68) (0.158)

Definition of Variables:

INVS - Real gross private domestic investment in nonresidential structures per person of working age.

INVE - Real gross private domestic investment in producers' durable equipment per person of working age.

GXP - Real federal, state, and local government purchases per person of working age.

MTRK - Effective marginal tax rate on income from capital.

Note: Standard errors appear in parentheses below parameter estimates. The tax rate is expressed in percent, and all other variables are in 1972 dollars. The lag operator L is defined such that $L^j x_t = x_{t-j}$ for any variable x; the difference operator Δ is defined such that $\Delta = 1 - L$, and ε_t is a random error term.

effects are substantially smaller than most standard discussions of crowding out would seem to suggest, constituting less than 0.5 percent of annual fixed business investment in recent years.

In contrast to the rather small effects of government spending, taxation of capital income strongly deters capital formation. A one-percentage-point increase in the effective tax rate on income from capital results in a decrease in annual investment in nonresidential structures of about \$2 per person of working age. Furthermore, it reduces annual investment in producers' durable equipment by about \$4 per person of working age. These effects are measured in 1972 dollars. Combining the two effects and converting them into an aggregate figure, using the more recent 1977 population and prices, indicates that a one-percentage point tax rate increase reduces investment in plant and equipment by about \$1.2 billion.

Further evidence demonstrating the impact of tax rates on investment can be obtained by examining the **ratio** of investment in equipment

to investment in structures. This ratio varies widely during the Depression and World War II and has been much more stable since then. There is, nevertheless, a striking pattern in its movement during this seemingly stable postwar period. The ratio declined fairly steadily from 1947 to 1961, with only four of the 14 year-to-year changes being positive. In 1962, Congress enacted an investment tax credit, in effect almost continuously since then, that applied to investment in equipment but not to structures. It seems more than coincidental that, beginning in 1962, the ratio of investment in equipment to investment in structures reversed its downward drift and increased fairly steadily until the end of the sample period in 1975. During this period, only three of the 14 year-to-year changes were negative.

Alternatively stated, from the end of World War II until the enactment of the investment tax credit, per capita investment in structures grew at a compound annual rate of 2.7 percent, while per capita investment in equipment grew at a

rate of 0.1 percent. After the enactment of the credit, however, investment in structures grew at an annual rate of only 1.2 percent while investment in equipment grew at 4.9 percent. Thus, the average change in the ratio of investment in equipment to investment in structures was 0.0588 from 1962 onward, compared with -0.0420 during the earlier period. By the usual statistical standards, these two numbers are significantly different.

“ . . . a one percentage point tax rate increase reduces investment in plant and equipment by about \$1.2 billion.”

The investment tax credit, then, did seem to have a noticeable effect on the composition of investment. This effect undoubtedly was abetted during recent years by a substantial increase in the inflation rate. Since capital must be depreciated for tax purposes at historical rather than replacement cost, inflation tends to increase the effective

tax rate on income from capital. This effect is more pronounced for long-lived assets than for short-lived ones, and thus alters the relative attractiveness of the two types of investment.

Summary

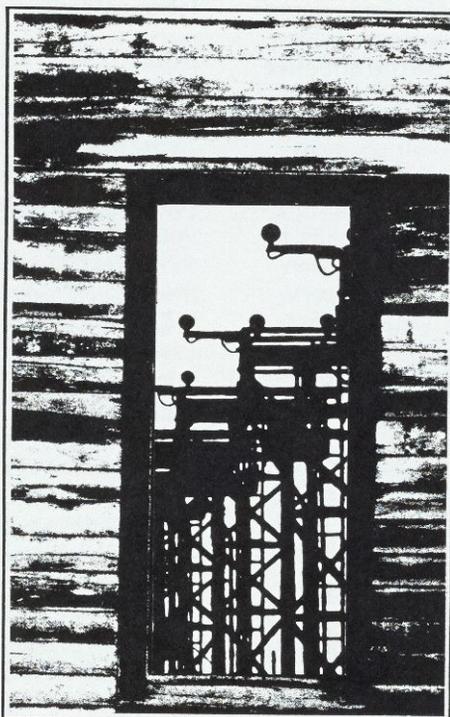
The evidence indicates that taxation of income from capital exerts an important effect on investment behavior. In the early 1960s, effective tax rates on income from capital were reduced. As the postwar baby boom generation moved into the labor force, these tax cuts aided the economy in producing the new plants and equipment which would have been necessary to maintain previous growth rates of productivity and real wages. The stimulus was insufficient, however, to prevent these growth rates from falling somewhat.

Since the late 1960s, tax rates have returned to roughly the levels of the late 1950s and early 1960s, although not to the higher levels of the early 1950s. Increasing tax rates undoubtedly helped to stifle the investment boom of the 1960s. Consequently, the growth rates of net investment, labor productivity, and real wages have slowed considerably. Increased taxation of capital income thus seems to have reduced not only the after-tax returns to capital, but those to labor as well.

—Douglas H. Joines
University of Southern California

Electric utilities' increasing reliance on coal could have a major impact on the Southeast's economy. Coal users and producers, however, must deal with several unanswered questions as they plan for the near future.

Electric Utilities in the Southeast Turning to Appalachian Coal



The U. S. coal industry may be on the verge of reviving after a period of decline in which many considered the fossil fuel an energy source whose time had passed. But the turnaround will depend on electric utilities' demand for coal to generate power.

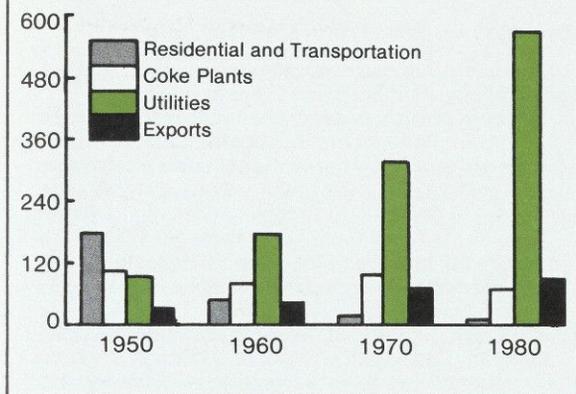
Coal, the cheapest of all fuels before World War II, began to lose its economic advantage as petroleum prices fell after the war. When oil and natural gas emerged as competitors, the coal industry lost important markets such as transportation and residential heating.

As a result of the 1973 oil embargo, however, petroleum costs began to climb and the nation began looking for a serious alternative to costly oil and natural gas. Technological efforts to clean up coal also have helped attract the nation's renewed attention to the fuel. And, in the future, anticipated production of gas and synthetic liquid fuels from coal should increase coal's competitiveness.

Utilities: Coal's Major Market

Electric utilities are finding coal one of the most convenient energy alternatives because of its relative cheapness, abundance, and high reliability. Because of these advantages, power companies today consume nearly 70 percent of the coal mined in the United States. The coal industry's loss of transportation and home heating markets has been more than offset by electric utilities' increasing demands during the last 30 years (see Chart 1).

Chart 1. U.S. Coal Distribution by Major Markets
(Million short tons)



Sources: U.S. Dept. of Energy, *Monthly Energy Review*, Sept. 1981, and *Weekly Coal Production*, Oct. 23, 1981.

Electric generating plants use large boiler furnaces to burn coal at high temperatures to release coal's energy which later converts water into steam; the steam then turns the blades of a turbine and generates electricity. Coal can also cause chemical reactions directly as in the reduction of iron ore for steel production, or indirectly as a source for the production of synthetic gaseous or liquid fuels.

Several utilities in the Southeast claim that their early selection of coal now allows them to offer lower residential bills. Power companies using coal as their primary fuel and operating under a proper regulatory environment are in fact among the top performers in the investment utility market. Tampa Electric Company's success story is a good example of a utility that based its growth and high profitability standards on generating as much as 80 percent of its energy from coal.

The Southeast has a direct link to the future of coal because the fuel is becoming increasingly important to so many electric utilities. The quality and accessibility of this region's coal make the mineral attractive to southeastern utilities and foreign buyers.

In addition, Alabama and Tennessee boast important reserves that supply much of the coal for utilities in the region. Active coal mines in the two states produced more than 36 million tons in 1980 (Table 1). Although coal produced in the region represents only 4 1/2 percent of the

nation's output, it has become increasingly important to the Southeast's electric utilities and metallurgical sector.

Southeastern coal is ranked as high volatile bituminous, a superior bituminous for utilities because of its low sulphur, low ash, and high heat production.

In 1980, nearly half of the 77 million tons of coal consumed by electric utilities in the region was supplied by Kentucky and as much as one-third came from Alabama and Tennessee mines (Table 2). Alabama mining activity provided as much as 70 percent of the state's utility requirements, while Georgia and Florida depended on Kentucky's coal for nearly half their demand.

The important role that coal plays in the Southeast's economy guarantees that industry problems are reflected throughout the region. The current recession, high coal inventories, and depressed prices, for example, are producing severe consequences for Appalachian communities, many of which consider coal their most vital resource. Most counties in the southern part of the region have based their economic survival for decades on mining and it remains Appalachian's largest employer.

According to the Bureau of Labor Statistics, unemployment rates for coal-mining counties are running high. Rates in Blount (Alabama) and Campbell (Tennessee) during the first five months of 1982 were 19.5 and 19.0 percent, well above corresponding rates of 13.8 and 11.5 percent for Alabama and Tennessee.

