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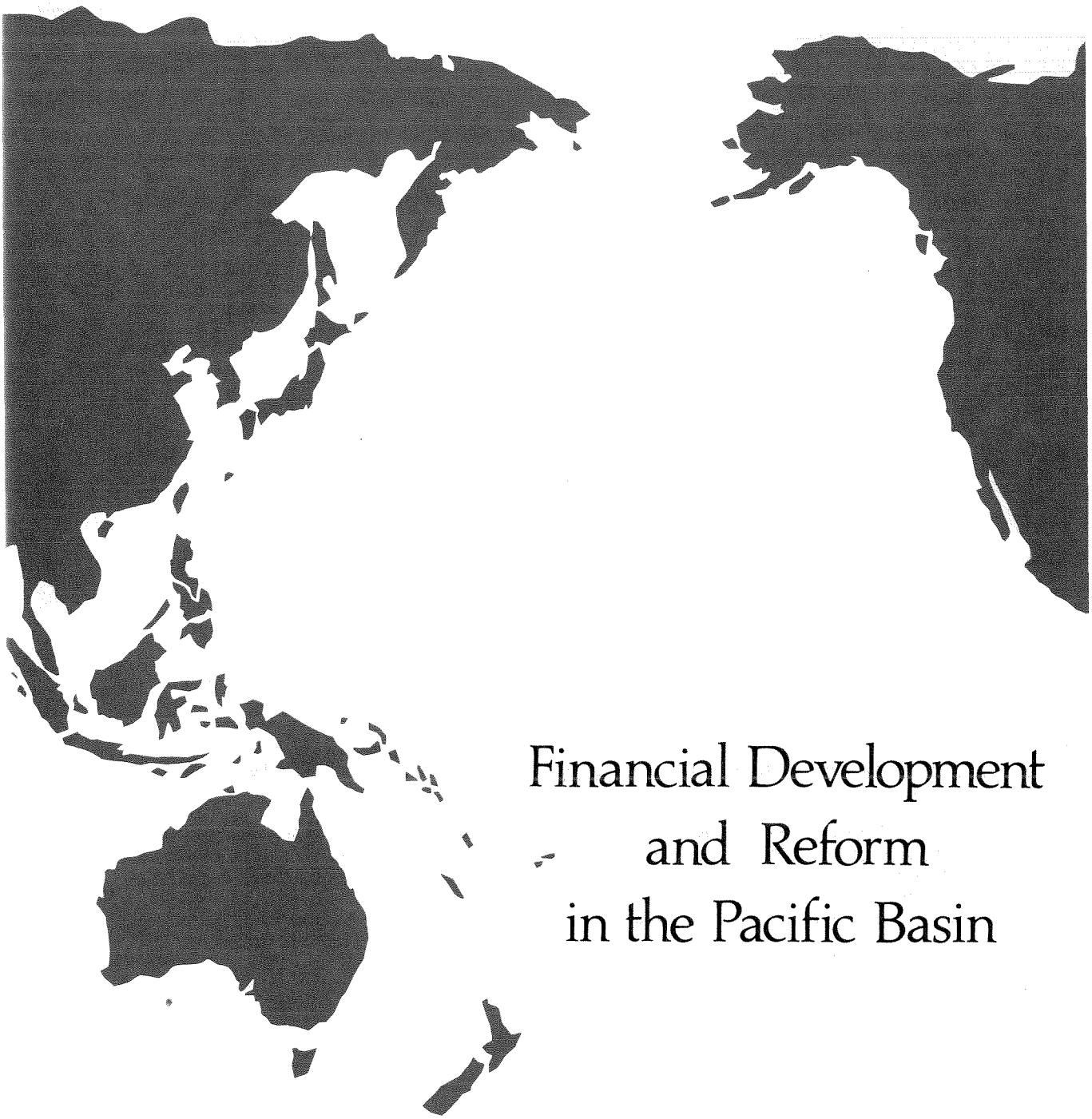

Financial Development and Reform in the Pacific Basin

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Recent financial reform legislation in the United States, including the Depository Institutions Deregulation Act of 1980 and the Depository Institutions Act of 1982, represents a response to the rapid changes that have taken place in the U.S. financial markets over the last dozen years. These changes were compelled by high inflation, technological advances in communications and information systems, and the need to float unprecedented amounts of government securities. Similar developments have occurred in other countries. The three articles in this *Review* offer a Pacific Basin perspective on the interaction between market forces and government regulation of financial markets.

In the first two articles, the authors show how market forces have led the authorities in Australia, New Zealand, and Japan to institute sweeping changes in the manner in which they regulate their respective national financial markets. The last article shows how the Asian Dollar Market has arisen in response to market demand and supportive government policies.

In the first article, Hang-Sheng Cheng studies how Australia and New Zealand, "with essentially similar financial structures and regulatory frameworks," nevertheless "reacted in markedly different ways" to the inflationary pressures on their economies.

Cheng starts his study with a brief overview of the two countries' financial systems. He notes that the authorities in both New Zealand and Australia considered regulatory policies integral instruments of monetary policy because they lacked an open money market that could offer alternative methods of money control. Regulatory policies were used to pursue macroeconomic policy objectives and therefore are key to an understanding of financial reform in the two countries. In particular, Cheng cites interest-rate controls, asset and liability restrictions on financial institutions, and direct credit controls as regulatory devices designed to contain inflation and to ensure an adequate supply of low-cost credit to favored sectors.

These regulatory controls, however, failed to contain inflation and, according to Cheng, resulted in market distortions as evidenced by several notable efforts to bypass them. An unregulated commercial bills market, for example, grew rapidly in New Zealand before the government limited its activities in 1976. A "curb market" for mortgage financing boomed in New Zealand in the 1970s, as did the unregulated financial sector in Australia. Finally, in both countries, asset and liability controls on financial institutions were needed to ensure a captive market for government securities whose rates were usually kept below competitive-market levels.