Including bonuses and other paid benefits, coal miners may average between \$25,000 and \$35,000 annually, standing among the best paid U.S. workers. But coal miners work in often unfavorable environments and run many risks to earn their high pay, since mining is one of the nation's toughest industrial jobs. Despite mining's high income levels, Appalachia figures among the nation's most economically deprived areas; the coal industry has unfortunately failed to produce significant growth or prosperity in this region. The low annual per capita income of other Appalachian counties (averaging \$4,000-\$5,000), is well below the \$9,458 for the United States.

The coal industry has a long history of labor unrest because miners and coal operators often have failed to compromise on conflicting issues such as miners' income, safety, and other benefits. The most recent wage settlement negotiated in mid-1981 raised miners' hourly wage to an average of \$12 but the preceding strike paralyzed the industry for 72 days and disrupted a high share of the nation's coal supply.

THE VALUE OF APPALACHIAN COAL

Where the Southeast Gets Its Coal

Coal mining activities in the United States are concentrated in three major regions: the Appalachian or eastern coal region, the interior, and the western region.

The largest coal-producing areas are in the Appalachian region, with the central and southern Appalachian mountains mining much of the coal consumed in the Southeast.

Although the nation's coal industry is located primarily in Kentucky, West Virginia, and Pennsylvania, it also extends to Alabama, Georgia, and Tennessee, the only southeastern states with such mining activity.*

Coal reserves in Alabama and Tennessee represent only about 1 percent of the 472 million tons of demonstrated coal reserves in the U. S. However, the reserves are large enough to provide the region with more than seven decades of coal at current consumption levels. Georgia has limited coal reserves mined in the northwestern part of the state. They produce small quantities of coal for use in the metallurgical sector.

Most of the region's intense coal mining is in northeastern Tennessee and northwestern Alabama. Most coal produced in the Southeast (50 to 60 percent) is allocated to electric utilities which value the high volatile bituminous coal as a boiler fuel. The rest is consumed locally by the metallurgical industry in Alabama or exported to Japan and Europe.

According to the Department of Energy, the average price paid for coal by utilities in 1981 was about \$32 per ton. Although southeastern coal costs utilities in the region about one-fifth more than the nation's average price, it offers two clear advantages: Appalachian coal has a high BTU rating, or higher heat-producing ability, and it offers lower transportation costs.

Consequently, Appalachian coal has supplied a high share of utilities' consumption in Georgia, Alabama, Tennessee, and surrounding states. Due to the comparative advantages of coal from this region, it is likely that southeastern utilities will continue to rely on Appalachian coal for their future power generation.

Some Facts About U.S. Coal Production

U. S. coal use dates back as early as 1745-55 when it was discovered and first mined in Illinois, Virginia, and Ohio. During the early days of the industrial revolution, much of the nation's economic growth depended on its abundant coal. The spread of industries and railroads boosted coal demand during the 1920s. During the Great Depression and World War II, the coal industry experienced first an acute downturn and then a surprisingly strong recovery.

*In this article, the "Southeast" refers to the six states entirely or partly included in the Sixth Federal Reserve District—Alabama, Florida, Georgia, Louisiana, Mississippi, and Tennessee.

Coal Mining, Production Methods, and Quality

Coal can be mined basically in two ways: surface (strip) mining or underground (deep) mining.

Surface mining is used when coal is found close to the earth's surface or on hillsides. Coal is stripped from the ground by heavy earthmoving equipment. The western region uses this method widely because its terrain generally is parallel to coal seams. In the Appalachian coal fields, strip mining methods are also used; however, some coal is extracted using contour strip mining techniques since coal deposits outcrop from hills or mountains.

Underground mining extracts coal that lies deep beneath the earth's surface. Although modern equipment has been introduced in recent years, this technique still requires extreme safety precautions. Underground miners must descend into deep coal beds; their only connection to the outside world are shafts and passageways sometimes thousands of feet long. There, coal is broken using explosives, continuous digging machines, or long wall cutting equipment. Finally, coal is loaded into shuttle cars or conveyor belts that transport the material out of the mines.

Western Coal: Outlook Clouded by Unresolved Issues

The vast and rich western coal reserves of the West—mainly in Wyoming, Montana, Colorado, and Utah—offer this country's most promising areas for future coal mining.

Besides its abundance, western coal is often cheaper to mine because reserves lie near the earth's surface, making it accessible through large-scale strip mining. It also is attractive to utilities due to its low sulphur content.

Despite these positive factors, the western region faces three important constraints that must be resolved in the future:

- (1) an incomplete railroad system that offers only partial access to mines and markets;
- (2) environmental regulations that escalate costs by requiring producers to restore mined land to its original use, and
- (3) large portions of western reserves are federally owned, requiring producers to sign leases with the government to mine coal.

A controversial issue concerning western coal development is the use of slurry pipelines as an alternative to rail transportation. Slurry pipelines offer an economic and efficient alternative for connecting western mines, utilities, and ports.

Congress is debating whether to grant slurry pipelines the right of eminent domain to cross state lines and private property. Naturally, slurry pipelines face strong opposition from other shipping interests.

The struggle in Congress between pipeline advocates and other shipping interests is likely to postpone for some time the full development of western coal.

Table 1. U.S. Coal Reserves
(millions of tons)

Selected Producing States	Demonstrated Reserve Base ¹			Coal Production		Annual Average Growth
	Total	Percent Underground	Percent Surface	1970	1980	
Montana	120,428	59	41	3.4	29.9	77.9
Wyoming	69,924	61	39	7.2	94.9	121.8
Illinois	67,606	78	22	65.1	62.5	0.4
West Virginia	39,776	87	13	144.1	121.6	1.6
Kentucky	34,002	76	24	125.3	150.1	2.0
Pennsylvania	30,281	96	4	80.5	93.0 ²	1.5
Ohio	19,056	68	32	55.3	39.4	2.9
Colorado	17,281	71	29	6.0	18.8	21.3
Texas (lignite)	12,660	—	100	N.A.	29.3	N.A.
Indiana	10,586	84	16	22.2	30.8	3.9
North Dakota (lignite)	9,952	—	100	5.6	16.9	20.2
Utah	6,478	96	4	4.7	13.2	18.1
Virginia	3,471	76	24	35.0	41.0	1.7
District States						
Alabama	5,000	35	65	20.5	26.4	2.9
Tennessee	984	67	33	8.2	9.9	2.1
Georgia	4	53	47	*	*	
U.S. Total	472,714	61	39	612.7	829.7	3.5

¹Represents 100 percent of coal in place as of January 1, 1980.

²Including Anthracite

*Coal production in Georgia was only 5,000 tons.

Sources: U.S. Department of Energy: **Demonstrated Reserve Base of Coal in the U.S. on January 1, 1980**, May 1982; **Energy Data Report**, October 23, 1981; and **Coal Data, A Reference**, July 1980, p. 19.

Table 2. Origin and Destination of Coal Receipts to Electric Utilities, 1980
(thousands of tons)

Origin	Destination						District Total	Total Consumption from Coal-Producing States
	Alabama	Florida	Georgia	Louisiana	Mississippi	Tennessee		
Alabama	14,233	469	437	—	687	—	15,826	15,826
Tennessee	1,024	108	1,595	—	—	3,978	6,705	7,643
Indiana	3	—	1,357	—	46	663	2,069	27,266
Illinois	150	2,124	4,799	—	489	519	8,081	53,396
Wyoming	—	—	—	2,068	—	—	2,068	89,731
West Virginia	318	10	—	—	—	175	503	53,115
Pennsylvania	—	16	—	—	—	—	16	50,948
Kentucky	1,648	4,853	12,799	—	1,370	16,006	36,676	112,380
Ohio	2,441	—	43	—	—	136	2,620	34,324
Virginia	20	51	276	—	—	366	713	13,769
Colorado	—	—	—	—	755	—	755	13,566
Other States	1	1,053 ¹	1	—	404	—	1,459	122,031
Total Output Consumed by Utilities	19,838	8,684 ¹	21,307	2,068	3,751	21,843	77,491	593,995

¹Includes 987 million tons imported from foreign suppliers.

Source: U.S. Department of Energy (EIA), **Cost and Quality of Fuels for Electric Utility Plants**, 1980 Annual.

However, the improved outlook resulting from the strong demand of utilities has brought some hopes to the region because increased production affects not only earnings and employment but the well being of the entire Appalachian area.

In addition, public policy encourages electric utility plants to use coal instead of petroleum and natural gas.¹ Some utilities converted their oil and natural gas plants to coal during the 1970s in accordance with the Power Plant and Industrial Use Act of 1978. Although southeastern utilities have also converted oil and gas-burning plants to coal, new coal-generating capacity in the area will come largely from new coal plants scheduled to be completed before 1990.

New Technologies in Coal

One of the brightest hopes for the coal industry may rest with experimental efforts to clean up the fuel and to eliminate the need for pollutant controls.

Efforts to improve coal utilization have created technologies that now produce cleaner coals and even synthetic fuels from coal that substitute for oil. Other advances have enhanced the possibilities for coal gasification, liquefaction, solvent-refining, and the capture of sulfur pollutants, a process known as fluidized-bed combustion.

In mid-1981, an experimental plant owned by the Southern Electric System became one of the few research centers in the United States to use raw coal in the production of synthetic liquid fuel that eventually could power motor vehicles. The plant, located in Wilsonville, Alabama, has for some time been the center of intense technological efforts to turn coal into clean-burning solid and liquid fuels. A clean-burning substitute eventually could eliminate the need to equip new power plants with the expensive scrubbers now required to clean up smoke from coal combustion. The liquid and solid fuels from coal probably will not be commercially competitive for several years:

Fluidized-bed combustion (FBC) is the other important process offering to broaden future markets for coal. This process involves capturing sulfur dioxide emissions by burning coal in a bed

of noncombustible limestone particles. The huge Tennessee Valley Authority (TVA) is currently undertaking research on the FBC method, designed to permit the continued use of high-sulfur coals which are abundant in the Tennessee Valley. Because this technology implies higher initial plant investments, it probably will not be in wide use before the end of this century.