New Zealand's government tried several strategies for dealing with inflation in the 1970s. Beginning in 1972 with a tightening of regulatory controls that failed to achieve their goal, New Zealand next tried lifting most regulations. Its authorities deregulated interest rates in 1976 and, more significantly, lifted all controls on non-bank financial institutions. In the wake of these changes, the government found itself facing competition for funds in the market. In response, it started a government securities market in August of 1978. Cheng states that this action meant that, for the first time, New Zealand could influence its money supply through open market operations. The deregulation of financial institutions' portfolios followed, as an interbank call-money market was allowed to develop and institutions were authorized to issue negotiable certificates of deposit, to invest in local securities, and to operate in the commercial bills market.

By mid-1980, New Zealand's financial system was largely deregulated. In 1981, however, the authorities reversed the course of reform. In reaction to continued high interest rates, they reimposed interest rate controls.

Australia has pursued a more consistent course of reform. Because it had been more flexible in its use

of regulatory policy (by raising interest-rate ceilings and permitting the regulated trading banks to diversify their activities through subsidiaries in the unregulated markets), it had escaped strong pressures for financial reform until 1979. At that time, however, the accumulated market distortions and drawbacks of the regulatory approach led Australia to relax interest rate controls. In 1980, it removed ceilings on trading and savings bank deposit rates. Lending rates were not deregulated, but the ceiling on them was raised well above the prevailing market rate. In December 1981, the government-appointed Campbell Committee, assigned to make a comprehensive study of Australia's financial system, released its Final Report recommending, in Cheng's words, "a thorough overhaul of the financial system."

The momentum of reform in Australia would seem to indicate that the Campbell Committee's recommendations stand a good chance of being implemented. Cheng, however, warns that this is not a certainty. New Zealand's reversal of a decade's reforms, he concludes, shows that "the course of financial reforms is, in the short run, determined more by political will than by market forces."

In the second article, Charles Pigott describes the progress of financial reform in Japan since the early 1970s. He points out that, traditionally, Japan's financial system has been highly regulated, with the flexibility of interest rates and the variety of available financial instruments severely limited. This regulation was, he asserts, aimed primarily at influencing the cost and allocation of credit to various sectors in order to promote Japan's economic growth.

Pigott argues that the extensive liberalization of Japan's financial system over the last decade was largely a response to several worldwide economic upheavals—inflation, recession, higher oil prices, floating exchange rates—that greatly altered financial flows and, in the process, the financial requirements of various sectors of the economy. These shocks, he believes, have greatly increased Japan's "...need for a more flexible financial system in which market forces play a greater role in allocating credit than in the past." Freer markets are necessary, he asserts, to ensure an efficient allocation of credit in Japan's evolving economy and to provide the financial instruments to meet the changing needs of businesses and households.

The Japanese authorities' response was to undertake extensive reforms aimed at liberalizing interest rates and financial flows. Starting early in the 1970s, the flexibility of most regulated interest rates was increased by tying them to the central bank discount rate. More recently, money-market interest rates were completely deregulated, leaving these rates (as well as bank loan rates) largely free to vary with market forces.

Other reforms have broadened the financial instruments available to the public, and particularly to commercial banks. The creation of a commercial bills market in 1972 gave banks a secondary-reserve asset that they had lacked before. In 1979, banks were authorized to issue negotiable certificates of deposit, in part to help them absorb a growing volume of government debt. A major reform of Japan's banking law that took effect in April 1982 allowed banks to enter the government-securities business.

Even more dramatic have been Japan's moves to liberalize its financial relations with the rest of the world. Traditionally, the authorities had severely restricted international capital flows, particularly the access of foreigners to Japan's financial markets. But "...to facilitate the financing of Japan's current account imbalances and improve the efficiency of the foreign exchange markets..." this policy was virtually reversed in 1978. As a result, Japan's money markets are now closely linked with those abroad, and the principle of equal treatment of foreign banks in Japan and their Japanese competitors is now recognized.

Pigott points out, though, that the progress of reform has been somewhat uneven. Deposit interest rates and rates in the primary bond markets remain heavily regulated while the asset choices of households are nearly as limited as they were a decade ago. Still, he argues, financial reform in Japan has been both more extensive, and more at the instigation of government, than in the U.S., but *only* because Japan's financial system was originally so much more rigid and government-controlled than our own.

Pigott draws several lessons from the experiences of both the U.S. and Japan with financial reform. Financial reform, he argues, tends to develop an

internal momentum, mainly because liberalization often generates pressures for further unravelling of regulations. For this reason, the process of reform is very likely to continue in both countries. Their experiences also suggest, he believes, that financial liberalization often causes fewer difficulties if it is undertaken *before* pressures for it become irresistible.

Ken Bernauer writes early in his study of the Asian Dollar Market that "(a) need for the facilities of an Asian offshore dollar center existed well before its inception in 1968," but that the development of that market "was not feasible until regulations were altered to allow banks there to compete on equal terms" with their European counterparts.

Singapore, with locational advantages over other countries in the area (its working day overlapped that of the European markets) and a lack of a natural resource base, invited the establishment of an offshore dollar center with a series of tax concessions and changes in banking regulations. In 1968, its government exempted from withholding tax the interest paid on non-residents' deposits in Singapore banks licensed to deal in foreign currencies. Later, it cut the tax on bank profits from Asian dollar offshore loans and waived or rescinded several estate and stamp duties. The Monetary Authority of Singapore also abolished the 20-percent liquidity ratio that licensed banks operating in the Asian dollar market were required to hold against deposits. In 1978, it lifted most exchange controls.

Largely as a result, the Singapore Asian dollar market grew from $30.5 million in 1968 to $85 billion at the end of 1981. Singapore's share of the combined European and Asian dollar markets increased from .35 percent in 1970 to 4.77 percent at the end of 1981. Accompanying this growth was a significant transformation in the nature of the Asian dollar market. According to Bernauer, "At the beginning it was almost exclusively an interbank market that served as an adjunct to the Euro-dollar market, but given the impetus of the 1973–1974 oil shock, it has become a mature banking center serving the rapidly growing economies of East Asia."

The development of the Asian dollar market in Singapore has brought both benefits and costs to the country. Bernauer names the loss of a degree of domestic monetary control as the chief cost and general danger to countries hosting offshore banking centers. Singapore has used a licensing procedure to separate the activities of different types of banks and a number of incentives, including different tax treatments and reserve requirements, to discourage the substitution of Asian dollar market accounts for domestic deposits. In the end, however, these methods have met with only limited success, and the authorities rely on moral suasion.

Despite these drawbacks, Bernauer believes that the benefits of hosting the Asian dollar market have, on balance, been positive for Singapore. The benefits include the increase and improvement in financial services that has helped the country's balance of payments. Moreover, the Asian dollar market has given Singapore's workforce valuable skills in the fields of banking and finance, stimulated a string of complementary activities, and made Singapore attractive to regional corporations and multinational firms.

Financial Reform In Australia and New Zealand

Hang-Sheng Cheng*

After two decades of discussion, financial reform is now finally sweeping through the United States. The Depository Institutions Deregulation Act of 1980 and the Depository Institutions Act of 1982 are the beginnings of a movement that will significantly alter the competitive structure of the nation's financial system. Similar movements are occurring in several nations on the other side of the Pacific Basin, notably Japan, Australia, New Zealand, and the Philippines. There are reports that other countries—Korea, Taiwan, and China—are also considering reforming their financial systems.

Over the last dozen years, rapid changes have taken place in national financial markets as a result of worldwide inflation and recession, technological advances in communications and information systems, as well as the need to float unprecedented amounts of government securities in national capital markets. In the face of these changes, many outmoded concepts about conducting monetary and regulatory policies have had to be abandoned. Because these changes necessarily take place in the context of a nation's political and institutional framework, only by examining the actual experiences of various nations can we gain insight into the dynamic, symbiotic changes in market conditions and government economic policies.

Australia and New Zealand's experiences provide two interesting cases for study. Working with essentially similar financial structures and regulatory frameworks, the authorities in the two nations reacted in markedly different ways to the inflationary pressures that strained both their financial structures.

New Zealand, in 1972, broadened and tightened regulatory controls over financial activities in the hope of containing inflation and ensuring an adequate supply of credit to "priority" sectors. The apparent failure of the policy to achieve its objectives and the growing market distortions that resulted altered the authorities' perception of the market's mechanics. In 1976, the government of New Zealand began a series of far-reaching financial reforms that, by 1980, led to the lifting of most financial market controls. But in November 1981, as inflation continued unabated, the authorities reversed the course of financial reform and reimposed interest-rate controls.

In contrast, the Australian authorities reacted to the rising inflation of the early 1970s by raising interest-rate ceilings and permitting the regulated trading banks to diversify their activities through subsidiaries in the unregulated markets. This more flexible approach mitigated the pressures in the financial system and helped stave off the need for reform. However, over time, market distortions accumulated and the drawbacks of the regulatory framework became evident. Deregulation started in 1980. Once begun, the movement gathered momentum and now the authorities are considering a thorough overhaul of the financial system.

Regulations as Monetary Policy

In reviewing Australia's and New Zealand's experiences, one should bear in mind that during the 1970s the monetary authorities in both countries used regulatory policies—such as interest-rate controls, restrictions on assets and liabilities of financial institutions, and direct credit controls—to attain macroeconomic policy objectives. These policy tools were considered by the authorities to be essential, integral instruments of *monetary* policy.[1] In contrast, the prevailing economic thinking in the United States regards the tool of monetary policy as consisting primarily of the ability to influence the aggregate supply of money or credit to the national

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economy; rules of conduct for financial institutions, to promote (or limit) competition or to ensure the soundness of the financial system, are considered instruments of regulatory policy.

This conceptual dichotomy, which did not exist in Australia and New Zealand in the 1970s, points to an important institutional difference between the United States on the one hand and Australia and New Zealand on the other. In the United States, monetary policy is conducted primarily through open money markets that did not exist in Australia and New Zealand. Unable to conduct open-market operations, their monetary authorities relied to a large extent on regulatory policies for adjusting the aggregate money (or credit) supply to the needs of the national economy. As inflationary pressures rose in the 1970s, market forces managed to bypass the regulatory controls. Not only did the authorities fail to attain their macroeconomic policy objectives, they also distorted the market. Moreover, as the regulatory controls grew tighter, they reduced the chance for an open money market to develop and made the monetary authorities even more dependent on regulatory control for attaining macroeconomic policy objectives. When the authorities realized the futility of this policy approach in their institutional environment, they instituted sweeping financial reforms. In New Zealand, reform took place between 1976 and 1980; in Australia, between 1979 and 1980. The reforms removed not merely regulatory controls, but the idea of using regulatory controls to attain macroeconomic policy objectives.

The rest of this paper is divided into six sections. Section I includes a brief sketch of the two nations' financial systems to familiarize the reader with their financial structures. The next three sections contain a study of the two countries' experiences with the use of regulatory controls to pursue macroeconomic policy objectives. The study concentrates on the use of interest-rate controls, asset and liability restrictions, and direct credit controls. These three sections precede a review of financial reforms in the two countries and the recent retractions in New Zealand. The conclusions are in the final section.

I. The Financial Systems

A simple comparison in terms of the number of institutions in various categories serves well to identify the key characteristics of the financial structures of Australia and New Zealand. Table 1 sets out these characteristics.

First, the banking systems and savings institutions in both Australia and New Zealand are highly concentrated. In Australia, seven nationwide trading banks account for 87 percent of the total banking assets; in New Zealand, five account for all.[2] Moreover, the large trading banks also own the large savings banks in each nation. Indeed, the two types of business are often conducted on the same premise by the same teller serving the two legally separate institutions. The high concentration in banking and savings institutions facilitates the use of regulatory measures for the attainment of macroeconomic policy objectives.

Second, in both Australia and New Zealand the government participates directly in the financing of national economic activities in competition with private institutions. This is a feature that Australia and New Zealand share with virtually all the developing nations in the Pacific Basin region.