Gasification is currently the most promising alternative for coal use because it converts coal into clean-burning natural gas. Coal gasification chiefly consists of separating the carbon and hydrogen content of the coal prior to its conversion to gas. The nation's first underground gasification plant is under construction in Beulah, North Dakota, but it is doubtful that the plant will be economically competitive when completed in 1984.²

Lagging Electricity Demand and Financial Pressures Trouble the Utility Industry

Despite a national trend toward the use of coal for power generation, utilities could be affected by the weakening demand for electricity and the deteriorating financial position of some firms.

In the Southeast, however, electricity demand has grown a little faster than the nation's average because of continued migration and the industry's recent decentralization.³ In spite of conservation efforts, electricity demand has been growing in Florida, Louisiana, and Georgia due to the continuing influx of people and industry. By contrast, cities in Alabama, Mississippi, and Tennessee, hard hit by the recession, have experienced declining electricity sales, due to shrinking industrial and residential demand (see Chart 2).

The deteriorating financial health of the utilities industry has affected not only increased coal use but also has impacted the general economy. Electric utilities are among the most capital-intensive industries, currently accounting for one-fifth of all new industrial construction.⁴

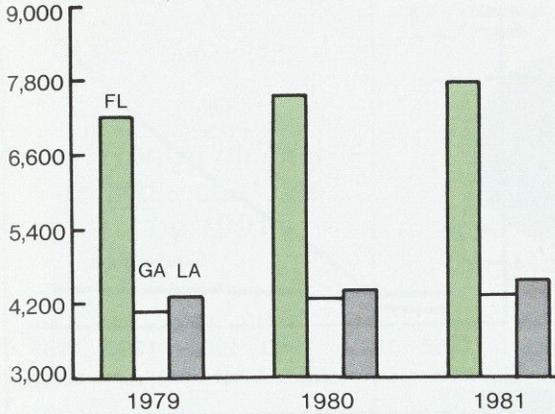
Many of the industry's financial ills are attributable to weak revenue growth and the costly measures necessary to control environmental pollution resulting from coal combustion.

²The New York Times, November 17, 1980.

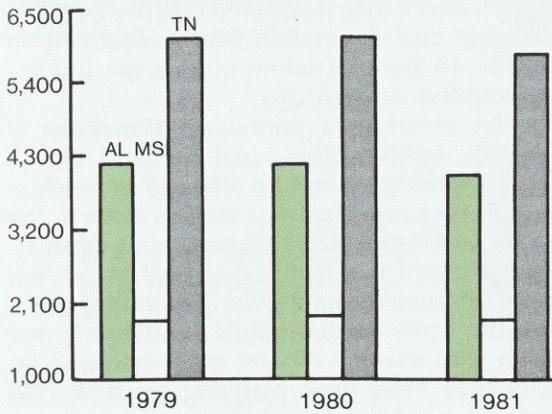
³For a complete view of the Southeast's demographic outlook and industry decentralization, see *Economic Review* articles by William J. Kahley, May, 1981, and John Hekman, March, 1982.

⁴Department of Energy, EIA, *Impacts of Financial Constraints on the Electric Utility Industry*, December, 1981.

Chart 2. Florida, Georgia and Louisiana Total Electricity Demand (Million KWH Sales)



Alabama, Mississippi and Tennessee Total Electricity Demand



Source: Federal Reserve Bank of Atlanta.

Since utilities are granted monopolies in their operating areas, rates for electrical services are regulated in each state by a body of elected utility commissioners. During the 1970s when inflation, high interest rates, and skyrocketing fuel costs shrank profits, electric companies repeatedly turned to their regulators, requesting approval of higher rates. Because of consumers' adverse reaction to rate increases, however, political considerations have played an important role in regulators' decisions to grant requests. Delays in rate advances and weak revenue growth have, in turn, impacted the utilities' financial performance.

During the mid-1970s, lagging utility revenues translated into lower profits, which made utilities'

stock less attractive to investors. Plant construction programs, then, had to be financed largely with long-term borrowing that added to utilities' financial burdens.

However, during recent years some utilities in the region have acted firmly to overcome their financial difficulties. Some have been selling neighboring utilities not only their services but even partial ownership of generation capacity. In addition, some larger companies plan to expand and market their technological knowledge to developing countries and to domestic businesses, opening new avenues for future growth.

Electric utilities have asserted repeatedly that environmental controls constitute an important obstacle to the increased use of coal. It is difficult to assess the impact of pollution control on a company's performance; however, a survey of selective power companies in the region indicates that between 15 to 30 percent of utilities' costs are attributable to pollution-control measures. Southeastern utilities with higher coal consumption have about one-tenth of their plant assets invested in pollution-control facilities. (See Appendix on the performance of selected southeastern utilities during 1980).

The political debate in Congress is likely to heat up soon over controversial clean-air issues involving air quality near power plants and sulfur dioxide emissions, blamed for a phenomenon commonly called acid rain. Pending legislation such as an amendment to the Clean Air Act of 1970 could have tremendous impact in utilities' future coal use.

Coal's Future Outlook

Coal's future has raised both high hopes and serious questions in the industry. Big uncertainties such as oil prices and the future supply of energy in an unstable world have gained greater attention in recent years. The recent increase in coal demand from utilities and foreign markets is one of the most positive developments ever for the nation's coal industry. But will the lagging electricity demand impede coal's revival? Will U.S. coal exports repeat the surprisingly high records of 1980-81?

The behavior of world energy prices and supplies are important to coal's future because markets remain highly dependent on global developments.

Oil, in particular, will continue to influence coal's supply and demand. Coal's price advantages

compared to oil are likely to broaden beyond the next decade, a favorable outlook for increased coal use. Official projections indicate that oil prices in 1995 will be nearly eight times the price of coal, up from only three times in 1980 (see Chart 3).

These projections are conservative since they do not include the possibility of disruption in world oil markets, such as those during the 1973 embargo and the Iranian revolution in early 1979.

But how is waning electricity demand affecting coal use?

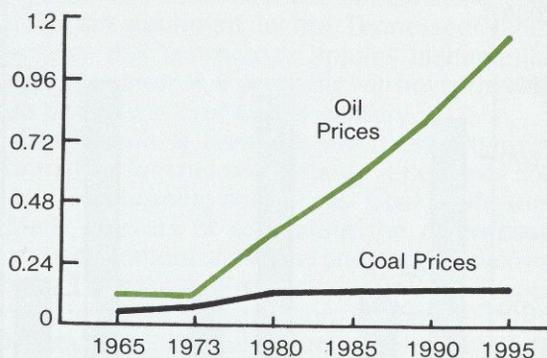
The nation's 0.3 percent growth of electricity demand during 1980-81 was one of the smallest in years. The National Electric Reliability Council—which plans and coordinates power supply for the utility industry—has in recent years lowered its 10-year projection for electricity consumption. The latest NERC projected average growth rate for both the Southeast and the nation is only 3 percent, down from the nearly 8 percent growth projected during the mid-1970s.⁵

However, the region's projected growth means that electricity demand would still double shortly after the year 2000.

Will this slowly rising growth really affect future generation from coal? The outcome depends on factors such as utilities' energy mix and regional differences that may determine generating costs. According to the NERC, the District's largest utilities are highly dependent on coal as their major source for electricity generation (see Chart 4). During 1981, coal supplied nearly 70 percent of the combined energy requirements of the Southern Company and TVA, generating more than 174 billion kwh of electricity. By contrast, Florida utilities are meeting nearly half of their energy requirements with costly oil, while nuclear power, coal, and gas provide the remainder.

By 1991, District utilities are expected to phase out oil and natural gas by increasing their use of coal and nuclear power. By the end of the decade, TVA and the Southern Company expect to increase nuclear power substantially while maintaining coal as their major fuel. Even though coal's share of total energy requirements for TVA and the Southern Company is expected to decline by 1990, coal will continue to be the major source for electricity generation. Florida utilities

Chart 3. Coal and Oil, Comparable Price Projections
(cents per thousand BTU)



Source: U.S. Department of Energy, G.I.A. 1981 Annual Report to Congress, February 1982.

expect to more than triple their coal use by 1991, increasing coal generation from 16 percent in 1981 to 48 percent while cutting oil and gas consumption substantially.

In the event of a continued slowdown in electricity consumption, coal demand in this region probably will not be affected as much as demand for gas and oil. For utilities close to the Appalachian region with coal-generating capacity, lower demand will even favor coal or nuclear power because of their lower generating costs.

On the other hand, utilities in Louisiana and Florida with existing oil and gas-generating capacity may slow their planning for new coal plants. So far, though, coal plant construction in the Southeast hasn't been affected by the lower-than-expected demand. In fact, southeastern utilities still plan to increase coal-generating capacity by 13,138 megawatts before 1990 (see Table 3).

Instead, lagging electricity demand, excess capacity, and lower oil prices have affected the completion of several nuclear power plants throughout the nation. Concern about the safety of handling radioactive materials resulting from the Three Mile Island accident in 1979 and over the disposal of waste material remains a major constraints for the nuclear power industry.

In the Southeast, two major utilities recently deferred the completion of new nuclear plants. Georgia Power deferred for two years two nuclear units that represent 2,300 megawatts of capacity (see Table 4). TVA's recent cancellation of several

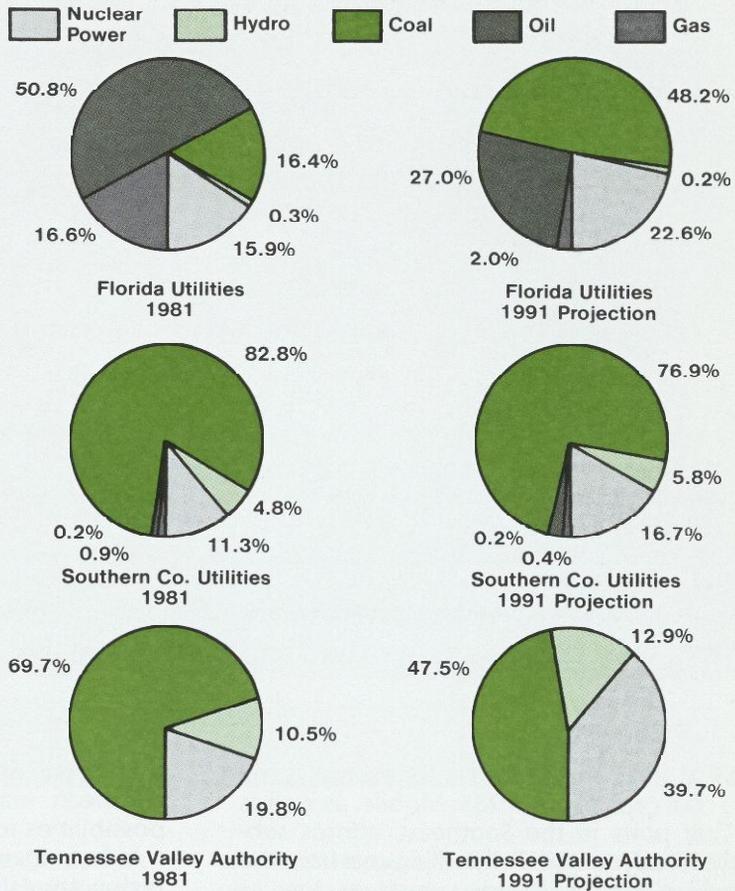
⁵National Electric Reliability Council, *Electric Power Supply and Demand 1982-1991*, September 1982.

Florida utilities to triple coal use by 1991 ...

Southern Company utilities will maintain reliance on coal ...

and coal will be major source of energy for TVA.

Chart 4. Net Electrical Energy Requirements by Major Source



Source: National Electrical Reliability Council, *Electric Power Supply and Demand 1982-1991*, September 1982 and TVA, *Projections of Energy Demand*, May 1982.

nuclear reactors represented an important setback to that utility's ambitious plans for nuclear generation. TVA deferred construction of some of its planned nuclear units in 1979 because of lower projected demand.

Coal Exports

Another encouraging sign for the coal industry is the rapid growth of coal exports. Coal exports during 1978-1981, for example, increased nearly 42 percent. In 1981, exports surpassed even coal consumption by this country's coke plants, coal's

second most important market during previous years.

According to the National Coal Association, worldwide imports of steam coal will triple by 1990. U.S. coal exports, although only a small share of the nation's output, increased substantially during the last two years. Southeastern ports with coal-handling facilities kept busy handling coal shipments to markets in Europe and the Far East.

Mobile, New Orleans, and Savannah recently have disclosed ambitious port expansion plans to handle future coal exports. The McDuffie coal

Table 3. Additional Coal-Generating Capability Scheduled by Utilities in the Southeast (in megawatts)

Electric Utilities	Coal Plants	Scheduled Plant Completion Dates	Additional Coal-Generating Capability of Plants (1981-91)
Alabama Power Co.	Miller 2, 3, 4	5/85- 5/91	1,962
Alabama Electric Coop.	Unit 1	6/87	370
Total Alabama			2,332
Georgia Power Co.	Scherer 1, 2, 3, 4	2/82- 2/89	3,232
Total Georgia			3,232
Florida Power Co.	Crystal River 4, 5	12/82-12/84	1,280
	Seminole 1, 2	6/83- 1/85	1,200
Tampa Electric Co.	Big Bend 4	3/85- 3/89	417
Florida Power and Light Co.	St. Johns River 1, 2	12/85- 6/87	1,100
	Martin 3, 4	12/87-12/89	1,400
Orlando	Stanton 1	11/86	355
Tampa Electric Co.	Manciness	3/89	400
Others in Florida District		5/81-10/81	669
Total Florida			6,821
Mississippi Power Co.	Daniel 2	6/81	503
Southern Mississippi	Coal 1	6/87	250
Total Mississippi			753
Total Southeast			13,138

Source: **Electric Power Supply and Demand, 1981-90**, National Electrical Reliability Council, July 1981 and utilities' annual reports.

terminal at the Port of Mobile, for example, will double coal capacity by 1985. Mobile, as well as other Gulf ports in the Southeast, affords substantial cost advantages in handling coal from the Appalachian region, offering costs as low as \$10.25 per ton, while transportation costs to some eastern ports from mining regions can be as much as 50 percent higher.⁶

Completion of the Tennessee-Tombigbee Waterway, scheduled for the mid-1980s, will provide additional savings for coal exported through Mobile. The waterway is expected to be an important alternative route for coal exports from the Appalachian region. Some forecasts have estimated that 21 of the 28 million tons of freight projected for the waterway annually will be coal shipments, more than half exported through the Port of Mobile.

Future markets for steam coal exports in particular promise new growth opportunities for Appalachian producers of high BTU and lower

sulfur coal. Steam coal demand from Western European markets appears to offer the best possibilities for future coal exports.

In fact, steam coal exports from the Appalachian region are estimated to reach nearly 75 million tons in 1995, up from 28 million tons in 1980, with Western Europe accounting for 70 to 80 percent of the total demand.⁷

Future coal exports through ports in the Southeast will depend on how other important world coal-producing nations normalize production. However, the United States' reputation for supply stability could enhance its future position in the export market for coal and allow the continuity of coal shipments overseas.

Summary

Coal's outlook appears promising. New markets for coal are opening up, coal's price advantages

⁶Fortune, December 14, 1981, pp. 122-126.

⁷Appalachian Regional Commission. **Potential Role of Appalachian Producers in the Steam Coal Export Market**, November 1981.

Table 4. Additional Nuclear Plant-Generating Capability Scheduled by Utilities in the Southeast, 1981-90 (in megawatts)

Utilities by State	Unit Name	Plants Scheduled for Commercial Operation	Plant Deferral Dates	Nuclear-Generating Capabilities of Plants
Alabama Power Co.	Farley 2	7/81	—	807
TVA	Bellefonte 1, 2	6/86 & 6/87	—	2,426
Total Alabama				3,233
Florida Power Co.	St. Lucie	12/83		729
Total Florida				729
Georgia Power Co.	Vogtle 1	5/85	12/87	1,150
Georgia Power Co.	Vogtle 2	11/87	12/88	1,150
Total Georgia				2,300
TVA	Yellowcreek 1	4/88	8/97	1,285
Total Mississippi				1,285
TVA	Sequoyah 1, 2	3/81 & 7/82	—	2,296
TVA	Watts BAR 1, 2	3/84 & 1/85	—	2,354
TVA	Hartsville A1	7/88	8/96	1,233
TVA	Phipps Bend 1	2/89	cancelled ²	1,233
TVA	Hartsville B2	4/89	cancelled ²	1,233
Total Tennessee				8,349
Total Six District States				15,896 ¹
Less units under review for cancellation or deferrals				(4,984)
Total Nuclear-generating capabilities in the Southeast (1981-1990)				10,912

¹Refer to summer megawatt capability.

²In addition to these two units, TVA's staff recently proposed scrapping units Phipps Bend 2 and Hartsville B2, which were in deferral status since 1979.

Source: **Electric Power Supply and Demand, 1981-1990**, National Electric Reliability Council, July 1981, and TVA's **Review of Load Growth**, January 1982.

over other alternative fuels are projected to broaden in forthcoming years, and technology to make coal more usable is readily available.

Coal from the Appalachian region has regained new importance in recent years due to its quality and accessibility which has made it attractive to southeastern utilities and foreign buyers.

Despite these favorable trends, coal users and producers must deal with uncertainties such as the slower than expected growth in electricity demand, financial and regulatory constraints, and unstable world oil prices.

So far, weakening demand has not curbed utilities' plans for increasing coal-generating capabilities. Instead, these factors have adversely

affected the nuclear power industry, with several utilities recently discontinuing the planning and construction of several new nuclear generators.

But world oil prices may ultimately determine many of the unanswered questions regarding the future of coal and other alternative energy sources.

It is clear that, at least during this decade, Appalachian coal will continue to play a major role in meeting southeastern electricity demand. Coal export markets also are likely to bring new growth opportunities to Appalachian producers and to increase the activity of southeastern ports with coal terminals.

—Gustavo Uceda
and Gene D. Sullivan

APPENDIX ELECTRIC UTILITIES IN THE SOUTHEAST INCREASING THEIR FUTURE COAL-GENERATING CAPABILITIES

Although electric utilities in the Southeast sell an identical product and enjoy monopolistic marketing advantages, they face the 1990s with differing alternatives based on dissimilarities such as ownership and the fuel mix used to generate electricity.

The rising cost of oil and natural gas during the 1970s led some utilities to shift to coal and nuclear power as alternatives. Most utilities in the Southeast have already started to build new coal and nuclear units or to convert existing ones to coal. But expanding generating capacity implies careful long-term planning. Utilities must balance such factors as the six years normally needed to build an average size coal-fired plant, environmental regulations affecting plant investment and costs, and changes in projected electricity demand.