Third, in addition to the commerical banks and savings banks, Australia and New Zealand's financial systems also consist of large numbers of credit cooperatives, finance companies (for lending to households and small businesses), security dealers, life insurance companies, general insurance companies, and pension funds. With a population of 14 million in Australia and 3 million in New Zealand, these two countries' financial systems appear to possess as full a complement of financial institutions as other developed countries. We may presume that market forces are as strong.

Fourth, there is almost no foreign participation in Australia's and New Zealand's commercial banking sector.[3] The virtual exclusion of banks from outside their borders reflects the two nations' tradition of protectionism in banking. This insulation from foreign competition has accentuated the oligopolistic condition of their banking markets and possibly slowed market adjustments.

Policy Objectives and Regulatory Controls

The Reserve Bank of Australia and the Reserve Bank of New Zealand are the central banks of the respective nations. Their responsibilities can be broadly classified into three areas: (a) *macroeconomic policy objectives*, such as full employment, price stability, economic growth, and international payments equilibrium; (b) *prudential regulation* for maintaining the stability and smooth functioning of the financial system; and (c) *sectoral credit policy* for ensuring the availibility of credit on "reasonable" terms to priority sectors, such as the government, housing, export, and farming.

During the 1970s, the monetary authorities attempted to achieve these diverse policy objectives by employing a variety of policy tools. Besides traditional monetary policy instruments (such as foreign-exchange management, bill discounting and advances to banks), they relied to a large extent on regulatory control of financial institutions. These controls consisted primarily of interest-rate controls, restrictions on financial institutions' assets and liabilities, and direct credit controls. In the following, we shall examine their use and assess their effects on the financial markets and their effectiveness in achieving the policy objectives.

II. Interest Rate Controls

In the early 1970s, the authorities in Australia and New Zealand believed it essential for them to assure the availiability of credit to at least the "priority" borrowers at "reasonable" costs. This they sought to achieve by regulating the volume and direction of credit extension and by setting ceilings on interest rates banks were allowed to charge. Since setting maximum loan rates without controlling the cost of banking funds would not be a workable policy, it was deemed necessary to regulate maximum deposit rates as well.

Interest Rate Ceilings

In the 1970s, Australian banks and savings institutions were subject to loan rate ceilings. Early in that decade, the control presented no real restriction as banks could charge more than the rate of con-

TABLE 1
STRUCTURE OF THE FINANCIAL SYSTEM

		Australia	New Zealand
A)	**Deposit-Taking Institutions**		
	Commercial banks	7 nationwide (1 government) 4 regional (3 government) 2 small foreign	5 nationwide (1 government, 3 foreign)
	Savings banks	7 nationwide (1 government) 5 regional (3 government) 120 building societies	5 nationwide (1 government) 12 regional 1 Postal savings (government) 44 building societies
	Credit unions	700 credit cooperatives	950 credit cooperatives
B)	**Specialized Lending Institutions**	4 development banks (3 government) 1 export refinance 50 merchant banks 33 finance companies	1 housing (government) 1 rural (government) merchant banks (no data) 436 finance companies 20 rural agencies solicitor's nominee cos. (no data)
C)	**Others**	9 security dealers 46 life insurance cos. 200 general insurance pension funds (no data)	4 security dealers 31 life insurance general insurance (no data) 213 pension funds

Sources: *Australian Financial System: Interim Report of the Committee of Inquiry* (Canberra: Australian Government Publishing Service, 1980; hereafter, 'Interim Report'), pp. 110-178. R.S. Deane and P.W.E. Nicholl, editors, *Monetary Policy and the New Zealand Financial System*, (Wellington: Reserve Bank of New Zealand, 1979) pp. 29-116.

sumer-price inflation. In 1970, for example, the maximum allowable loan rate was 8¼ percent, inflation ran at 3.2 percent, and banks charged a weighted average loan rate of 7.60 percent.[4] The Reserve Bank in concert with state regulatory agencies ensured that the loan rates of the building societies and the credit cooperatives under the state agencies' jurisdiction conformed to those of the trading banks.[5] Similarly, banks in New Zealand were also subject to interest-rate ceilings, but the limits there were apparently more restrictive. For instance, in 1973, the maximum lending rate in New Zealand was 5.84 percent while the consumer-price inflation rate was 8 percent.[6]

On the deposit-rate side, banks in Australia and New Zealand were constrained to pay no interest on demand deposits. On passbook savings deposits, they could pay only 3.75 percent in Australia and 3 percent in New Zealand.[7]

On time deposits, both countries permitted banks to pay higher interest rates to large deposits than to small deposits. Since 1973, banks in Australia have been free to set the rates they pay on large certificates of deposits,[8] but on other time deposits an interest-rate ceiling of 6.5 percent applied in 1973. In New Zealand, both large and small time deposits were subject to rate ceilings, although the rate was higher (e.g. 7.25 percent in 1972) for deposits of more than $25,000 than for smaller deposits (6 percent in 1972).[9]

The reason for allowing this discrepancy in interest rates for deposits of different sizes was to enable banks to compete for funds in the open market, where the large investors were presumably more sensitive to interest-rate differentials. The two-tier interest-rate system appears to have been a compromise measure to keep deposit-rate controls while minimizing the risk of disintermediation. These objectives, however, were achieved at the expense of small depositors.

Besides interest-rate ceilings on bank loans and deposits, the monetary authorities in both countries also set interest rates on government securities. Typically, the rates were below competitive-market rates. For instance, throughout the 1970s, the real returns (i.e., after deducting the rate of inflation) on three-month Treasury bills were consistently negative in New Zealand and were positive in Australia only in 1970 and 1971 (Table 2). The governments were able to sell the securities only by requiring financial institutions to hold the securities in their portfolios in some proportion to their deposits or assets.

Divergent Policies

Although Australia and New Zealand started out with similar interest-rate policies in the early 1970s, the way they implemented those policies diverged significantly afterwards. Broadly speaking, the Reserve Bank of Australia appears to have been more sensitive to the limitations of interest rate controls and consequently showed greater flexibility in raising the interest rate ceilings as the inflation rate rose. For instance, as the inflation rate increased from 3 percent in mid-1970 to nearly 17 percent in mid-1975, the maximum deposit rate was raised from 5.5 percent to 10 percent (Table 2).

Moreover, the Australian authorities confined the interest rate controls to the banking sector and left the nonbank financial institutions largely unregulated. Major trading banks in Australia had extensive equity interest in the unregulated nonbank financial institutions. For instance, they accounted for 50 percent of the total assets of the finance companies in Australia.[10] Hence, competition from the unregulated financial market presented less of a threat than it would have been were the trading banks not heavily represented in the unregulated market as well.

In contrast, the authorities in New Zealand were much less flexible in administering their interest rate policy. Inflation was already accelerating as the decade opened, reaching a double-digit level in 1971 (Table 2). In 1972, the authorities responded by promulgating comprehensive interest rate controls over *all* financial institutions, including building societies, finance companies, merchant banks and insurance companies. At the same time, they reimposed a ceiling on banks' large-deposit rate. Moreover, as inflation accelerated to 11 percent in 1974, the authorities lowered the small-deposit rate from 6 percent to 4.25 percent and the large-deposit rate from 7.25 percent to 6.75 percent instead of raising the interest rate ceilings. Apparently the action was an attempt to lower inflationary pressures by reducing the cost of credit.[11]

As might be expected, setting interest rates below competitive-market rates, and even below inflation rates, brought out strong incentives for the market to find channels other than regulated financial institutions for placing funds. How investors bypassed the regulated channels can be illustrated by the following four cases: (1) the rise and fall of the commercial-bill market in New Zealand, (2) the boom in a "curb market" for mortgage financing in New Zealand, (3) funds raised in the government securities market in Australia and New Zealand, and (4) relative growth of the regulated and unregulated financial sectors in Australia.

Case I: The Commercial-Bill Market

From relative insignificance in the early 1970s, the commercial-bill market in New Zealand grew rapidly from 1972 on as all financial institutions came under interest rate control. At the end of 1973, total commercial bills outstanding were $113 million. Unregulated, the 90-day bills paid 10 percent at mid-1974 and rose to 15 percent by October at a time when the controlled Treasury bill rate was paying only 2 percent and large time deposits only 6.75 percent (Table 2). In response to such strong incentives, the commercial-bill market grew by 66 percent during 1974.[12]

Table 2
Selected Interest Rates

(A) Australia

	TRADING BANKS		FINANCE COS.			CPI
MID-YEAR	1-YEAR DEPOSITS	CDS	2-YEAR NOTES	TREASURY BILLS	COMM. BILLS	INFLATION RATE
1970	5.0	5.5	8.0	5.4	8.7	3.2
71	5.0	5.5	8.0	5.4	8.1	4.8
72	4.5	6.5	7.0	4.5	5.7	6.8
73	4.5	6.5	6.7	4.9	6.4	6.0
74	7.5	17.3	12.0	10.7	18.8	12.9
75	9.5	9.3	12.0	7.8	8.8	16.7
76	8.7	10.1	11.5	7.0	10.4	13.0
77	9.0	10.5	11.5	8.6	11.1	13.8
78	9.0	10.2	10.5	8.3	10.8	9.5
79	8.5	9.8	10.5	9.0	10.3	8.2
80	10.0	13.2	11.5	10.8	13.8	10.1
81	12.3	15.0	14.3	13.3	16.0	9.4

(B) New Zealand

	Small Deposits	Large Deposits				
1970	4.0	4.8	7.5	3.9	na	6.5
71	4.2	6.2	8.5	4.2	na	10.5
72	6.0	7.2	7.2	4.0	na	7.0
73	6.0	7.2	7.2	2.0	na	8.1
74	4.2	6.7	10.0	2.0	10.0	11.1
75	5.5	6.7	12.0	2.0	8.7	14.7
76	6.5	9.5	11.5	4.0	7.5	16.9
77	6.5	12.5	13.7	7.0	14.2	14.4
78	8.8	11.5	13.7	7.5	11.0	12.0
79	10.5	13.3	15.5	10.6	15.5	13.6
80	12.5	14.0	16.5	11.2	13.5	17.2
81	13.5	14.5	16.5	11.2	15.0	15.4

Sources: *Australia*. 'Interim Report,' pp. 219 and 221. Reserve Bank of Australia, *Bulletin, September 1982, p. 196*.
New Zealand. R.S. "Interest rate policy: a New Zealand quandry," Reserve Bank of New Zealand, Research Paper No. 17, March 1975, pp. 20–21. R.S. Deane, "Lessons from the New Zealand financial system," Reserve Bank of New Zealand, Discussion Paper D79/5, July 1979. p. 13.
New Zealand Department of Statistics, *Monthly Abstract of Statistics*, August 1982, p. 77.
Reserve Bank of New Zealand, *Bulletin*, September 1982, p. 401.

In November of 1974, the Reserve Bank instituted a series of regular meetings with the major dealers in the market to request that (1) bills in denominations smaller than $20,000 not be issued to compete with the regulated institutions for small deposits; and that (2) their activities not be expanded beyond then-existing levels of accommodation.[13] The outcome was that the bill rate declined after October 1974 to 8.7 percent in mid-1975 and 7.5 percent in mid-1976, in the face of rising inflation rates. The effect on the market was a predictable slowing of growth. From the 66-percent rate in 1974, the amount of bills outstanding grew only 7 percent in each of 1975 and 1976. The nominal slowdown actually meant shrinkage in real terms. Thus, through official intervention, the growth of the commercial bills market in New Zealand was nipped in the bud.

Case II: "Curb Market" for Mortgage Financing

The saga of the so-called "solicitors' nominee companies" in New Zealand had a different ending, because the authorities were either unable or unwilling to suppress their undertakings.[14] These companies arose in 1969 as lawyers (solicitors) handling real-estate transactions expanded their normal escrow business by accepting funds from clients, or "potential clients," nominally with a view toward eventually purchasing houses. Such funds were deposited in the "nominee companies," which were managed by the lawyers for a fee. The funds were withdrawable on demand.