Since utilities' future development will impact the Southeast, let's look at the performance and development plans of a selected number of companies in this region.

The Southern Electric System

Southern Electric is the nation's largest investor-owned electric utility system in terms of assets. The system includes the parent Southern Company and its subsidiaries—Alabama Power, Georgia Power, Mississippi Power, Gulf Power, and Southern Company Services, Inc.

Alabama Power Company is a \$4.9 billion company engaged in providing electricity to a major portion of Alabama. The company owns 8,000 megawatts of generating capacity, of which 9 percent is hydroelectric and 18 percent nuclear. Coal, however, is the company's major fuel, accounting for nearly 73 percent of the electricity generated by the company. Coal-generating capacity is expected to increase 1,962 megawatts between 1985 and 1991 as the company completes construction of Miller Plants Nos. 2, 3, and 4. Nuclear power has also become increasingly important to Alabama Power. The company's first nuclear plant, Farley Unit No. 1, began operation in late 1977. A second plant, completed in mid-1981, has added 860 megawatts of new capacity.

Georgia Power Company is the largest privately owned electrical utility serving the Southeast, providing electricity to over 600 communities in Georgia. It also furnishes power at wholesale to 46 municipalities and to 39 rural cooperatives. The company's generating capacity is 11,652 megawatts, of which nearly three-fourths is produced by coal-generating stations. The company plans to construct new coal-fired plants during the period 1982-90, adding more than 15 percent to its capacity. Georgia Power is considering the sale of part of its plant assets to electric utilities in Florida. Florida utilities, heavily dependent on oil, may acquire a 16.5 percent interest of the Vogtle nuclear

plant. Gulf Power Company, Georgia Power's sister utility, purchased a 25 percent interest in units 3 and 4 of the Scherer coal plant in early 1982.

Gulf Power Company, although small, has been growing rapidly in the past years. Gulf Power provides electric power to about 600,000 people in northwestern Florida. The company's generating capacity is nearly 1,970 megawatts. Coal is the major fuel consumed by the utility, representing 98 percent of all fossil fuels entering the system in 1980. In 1981, the company put into operation a new 500-megawatt coal-burning plant that has expanded its generating capabilities.

Mississippi Power Company provides electric service to 160,721 customers in 23 southeastern Mississippi counties. In addition, the company furnishes wholesale electric service to three cooperatives serving a combined population of over 500,000. The company's total installed generating capability is nearly 1,966 megawatts, of which 74 percent is coal generated.

Middle South Utilities

This holding company owns all common stock of Louisiana Power & Light, Mississippi Power and Light, and five other utilities in the Southeast.

Louisiana Power and Light Company generates and distributes electricity in a 19,500-square-mile area, serving a population of more than 1.5 million. It operates seven generating plants, all fueled by oil and natural gas. With a total generating capability of 4,625 megawatts. The company is constructing its first nuclear generating unit, Waterford 3, some 25 miles upriver from New Orleans. The facility will add 1,104 megawatts to the company's capacity. The utility is building its first two 800-megawatt coal-fired generating units in the St. James Parish area.

Mississippi Power and Light Company has a net plant capability of 2,763 megawatts. Generating units consumed 78.6 percent gas and 21.1 percent oil in 1981 as the plant's only fuels. The company serves a population of about 1.5 million, including the Mississippi Delta area, Jackson, and portions of south Mississippi. Most of the power is company-generated. The balance is obtained through interchange agreements with affiliates and interconnections with TVA, Mississippi Power Company, and Gulf State Utilities.

The Tennessee Valley Authority (TVA)

TVA supplies electric power as wholesaler to an area covering almost all of Tennessee, portions of northern Alabama, northeastern Mississippi and southwestern Kentucky, and small parts of Georgia, North Carolina, and Virginia. Generating capacity of the coordinated system is 31,053 megawatts, of which 57 percent is coal-fired, 11 percent hydro, 8 percent

Appendix Table: Performance of Selected Utilities in the Southeast during 1981

	Fossil Fuels Purchased by Utilities in 1980		Assets		
	Total (trillion Btu)	Percent of Coal	Total (\$ million)	Percent of Total EPF ¹	Return on Common Equity
Alabama Power	290.5	99.0	4,880	8.9	8.2
Florida Power Corporation	161.1	36.4	2,563	7.6	14.4
Florida Power & Light	376.3	0.3	6,122	8.8	11.1
Gulf Power Company	82.3	98.4	838	12.6	11.4
Tampa Electric Company	117.0	78.7	1,037	11.3	14.7
Georgia Power Company	498.0	99.1	5,886	7.0	12.4
Central Louisiana Inc.	59.4	5.6	552	—	14.0
Louisiana Power & Light	166.6	—	2,330	1.5	15.6
New Orleans Public Service	49.4	—	345	2.4	12.1
Mississippi Power Company	60.5	85.6	665	10.6	15.7
Mississippi Power & Light	80.0	0.3	728	3.4	18.1
Tennessee Valley Authority	698.7	99.6	15,580	7.5	N.A.

N.A. - Data not available.

¹Asset value of environmental pollution facilities (EPF) in operating plants in 1980 as a percentage of total company assets. Facilities included are scrubbers, precipitators, coal washing facilities, and other pollution control installations.

Sources: Utilities' Annual Reports and U.S. Department of Energy, **Statistics of Privately owned Electric Utilities in the U.S.**, Annual 1980, and **Cost and Quality of Fuels for Electric Utilities Plants**, Annual 1980.

combustion turbines, and 19 percent nuclear. TVA supplies power to 160 municipal and cooperative distributors, 50 large industrial customers and several federal agencies. It sells low-cost power largely generated by hydro and coal facilities. The company will increase its nuclear power capability by 11,102 megawatts by 1990. TVA's research efforts to improve environmental standards for coal use are also important steps to upgrade the company's future power generation. TVA's construction program has increased substantially the agency's amount of long-term borrowing. TVA's long-term and short-term financing bonds are provided through the Federal Financing Bank.

Selected Independent Utilities

Florida Power and Light Company, the fifth largest investor-owned utility in the nation, has a capability of 11,738 megawatts to serve an estimated population of more than five million. More than half of the company's capacity relies solely on oil. Natural gas and nuclear energy account for 19 and 21 percent of capacity. The utility began to experiment recently with a mixture of pulverized coal and oil. Florida Power expects to have its first two coal-burning units, Martin Units 3 and 4, by the late 1980s or early 1990s, adding 1,400 megawatts of capacity.

The company also plans to increase coal-generating capacity jointly with the Jacksonville Electric Authority. The St. Johns River Power Project calls for the construction of two 550-megawatt coal units to be completed in late 1985 and mid-1987, with each company taking half the output.

Tampa Electric Company serves an area of nearly 1,900 square miles on the west coast of Florida. Three steam electric-generating stations and four turbine cranking units provide a generating capacity of 2,499 megawatts. The company has completed an almost total shift to coal as its major fuel. Currently, 80 percent of the company's electrical generation comes from coal. The utility plans to increase generating capacity upon completion of two additional coal-fired units by 1985 and 1989, adding 417 and 400 megawatts. In January 1981 the company became the corporate base of TECO Energy Inc., a new holding company that also parents several non-utility subsidiaries. TECO Energy's new subsidiaries are set up to take advantage of coal's growing export market while securing the utility's future coal needs including transportation and related services. Tampa Electric currently ranks among the nation's top utilities in profitability and bond rating.

Central Louisiana Electric Inc., even though the company's total capability of 1,323 megawatts is 98 percent gas-fired, coal is also a future alternative. Central Louisiana has acquired from a neighboring company a 50 percent interest in a 530-megawatt coal-fired unit that will be completed late this year. The unit will use low sulphur coal from Wyoming. The utility plans also to fuel future electric generating units with an estimated 150 million tons of recoverable lignite reserves from northwestern Louisiana that could increase its capacity with a much cheaper fuel.