Information on deposit interest rates is not available, but mortgage loan rates charged by these companies in 1978 were between 12 and 15 percent. After deducting the management fees and charges for reserves, there should still be an attractive return to the depositors at a time when the inflation rate was about 12 percent and banks were paying 8.8 percent for small deposits and 11.5 percent for large deposits.

Typically, mortgages from these pools had a term of only one to three years and did not exceed two-thirds of the value of the property. Thus, borrowers must provide a sizable equity and seek rollover of their mortgages, or refinancing elsewhere, upon the mortgages' expiration. Yet, even under such unfavorable terms, solicitors' nominee companies grew rapidly. In 1977, these companies extended more than $213 million in mortgage loans and accounted for more than 11 percent of total mortgage finance in New Zealand.[15]

Case III: Government Securities Markets

As stated earlier, during the 1970s interest rates on government securities in Australia and New Zealand were set below competitive-market rates by the monetary authorities. Their sales were assisted primarily by the requirement that regulated financial institutions hold them in their portfolios in proportion to their total deposits or assets. This "captive" market consisted of trading banks, savings banks, authorized money-market dealers, and life insurance companies in Australia,[16] and, since 1973, all

Table 3
Domestic Funds Raised in the Government Securities Market
(Percent Share of Total)

	Australia (1972–79)	New Zealand (1970–79)	United States (1970–79)
Reserve Bank	30	7	40
Government Agencies	7	10	−4
Financial Institutions			
"Captive"	35	80	0
Others	10	0	17
Others	18	3	47
	100	100	100

Sources: Reserve Bank of Australia, *Bulletin*, September 1982, p. 133; Reserve Bank of New Zealand, *Bulletin*, various issues; Board of Governors of the Federal Reserve System, *Annual Statistical Digest*, 1970–79, p. 221.

financial institutions in New Zealand.

How these regulations affected the government securities markets in the two nations is evident in a comparison of the net amounts of domestic funds raised in the two markets with those raised in the United States (Table 3). During the 1970s, New Zealand relied on government agencies (other than the central bank) and financial institutions to finance 90 percent of government debt, while the corresponding ratios for Australia and the United States were 52 percent and 13 percent respectively. The "captive" market's share was 80 percent in New Zealand, 35 percent in Australia, and zero in the United States. Voluntary private financing of government debt was only 3 percent in New Zealand and 28 percent in Australia, but it reached 64 percent in the United States. Apparently, the relative interest-rate flexibility in Australia and New Zealand (Table 2) had much to do with the relative size of the non-captive private market for government securities in those two countries.

Case IV: Regulated and Unregulated Markets

How interest-rate controls affected the relative growth of the regulated and unregulated markets can be seen in the data on their shares of the total assets of all financial institutions. The share of the regulated trading banks and savings banks in Australia declined from 52 percent in 1953 to 39 percent in 1978, while that of the largely unregulated finance companies rose from 2 percent to 14 percent and that of the building societies from 1 percent to 7 percent.[17]

Comparable data are not available for New Zealand. However, for the mortgage finance market, the share of the regulated financial institutions—including trading banks, savings banks, building societies, and insurance companies—declined from 29 percent in 1970 to 19 percent in 1976, while that of the unregulated financial sources rose from 16 percent to 19 percent. Direct financing by the government and households accounted for the balance.[18]

Thus, it appears that interest-rate controls in Australia and New Zealand resulted in the diversion of flow of funds from the regulated financial institutions to the unregulated. To the extent that both investors and borrowers would have preferred obtaining financial services from banks and other well-established financial institutions because of their greater efficiency and expertise, the financial disintermediation meant market distortion and a loss of economic welfare for the national economy as a whole.

III. Asset and Liability Restrictions

Besides controls over interest rates, the authorities in Australia and New Zealand also exercise extensive controls over the assets and liabilities of financial institutions. The most important of the controls has been the use of "liquid-asset ratios" as a policy instrument. These ratios require financial institutions to hold a part of their assets in specified liquid forms in proportion to their total deposits, borrowings or assets. In both countries, the requirement for banks differs significantly from the requirement for non-bank financial institutions.

Liquid Asset Ratios: Banks

The liquid-asset requirements for banks in Australia and New Zealand are similar to the banking reserve requirements in the United States in that the requirements are also a principal instrument for the conduct of monetary policy. However, the mode of its use differs significantly among the three countries.

Since 1973, banks in New Zealand have been required to maintain on average over a calendar month reserve assets not less than certain percentages of their average demand and time deposits in the preceding month. The eligible assets include vault cash, deposits at the Reserve Bank, and holdings of Treasury bills and government bonds.[19] The ratios varied frequently and widely. In 1977, for instance, the reserve ratio for demand deposits varied between 13 percent and 37 percent, while that of time deposits was relatively stable, varying between 10 and 15 percent.[20]

In contrast to New Zealand's separate reserve requirements for demand and time deposits, trading banks in Australia are subject to a two-tranche liquid-asset requirement against total deposits: (1) a *primary* reserve of minimum "statutory reserve deposits" (SRD) at the Reserve Bank, and (2) a *secondary* reserve of minimum "liquid assets and government securities" (LGS), consisting of vault cash, Treasury bills and notes, and other Commonwealth Government securities. Presumably both reserve ratios can be used as instruments of monetary policy. In practice, only the SRD ratio has been used as such. This is evidenced by the fact that the SRD ratio has been adjusted frequently, varying from 3 percent to 16.5 percent since 1960, whereas the LDS has been held virtually unchanged at 18 percent through the years.[21]

It is interesting to contrast the use of a reserve requirement as a monetary-policy instrument in Australia, New Zealand and the United States. First, the frequent adjustment of reserve requirements in Australia and New Zealand differs from their virtual constancy over the years in the United States. While reserve requirements in the United States are used as a *supplement* to open-market operations, they are used in Australia and New Zealand as a *primary* policy instrument for controlling monetary growth. The difference reflects the lack of a well-developed money market in Australia and New Zealand and the consequent inability of their central banks to conduct open-market operations for adjusting the level of bank reserves.