FINANCE

STATISTICAL SUPPLEMENT

	ANN.				ANN.			
	AUG	JUL	AUG	%	AUG	JUL	AUG	%
\$ millions	1982	1982	1981	CHG.	1982	1982	1981	CHG.
UNITED STATES								
Commercial Bank Deposits	1,162,872	1,153,704	1,043,004	+ 11	Savings & Loans			
Demand	286,067	296,964	295,810	- 3	Total Deposits	534,229	534,299	511,310 + 4
NOW	58,152	58,573	44,913	+ 29	NOW	10,510	10,488	6,567 + 60
Savings	150,134	151,527	153,492	- 2	Savings	91,931	93,202	96,955 - 5
Time	695,757	681,420	579,488	+ 20	Time	432,687	432,044	407,767 + 6
Credit Union Deposits	49,477	49,551	37,501	+ 32	JUN		MAY	JUN
Share Drafts	3,324	3,306	2,297	+ 45	Mortgages Outstanding	503,618	505,000	506,053 - 0
Savings & Time	42,121	42,209	33,010	+ 28	Mortgage Commitments	16,762	16,549	17,923 - 6
SOUTHEAST								
Commercial Bank Deposits	124,815	124,585	111,516	+ 12	Savings & Loans			
Demand	33,262	34,789	33,800	- 2	Total Deposits	78,888	78,686	74,818 + 5
NOW	7,520	7,614	5,721	+ 31	NOW	1,697	1,700	1,018 + 67
Savings	14,688	14,875	15,112	- 3	Savings	11,558	11,666	12,137 - 5
Time	72,229	71,135	60,144	+ 20	Time	65,733	65,539	61,508 + 7
Credit Union Deposits	4,634	4,633	3,565	+ 30	JUN		MAY	JUN
Share Drafts	330	329	252	+ 31	Mortgages Outstanding	69,933	74,256	73,831 - 5
Savings & Time	3,880	3,873	3,075	+ 26	Mortgage Commitments	3,142	3,242	3,753 - 16
ALABAMA								
Commercial Bank Deposits	13,949	13,828	12,855	+ 9	Savings & Loans			
Demand	3,438	3,527	3,448	- 0	Total Deposits	4,517	4,521	4,333 + 4
NOW	653	653	509	+ 28	NOW	89	89	53 + 68
Savings	1,556	1,569	1,614	- 4	Savings	546	553	620 - 12
Time	8,765	8,711	7,683	+ 14	Time	3,908	3,905	3,679 + 6
Credit Union Deposits	815	818	556	+ 47	JUN		MAY	JUN
Share Drafts	64	64	51	+ 25	Mortgages Outstanding	3,946	3,963	4,010 - 2
Savings & Time	654	660	496	+ 32	Mortgage Commitments	78	59	109 - 28
FLORIDA								
Commercial Bank Deposits	40,613	40,823	37,072	+ 10	Savings & Loans			
Demand	11,596	12,318	12,313	- 6	Total Deposits	47,681	47,524	45,407 + 5
NOW	3,268	3,332	2,493	+ 31	NOW	1,155	1,171	716 + 61
Savings	6,181	6,276	6,473	- 5	Savings	7,693	7,768	8,058 - 5
Time	20,342	20,036	16,661	+ 22	Time	38,783	38,660	36,416 + 6
Credit Union Deposits	2,116	2,133	1,608	+ 32	JUN		MAY	JUN
Share Drafts	183	186	142	+ 29	Mortgages Outstanding	41,364	45,525	44,924 - 8
Savings & Time	1,647	1,653	1,248	+ 32	Mortgage Commitments	2,519	2,650	3,133 - 20
GEORGIA								
Commercial Bank Deposits	17,400	17,448	14,914	+ 17	Savings & Loans			
Demand	5,911	6,158	5,808	+ 2	Total Deposits	9,898	9,916	9,527 + 4
NOW	1,089	1,094	831	+ 31	NOW	190	184	107 + 78
Savings	1,635	1,653	1,609	+ 2	Savings	1,190	1,203	1,275 - 7
Time	9,623	9,508	7,653	+ 26	Time	8,599	8,596	8,164 + 5
Credit Union Deposits	853	839	697	+ 22	JUN		MAY	JUN
Share Drafts	32	29	19	+ 68	Mortgages Outstanding	9,062	9,279	9,497 - 5
Savings & Time	773	757	667	+ 16	Mortgage Commitments	171	180	151 + 13
LOUISIANA								
Commercial Bank Deposits	22,741	22,598	19,899	+ 14	Savings & Loans			
Demand	5,876	6,102	5,837	+ 1	Total Deposits	7,893	7,858	7,112 + 11
NOW	1,036	1,041	767	+ 35	NOW	111	109	59 + 88
Savings	2,448	2,473	2,444	+ 0	Savings	1,223	1,236	1,221 + 0
Time	13,868	13,595	11,411	+ 22	Time	6,585	6,535	5,851 + 13
Credit Union Deposits	126	124	98	+ 29	JUN		MAY	JUN
Share Drafts	10	10	7	+ 43	Mortgages Outstanding	7,293	7,260	7,001 + 4
Savings & Time	116	115	90	+ 29	Mortgage Commitments	242	267	238 + 2
MISSISSIPPI								
Commercial Bank Deposits	10,375	10,234	9,269	+ 12	Savings & Loans			
Demand	2,297	2,354	2,304	- 0	Total Deposits	2,442	2,438	2,371 + 3
NOW	555	563	422	+ 32	NOW	53	51	25 + 112
Savings	737	747	767	- 4	Savings	228	225	240 - 5
Time	6,995	6,899	6,034	+ 16	Time	2,174	2,175	2,109 + 3
Credit Union Deposits	N.A.	N.A.	N.A.		JUN		MAY	JUN
Share Drafts	N.A.	N.A.	N.A.		Mortgages Outstanding	2,182	2,145	2,204 - 1
Savings & Time	N.A.	N.A.	N.A.		Mortgage Commitments	21	19	38 - 45
TENNESSEE								
Commercial Bank Deposits	19,738	19,564	17,507	+ 13	Savings & Loans			
Demand	4,144	4,331	4,090	+ 1	Total Deposits	6,457	6,428	6,068 + 6
NOW	919	932	699	+ 31	NOW	98	95	58 + 69
Savings	2,131	2,157	2,205	- 3	Savings	678	681	723 - 6
Time	12,637	12,385	10,702	+ 18	Time	5,684	5,667	5,289 + 7
Credit Union Deposits	724	719	606	+ 19	JUN		MAY	JUN
Share Drafts	41	40	33	+ 24	Mortgages Outstanding	6,086	6,084	6,195 - 2
Savings & Time	690	688	574	+ 20	Mortgage Commitments	111	67	84 + 32

Notes: All deposit data are extracted from the Federal Reserve Report of Transaction Accounts, other Deposits and Vault Cash (FR2900), and are reported for the average of the week ending the 1st Wednesday of the month. This data, reported by institutions with over \$15 million in deposits as of December 31, 1979, represents 95% of deposits in the six state area. The major differences between this report and the "call report" are size, the treatment of interbank deposits, and the treatment of float. The data generated from the Report of Transaction Accounts is for banks over \$15 million in deposits as of December 31, 1979. The total deposit data generated from the Report of Transaction Accounts eliminates interbank deposits by reporting the net of deposits "due to" and "due from" other depository institutions. The Report of Transaction Accounts subtracts cash in process of collection from demand deposits, while the call report does not. Savings and loan mortgage data are from the Federal Home Loan Bank Board Selected Balance Sheet Data. The Southeast data represent the total of the six states. Subcategories were chosen on a selective basis and do not add to total.

SEAR = fewer than four institutions reporting.



EMPLOYMENT

	JUL 1982	JUN 1982	JUL 1981	ANN. % CHG.		JUL 1982	JUN 1982	JUL 1981	ANN. % CHG.
UNITED STATES									
Civilian Labor Force - thous.	112,526	111,569	110,742	+ 2	Nonfarm Employment- thous.	89,539	90,596	91,107	- 2
Total Employed - thous.	101,490	100,683	102,612	- 1	Manufacturing	18,720	19,035	20,246	- 8
Total Unemployed - thous.	11,036	10,886	8,130	+36	Construction	4,152	4,092	4,415	- 6
Unemployment Rate - % SA	9.8	9.5	7.2		Trade	20,614	20,680	20,600	+ 0
Insured Unemployment - thous.	-	-	-		Government	15,214	15,956	15,334	- 1
Insured Unempl. Rate - %	-	-	-		Services	19,219	19,164	18,771	+ 2
Mfg. Avg. Wkly. Hours	38.9	39.3	39.6	- 2	Fin., Ins., & Real Est.	5,426	5,410	5,376	+ 1
Mfg. Avg. Wkly. Earn. - \$	333	334	318	+ 5	Trans. Com. & Pub. Util.	5,068	5,117	5,181	- 2
SOUTHEAST									
Civilian Labor Force - thous.	14,328	14,220	13,902	+ 3	Nonfarm Employment- thous.	11,293	11,393	11,388	- 1
Total Employed - thous.	12,912	12,815	12,821	+ 1	Manufacturing	2,145	2,181	2,295	- 7
Total Unemployed - thous.	1,416	1,406	1,082	+31	Construction	677	678	725	- 7
Unemployment Rate - % SA	9.4	9.4	7.3		Trade	2,677	2,680	2,654	+ 1
Insured Unemployment - thous.	-	-	-		Government	2,062	2,119	2,068	- 0
Insured Unempl. Rate - %	-	-	-		Services	2,237	2,237	2,151	+ 4
Mfg. Avg. Wkly. Hours	38.9	39.6	40.0	- 3	Fin., Ins., & Real Est.	642	641	635	+ 1
Mfg. Avg. Wkly. Earn. - \$	286	289	274	+ 4	Trans. Com. & Pub. Util.	699	699	701	- 0
ALABAMA									
Civilian Labor Force - thous.	1,705	1,708	1,673	+ 2	Nonfarm Employment- thous.	1,326	1,333	1,355	- 2
Total Employed - thous.	1,457	1,469	1,490	- 2	Manufacturing	335	343	365	- 8
Total Unemployed - thous.	248	239	184	+35	Construction	64	64	67	- 4
Unemployment Rate - % SA	13.4	13.1	8.5		Trade	272	272	272	0
Insured Unemployment - thous.	-	-	-		Government	296	294	291	+ 2
Insured Unempl. Rate - %	-	-	-		Services	214	213	211	+ 1
Mfg. Avg. Wkly. Hours	38.7	39.7	39.8	- 3	Fin., Ins., & Real Est.	60	59	60	0
Mfg. Avg. Wkly. Earn. - \$	280	289	280	0	Trans. Com. & Pub. Util.	71	71	72	- 1
FLORIDA									
Civilian Labor Force - thous.	4,854	4,763	4,622	+ 5	Nonfarm Employment- thous.	3,702	3,761	3,664	+ 1
Total Employed - thous.	4,489	4,398	4,321	+ 4	Manufacturing	439	451	460	- 5
Total Unemployed - thous.	365	366	301	+21	Construction	256	257	285	-10
Unemployment Rate - % SA	7.3	7.5	5.9		Trade	1,010	1,012	970	+ 4
Insured Unemployment - thous.	-	-	-		Government	577	615	580	- 1
Insured Unempl. Rate - %	-	-	-		Services	904	907	855	+ 6
Mfg. Avg. Wkly. Hours	38.2	39.3	40.4	- 5	Fin., Ins., & Real Est.	278	279	274	+ 1
Mfg. Avg. Wkly. Earn. - \$	270	269	268	+ 1	Trans. Com. & Pub. Util.	230	231	229	+ 0
GEORGIA									
Civilian Labor Force - thous.	2,687	2,684	2,603	+ 3	Nonfarm Employment- thous.	2,146	2,156	2,173	- 1
Total Employed - thous.	2,470	2,467	2,439	+ 1	Manufacturing	492	494	520	- 5
Total Unemployed - thous.	217	217	164	+32	Construction	100	100	104	- 4
Unemployment Rate - % SA	7.5	7.6	5.7		Trade	495	497	502	- 1
Insured Unemployment - thous.	-	-	-		Government	424	432	423	+ 0
Insured Unempl. Rate - %	-	-	-		Services	368	367	362	+ 2
Mfg. Avg. Wkly. Hours	38.8	39.5	39.9	- 3	Fin., Ins., & Real Est.	117	116	114	+ 3
Mfg. Avg. Wkly. Earn. - \$	263	266	250	+ 5	Trans. Com. & Pub. Util.	143	142	140	+ 2
LOUISIANA									
Civilian Labor Force - thous.	1,897	1,903	1,883	+ 1	Nonfarm Employment- thous.	1,617	1,622	1,639	- 1
Total Employed - thous.	1,688	1,677	1,718	- 2	Manufacturing	199	201	223	-11
Total Unemployed - thous.	209	226	165	+27	Construction	135	134	143	- 6
Unemployment Rate - % SA	10.7	11.0	7.7		Trade	369	370	372	- 1
Insured Unemployment - thous.	-	-	-		Government	308	312	302	+ 2
Insured Unempl. Rate - %	-	-	-		Services	297	297	290	+ 2
Mfg. Avg. Wkly. Hours	40.1	40.2	40.9	- 2	Fin., Ins., & Real Est.	77	77	75	+ 3
Mfg. Avg. Wkly. Earn. - \$	375	376	348	+ 8	Trans. Com. & Pub. Util.	132	132	134	- 1
MISSISSIPPI									
Civilian Labor Force - thous.	1,064	1,059	1,064	0	Nonfarm Employment- thous.	790	794	819	- 4
Total Employed - thous.	933	936	973	- 4	Manufacturing	206	210	223	- 8
Total Unemployed - thous.	131	123	92	+42	Construction	39	39	44	-11
Unemployment Rate - % SA	11.2	10.3	7.8		Trade	163	163	165	- 1
Insured Unemployment - thous.	-	-	-		Government	173	176	180	- 4
Insured Unempl. Rate - %	-	-	-		Services	121	119	120	+ 1
Mfg. Avg. Wkly. Hours	38.4	39.5	38.8	- 1	Fin., Ins., & Real Est.	33	33	33	0
Mfg. Avg. Wkly. Earn. - \$	244	252	231	+ 6	Trans. Com. & Pub. Util.	40	40	41	- 2
TENNESSEE									
Civilian Labor Force - thous.	2,121	2,103	2,057	+ 3	Nonfarm Employment- thous.	1,712	1,727	1,738	- 1
Total Employed - thous.	1,875	1,868	1,880	- 0	Manufacturing	474	482	504	- 6
Total Unemployed - thous.	247	235	176	+40	Construction	83	84	82	+ 1
Unemployment Rate - % SA	11.2	11.2	8.1		Trade	368	366	373	- 1
Insured Unemployment - thous.	-	-	-		Government	284	290	292	- 3
Insured Unempl. Rate - %	-	-	-		Services	333	334	313	+ 6
Mfg. Avg. Wkly. Hours	39.2	39.4	39.9	- 2	Fin., Ins., & Real Est.	77	77	79	- 3
Mfg. Avg. Wkly. Earn. - \$	281	282	267	+ 5	Trans. Com. & Pub. Util.	83	83	85	- 2

Notes: All labor force data are from Bureau of Labor Statistics reports supplied by state agencies.
 Only the unemployment rate data are seasonally adjusted.
 The Southeast data represent the total of the six states.
 The annual percent change calculation is based on the most recent data over prior year.

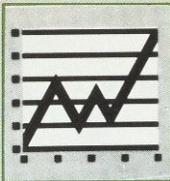


CONSTRUCTION

	JUL 1982	JUN 1982	JUL 1981	ANN % CHG		JUL 1982	JUN 1982	JUL 1981	ANN % CHG
12-month Cumulative Rate									
UNITED STATES									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits				
Total Nonresidential	48,090	50,117	51,610	- 7	Value - \$ Mil.	34,772	34,819	48,926	- 29
Industrial Bldgs.	5,780	6,242	8,172	- 29	Residential Permits - Thous.				
Offices	13,884	14,617	13,004	+ 7	Number single-family	461.5	466.8	711.5	- 35
Stores	5,602	5,653	6,637	- 16	Number multi-family	392.6	381.1	492.6	- 20
Hospitals	1,701	1,646	1,320	+ 29	Total Building Permits				
Schools	849	879	738	+ 15	Value - \$ Mil.	82,862	84,936	100,536	- 18
SOUTHEAST									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits				
Total Nonresidential	6,489	6,606	7,155	- 9	Value - \$ Mil.	6,467	6,648	10,155	- 36
Industrial Bldgs.	763	816	867	- 12	Residential Permits - Thous.				
Offices	1,378	1,420	1,276	+ 8	Number single-family	92.7	95.0	155.7	- 40
Stores	1,054	1,059	1,036	+ 2	Number multi-family	83.9	85.6	127.8	- 34
Hospitals	263	292	187	+ 41	Total Building Permits				
Schools	95	91	86	+ 10	Value - \$ Mil.	12,956	13,255	17,230	- 25
ALABAMA									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits				
Total Nonresidential	398	401	434	- 8	Value - \$ Mil.	239	241	400	- 40
Industrial Bldgs.	78	82	50	+ 56	Residential Permits - Thous.				
Offices	54	41	65	- 17	Number single-family	4.0	4.1	8.1	- 51
Stores	67	70	74	- 9	Number multi-family	5.2	5.1	7.1	- 27
Hospitals	21	32	27	- 22	Total Building Permits				
Schools	7	8	5	+ 40	Value - \$ Mil.	637	642	834	- 24
FLORIDA									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits				
Total Nonresidential	3,269	3,340	4,040	- 19	Value - \$ Mil.	4,062	4,272	6,968	- 42
Industrial Bldgs.	381	407	455	- 16	Residential Permits - Thous.				
Offices	639	658	565	+ 13	Number single-family	49.6	51.7	93.8	- 47
Stores	563	553	577	- 2	Number multi-family	52.7	55.2	90.1	- 42
Hospitals	157	169	59	+166	Total Building Permits				
Schools	20	18	25	- 20	Value - \$ Mil.	7,332	7,613	11,008	- 33
GEORGIA									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits				
Total Nonresidential	1,045	1,056	1,054	- 1	Value - \$ Mil.	1,077	1,055	1,258	- 14
Industrial Bldgs.	156	177	182	- 14	Residential Permits - Thous.				
Offices	247	256	243	+ 2	Number single-family	20.9	20.7	26.4	- 21
Stores	104	119	119	- 13	Number multi-family	10.0	9.9	10.6	- 6
Hospitals	27	27	20	+ 35	Total Building Permits				
Schools	34	35	28	+ 21	Value - \$ Mil.	2,123	2,111	2,311	- 8
LOUISIANA									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits				
Total Nonresidential	905	921	875	+ 3	Value - \$ Mil.	579	555	700	- 17
Industrial Bldgs.	91	89	103	- 12	Residential Permits - Thous.				
Offices	263	282	285	- 8	Number single-family	9.2	9.2	11.7	- 21
Stores	167	166	104	+ 61	Number multi-family	8.5	7.6	9.1	- 7
Hospitals	21	29	63	- 67	Total Building Permits				
Schools	25	24	19	+ 32	Value - \$ Mil.	1,483	1,476	1,575	- 6
MISSISSIPPI									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits				
Total Nonresidential	173	189	189	- 8	Value - \$ Mil.	142	144	249	- 43
Industrial Bldgs.	15	23	18	- 17	Residential Permits - Thous.				
Offices	42	44	37	+ 14	Number single-family	2.8	2.9	4.8	- 42
Stores	39	40	48	- 19	Number multi-family	1.9	1.9	3.9	- 51
Hospitals	4	6	8	- 50	Total Building Permits				
Schools	2	1	0.9	+122	Value - \$ Mil.	315	334	438	- 28
TENNESSEE									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits				
Total Nonresidential	698	699	562	+ 24	Value - \$ Mil.	368	381	581	- 37
Industrial Bldgs.	41	39	60	- 32	Residential Permits - Thous.				
Offices	133	139	81	+ 64	Number single-family	6.2	6.3	11.0	- 44
Stores	114	111	114	0	Number multi-family	5.6	5.9	6.9	- 19
Hospitals	33	29	10	+230	Total Building Permits				
Schools	6	6	8	- 25	Value - \$ Mil.	1,066	1,080	1,153	- 8

NOTES:

Data supplied by the U. S. Bureau of the Census, Housing Units Authorized By Building Permits and Public Contracts, C-40. Nonresidential data excludes the cost of construction for publicly owned buildings. The southeast data represent the total of the six states. The annual percent change calculation is based on the most recent month over prior year. Publication of F. W. Dodge construction contracts has been discontinued.