Second, the composition of eligible reserve assets differs among the three countries. In Australia, the SRD ratio includes only trading banks' deposits at the Reserve Bank. The United States adds banks' cash in hand and New Zealand also includes government securities. The differences among the three help to bring out an important attribute of bank reserve requirements, an attribute with significant policy implications.

A reserve asset should yield significantly less than any other asset in the open market or banks will not voluntarily minimize their reserve holdings. And reserves in excess of banks' liquidity needs would weaken the effectiveness of monetary control. In the United States, both banks' vault cash and deposits at Reserve Banks yield no return. In Australia, bank deposits at the Reserve Bank have yielded 2.5 percent per year since 1976,[22] compared to more than 8 percent on Treasury bills. In New Zealand, the yields on government securities were so far below the market yields (Table 2) that their inclusion in reserve assets presented no problem prior to 1978. In 1978, however, the Treasury bill rate was raised to more than 10 percent, making it competitive with private market securities (Table 2). Banks could then adjust their reserves by buying or selling securities in the open market without severe capital losses as the Reserve Bank raised or lowered reserve requirements. Thus, adjusting bank reserve requirements could affect interest rates through the government-securities market, but it could not affect the level of total reserves.[23]

Australia's payment of interest on bank reserves and New Zealand's inclusion of government securities in reserve assets illustrate a basic dilemma shared by all monetary authorities. Monetary policy must satisfy both the desire for money control and the desire for competitive equity and efficiency. For effective monetary control, reserve assets must yield below-market returns but for competitive equity and efficiency, below-market returns penalize banks and tend to lead to financial disintermediation. Australia's payment of interest on bank reserves comes close to offering a solution to this dilemma, except that the rigidly-fixed, low interest rate the Reserve Bank pays mitigates only in part the financial-disintermediation problem.[24]

Liquid-Asset Ratios: Nonbanks

The Australian and New Zealand regulations for non-bank financial institutions are similar in that they both require these institutions to hold minimum cash deposits at the Reserve Bank or trading banks, and to hold government securities in proportion to total deposits (or borrowings or assets, as the case may be). The two countries' regulations differ to the extent that the Australian requirement extends only to savings banks, while New Zealand's requirement covers all nonbank financial institutions.

Until recently, savings banks in Australia were subject to the so-called "40/60 rule," which should be more accurately called the "7½/32½/60 rule."

Under this rule, savings banks must hold three categories of assets in proportion to their total deposits: (1) 7.5 percent in deposits at the Reserve Bank and in Treasury bills; (2) 32.5 percent in cash, deposits with other banks, other Commonwealth Government securities and money-market placements; and (3) 60 percent in housing mortgages.[25] The first tranche might be interpreted as serving a mixture of monetary-policy and prudential-regulatory purposes; the second for prudential regulation and for preserving a captive market for government securities; and the third for ensuring the availability of credit for financing housing.

That the first tranche requirement can serve monetary policy purposes is doubtful. As a rule, savings banks in Australia do not offer checking deposits that trading banks do.[26] In reality, the Australian authorities have not used the tranche for this purpose, as evidenced by the fact that the ratio remained unchanged year after year. The case for its use as protection for depositors is somewhat stronger, especially since Australia does not provide deposit insurance. However, with ready access to the major trading banks, which, after all, own the major savings banks, it is not clear that the liquid-asset requirement is essential for depositor protection.[27] As for assuring the availability of credit to the Government and the housing sector, little needs to be said, except that it reflects social priorities but distorts credit allocation.

New Zealand's liquid-asset requirements of nonbank financial institutions are essentially similar to those in Australia, as are the reasons behind them.[28] New Zealand's savings banks are subject to a cash-reserve requirement as well as a government securities ratio requirement. Both requirements are stated as ratios to total deposits.

New Zealand's government-securities requirement is notable for its application to all nonbank financial institutions, although the ratios vary widely among them. For instance, in 1976 the requirement was 47 percent for all deposits at private savings banks, 72 percent for time deposits at private savings banks, 15 percent of total borrowings for finance companies, 32 percent of "residual assets" for private pension funds, and only 5 percent of assets or savings deposits for building societies.[30] Given the wide disparities, it is hard to see how competitive equity could be maintained among the various types of financial institutions.

IV. Direct Credit Controls

The authorities in Australia and New Zealand have also relied heavily on direct credit controls. Among these, one may distinguish between "general credit control" and "selective credit control."

General Credit Control

General credit controls are often used to supplement monetary policy when interest rates are set below market equilibrium rates. Since by definition the condition implies excess demand for credit, there exist strong incentives for the regulated institutions to raise the effective loan rates while keeping the nominal rates under the prescribed ceilings. They can do so in a number of ways that include charging loan fees and requiring compensatory balances or prepayment of interest. The favored borrowers fortunate enough to be granted the much-sought-after credits are only too glad to comply.

To preempt this kind of evasion, general credit control is often used by the authorities as a supplementary instrument prescribing either the level or the growth rate of outstanding loans each lending institution is allowed to maintain. It is a method often used in countries where the monetary authorities desire to target simultaneously both interest rates and the monetary aggregates, or to have cheap credits without inflationary pressures.