GENERAL

	AUG	JUL	AUG	ANN.		AUG	JUL (R)	AUG	ANN.
	1982	1982	1981	%		1982	1982	1981	%
				CHG.					CHG.
UNITED STATES									
Personal Income-\$ bil. SAAR (Dates: 1Q, 4Q, 1Q)	2,518.6	2,493.1	2,327.4	+ 8	Agriculture				
Retail Sales - \$ mil.- SA	88,292	89,089	87,961	+ 0	Prices Rec'd by Farmers				
Plane Pass. Arrivals (thous.) JUN	N.A.	N.A.	N.A.		Index (1977=100)	135.0	136.0	138.0	- 2
Petroleum Prod. (thous. bls.)	8,669.1	8,701.0	8,638.7	+ 0	Broiler Placements (thous.)	80,612	81,835	77,377	+ 4
Consumer Price Index					Calf Prices (\$ per cwt.)	61.30	60.60	62.30	- 2
1967=100 (JUL)	292.2	290.6	274.4	+ 6	Broiler Prices (¢ per lb.)	26.3	28.6	28.5	- 8
Kilowatt Hours - mils. (APR)	167.4	173.9	160.7	+ 4	Soybean Prices (\$ per bu.)	5.39	5.99	6.71	-20
					Broiler Feed Cost (\$ per ton)	215	217	225	- 4
SOUTHEAST									
Personal Income-\$ bil. SAAR (Dates: 1Q, 4Q, 1Q)	297.0	294.5	271.3	+ 9	Agriculture				
Taxable Sales - \$ mil.	N.A.	N.A.	N.A.		Prices Rec'd by Farmers				
Plane Pass. Arrivals (thous.) JUN	4,192.5	4,240.8	4,075.1	+ 3	Index (1977=100)	130.0	127.5	127.0	+ 2
Petroleum Prod. (thous. bls.)	1,387.5	1,389.0	1,425.8	- 3	Broiler Placements (thous.)	31,843	32,213	30,924	+ 3
Consumer Price Index					Calf Prices (\$ per cwt.)	58.59	57.08	58.06	+ 1
1967=100	N.A.	N.A.	N.A.		Broiler Prices (¢ per lb.)	25.6	27.7	27.3	- 6
Kilowatt Hours - mils. (APR)	25.4	25.9	25.0	+ 2	Soybean Prices (\$ per bu.)	5.72	6.12	6.80	-16
					Broiler Feed Cost (\$ per ton)	213	218	219	- 3
ALABAMA									
Personal Income-\$ bil. SAAR (Dates: 1Q, 4Q, 1Q)	33.0	33.1	31.2	+ 6	Agriculture				
Taxable Sales - \$ mil.	N.A.	N.A.	N.A.		Farm Cash Receipts - \$ mil.				
Plane Pass. Arrivals (thous.) JUN	112.9	111.4	127.2	-11	(Dates: MAY, MAY)	728	-	722	+ 1
Petroleum Prod. (thous. bls.)	56.5	56.0	60.5	- 7	Broiler Placements (thous.)	9,938	10,136	9,776	+ 2
Consumer Price Index					Calf Prices (\$ per cwt.)	54.40	55.50	56.00	- 3
1967=100	N.A.	N.A.	N.A.		Broiler Prices (¢ per lb.)	24.5	26.5	27.0	- 9
Kilowatt Hours - mils. (APR)	3.5	3.5	3.7	- 5	Soybean Prices (\$ per bu.)	5.60	5.97	6.47	-13
					Broiler Feed Cost (\$ per ton)	210	225	235	-11
FLORIDA									
Personal Income-\$ bil. SAAR (Dates: 1Q, 4Q, 1Q)	108.7	107.3	96.9	+12	Agriculture				
Taxable Sales - \$ mil.	66.6	66.8	64.8	+ 3	Farm Cash Receipts - \$ mil.				
Plane Pass. Arrivals (thous.) JUN	2,056.9	2,114.9	1,751.8	+17	(Dates: MAY, MAY)	2,404	-	2,317	+ 4
Petroleum Prod. (thous. bls.)	75.0	76.0	98.0	-23	Broiler Placements (thous.)	1,839	1,931	1,906	- 4
Consumer Price Index - Miami					Calf Prices (\$ per cwt.)	60.90	60.60	61.20	- 0
Nov. 1977 = 100	155.1	155.7	146.1	+ 6	Broiler Prices (¢ per lb.)	25.0	27.0	27.0	- 7
Kilowatt Hours - mils. (APR)	6.9	6.7	6.6	+ 5	Soybean Prices (\$ per bu.)	5.60	5.97	6.47	-13
					Broiler Feed Cost (\$ per ton)	220	225	240	- 8
GEORGIA									
Personal Income-\$ bil. SAAR (Dates: 1Q, 4Q, 1Q)	51.8	51.7	48.2	+ 7	Agriculture				
Taxable Sales - \$ mil.	N.A.	N.A.	N.A.		Farm Cash Receipts - \$ mil.				
Plane Pass. Arrivals (thous.) JUN	1,564.1	1,548.8	1,743.3	-10	(Dates: MAY, MAY)	1,010	-	997	+ 1
Petroleum Prod. (thous. bls.)	N.A.	N.A.	N.A.		Broiler Placements (thous.)	12,423	12,630	12,062	+ 3
Consumer Price Index - Atlanta					Calf Prices (\$ per cwt.)	54.40	54.00	54.80	- 1
1967 = 100	291.1	280.2	269.2	+ 8	Broiler Prices (¢ per lb.)	25.0	27.0	26.5	- 6
Kilowatt Hours - mils. (APR)	3.9	4.4	3.8	+ 3	Soybean Prices (\$ per bu.)	6.25	6.25	6.81	- 8
					Broiler Feed Cost (\$ per ton)	215	215	205	+ 5
LOUISIANA									
Personal Income-\$ bil. SAAR (Dates: 1Q, 4Q, 1Q)	43.0	42.5	39.0	+10	Agriculture				
Taxable Sales - \$ mil.	N.A.	N.A.	N.A.		Farm Cash Receipts - \$ mil.				
Plane Pass. Arrivals (thous.) JUN	259.4	269.7	256.9	+ 1	(Dates: MAY, MAY)	492	-	526	- 6
Petroleum Prod. (thous. bls.)	1,164.0	1,164.0	1,172.0	- 1	Broiler Placements (thous.)	N.A.	N.A.	N.A.	
Consumer Price Index					Calf Prices (\$ per cwt.)	59.50	59.10	58.80	+ 1
1967 = 100	N.A.	N.A.	N.A.		Broiler Prices (¢ per lb.)	27.5	31.0	29.0	- 5
Kilowatt Hours - mils. (APR)	4.3	4.1	3.9	+10	Soybean Prices (\$ per bu.)	5.67	6.19	7.13	-20
					Broiler Feed Cost (\$ per ton)	250	250	245	+ 2
MISSISSIPPI									
Personal Income-\$ bil. SAAR (Dates: 1Q, 4Q, 1Q)	18.9	18.9	17.7	+ 7	Agriculture				
Taxable Sales - \$ mil.	N.A.	N.A.	N.A.		Farm Cash Receipts - \$ mil.				
Plane Pass. Arrivals (thous.) JUN	33.0	32.7	36.2	- 9	(Dates: MAY, MAY)	707	-	658	+ 7
Petroleum Prod. (thous. bls.)	92.0	93.0	95.3	- 3	Broiler Placements (thous.)	5,973	6,182	5,788	+ 3
Consumer Price Index					Calf Prices (\$ per cwt.)	63.40	59.60	62.10	+ 2
1967 = 100	N.A.	N.A.	N.A.		Broiler Prices (¢ per lb.)	28.0	30.5	29.0	- 3
Kilowatt Hours - mils. (APR)	1.6	1.7	1.6	0	Soybean Prices (\$ per bu.)	5.61	6.07	6.74	-17
					Broiler Feed Cost (\$ per ton)	205	205	210	- 2
TENNESSEE									
Personal Income-\$ bil. SAAR (Dates: 1Q, 4Q, 1Q)	41.5	40.9	38.3	+ 8	Agriculture				
Taxable Sales - \$ mil.	N.A.	N.A.	N.A.		Farm Cash Receipts - \$ mil.				
Plane Pass. Arrivals (thous.) JUN	166.2	163.3	159.7	+ 4	(Dates: MAY, MAY)	581	-	500	+16
Petroleum Prod. (thous. bls.)	N.A.	N.A.	N.A.		Broiler Placements (thous.)	1,326	1,335	1,392	- 5
Consumer Price Index					Calf Prices (\$ per cwt.)	57.80	53.70	54.90	+ 5
1967 = 100	N.A.	N.A.	N.A.		Broiler Prices (¢ per lb.)	25.5	28.0	27.0	- 6
Kilowatt Hours - mils. (APR)	5.2	5.5	5.4	- 4	Soybean Prices (\$ per bu.)	5.76	6.14	6.79	-15
					Broiler Feed Cost (\$ per ton)	181	188	199	- 9

Notes:

Personal Income data supplied by U. S. Department of Commerce. Taxable Sales are reported as a 12-month cumulative total. Plane Passenger Arrivals are collected from 26 airports. Petroleum Production data supplied by U. S. Bureau of Mines. Consumer Price Index data supplied by Bureau of Labor Statistics. Agriculture data supplied by U. S. Department of Agriculture. Farm Cash Receipts data are reported as cumulative for the calendar year through the month shown. Broiler placements are an average weekly rate. The Southeast data represent the total of the six states. N.A. = not available. The annual percent change calculation is based on most recent data over prior year.

R - revised.

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