A few instances illustrate how the policy has been applied in Australia and New Zealand. In Australia, authorities asked major trading banks in September of 1979, 1980 and 1981, to hold the growth of advances outstanding to no more than a 10 or 12 percent annual rate. The 1979 directive was even more specific: it required each bank not to exceed a limit on net new lending commitments of an average $30 million per week.[31]

In New Zealand, for decades trading banks were

given specific targets for total advances.[32] In August 1978, the Minister of Finance announced a private-sector credit-growth guideline, whereby financial institutions were advised that the overall level of loans outstanding in the months ahead should not exceed the previous year's level by more than 10 to 15 percent. In April 1979, the allowable growth rate was reduced to 8–12 percent for the year ending March 1980.[33]

General credit control was abandoned by Australia and New Zealand after interest-rate control was removed in both countries. The reasons for its abandonment were clearly stated in Reserve Bank of Australia's announcement of the decision in June 1982:

> "The move away from quantitative restraint on bank lending is made against the background of the rapid changes that have taken place in recent years in the pattern of financial intermediation.... Much of the finance unavailable through bank lending was being made available otherwise, through channels and in forms which were by definition not the first preference of market participants."[34]

Moreover, it appears that even before their abolition the guidelines were in fact more often breached than honored. The 1979 and 1980 guidelines both called for not more than 10 percent growth in bank advances, but the actual advances during the years ended in May grew by 17 percent in 1979/80 and 13 percent in 1980/81.[35] In New Zealand, the policy was abandoned in March 1980 by simply letting the April 1979 guideline expire without a replacement.[36]

Selective Credit Control

Selective credit control was used in Australia until recently.[37] It is still in use in New Zealand. Periodically, the Reserve Bank of New Zealand conveys by letter to trading banks guidelines for lending priorities to ensure that the "priority" sectors have access to an adequate supply of finance.

As explained by the Reserve Bank:

> "Agricultural and manufactured exports have always had top priority because of the country's tendency towards balance of payments deficits. Finance for housing purposes, because of its social importance, has also frequently been among the top priority sectors. Lending to the private sector for purposes other than housing, the so-called service sector, financial institutions and for the imports has usually had low priority."[38]

The Bank also reports that similarly specific directives have been issued to nonbank financial institutions such as finance companies, insurance companies and private pension funds regarding the direction of their investments.

The Reserve Bank itself recognizes the problems created by direct credit controls.

> "A wide range of direct controls would increase the difficulties of administration, raise problems of equity, hamper the competitiveness of the financial system and be inconsistent with the recent trend in monetary policy towards more generalized tools of control and a more flexible and competitive financial system."[39]

Yet, the Bank has not found it possible to eliminate the credit-control measures given the nation's political environment.

V. Reform and Counter-Reform

In the preceding sections, we pointed out that during most of the 1970s the monetary authorities in Australia and New Zealand used various regulatory control measures for attaining policy objectives. On the whole, Australia was more flexible in using the controls, creating less strain in the financial system, than New Zealand. In this section, we will review the financial reform in both countries.

Reform in New Zealand, 1976–1980

In New Zealand, the various regulatory controls were used largely to combat inflation, but the results were disappointing. Inflation rose from 7 percent in 1972 to 17 percent in 1976. The output growth rate fell. The soundness of the financial system was threatened by increasing financial disintermediation. Controls to assure low-cost financing to such priority sectors as the Government and housing only resulted in retarding the growth of a government-securities market and drove mortgage financing into high-cost, high-risk, unregulated channels. When, in March 1976, it became appar-

ent that the policy approach had not worked as intended, the authorities instituted sweeping changes.

First, interest-rate deregulation began. Ceilings on trading banks' lending rates and deposit rates on large (more than $12,000) long-term (longer than three years) deposits were abolished. Smaller or shorter-term deposits rates and government-securities rates were adjusted upward. Most significantly, all interest-rate controls over the non-bank financial institutions were lifted.

As to be expected, the partial deregulation left the banks, especially the savings banks, unable to compete for funds with all the other newly deregulated financial institutions. In July 1977, all controls over both the trading banks' and the savings banks' time-deposit rates were removed. The only remaining interest-rate restrictions were a prohibition of interest payments on demand deposits and on deposits of less than 30 days, and a ceiling of 3 percent on passbook savings at savings banks (no such deposits being permitted at trading banks).

As the authorities freed interest rates in the private sector, the Government found itself increasingly pressured by competition for funds in the market. A deliberate two-part policy to develop a government-security market began in August 1978. First, the interest rates on government securities were raised. This was supplemented by a new Government savings bond, introduced in October 1978, that had a five-year maturity and yielded 11 percent. Second, the Government sought to promote the development of a secondary market by designating a number of "specialized dealers in government securities" and giving them direct recourse to the Reserve Bank for conducting government securities transactions.

The development of the government-securities market in New Zealand meant that for the first time the monetary authorities could control the money supply by increasing or reducing bank reserves through the open market. During the fiscal year ended March 1978, for example, the Government sold a net amount of $1,055 million securities, of which the captive trading banks purchased $720 million, or 68 percent of the total. In contrast, during fiscal year 1979, when government securities became market-competitive, the Government sold $904 million securities, of which the trading banks took in only $101 million, or 11 percent of the total. Thus, it appears that the market had been opened to a wider public than before.[40]

In addition to interest-rate decontrol, considerable progress was made during 1976–80 in the deregulation of financial institutions' portfolios. For instance, in December 1976 the restriction on trading banks' lending to other financial institutions was removed. This action subsequently opened the way to an inter-bank call-money market. In October 1977, trading banks were allowed to issue negotiable certificates of deposit and to invest in local-authority securities. In April 1978, they were freed to operate in the commercial-bills market. In February 1978, savings banks were permitted to extend consumer loans up to 2 percent of their total deposits; the limit was completely removed in April 1980.

By mid-1980, New Zealand's financial system was largely deregulated. Its savings banks in particular could make even more consumer and business loans than their U.S. counterparts, but some restrictions remained. Savings banks were still subjected to interest rate ceilings on passbook savings deposits. Building societies were still limited almost entirely to housing mortgages. All the non-bank financial institutions were still subject to the government-security ratio requirements.[41]

Reform in Australia, 1979–82

Only for a few years did the breathtaking pace with which New Zealand deregulated its financial system leave Australia behind. As stated earlier, Australia had avoided much of the stress sustained by the financial system in New Zealand by being more successful in bringing inflation under control and more flexible in the use of controls. Nevertheless, Australia also experienced disintermediation, as well as stunted growth in the government-securities market.

In April 1979 the Australian authorities began to relax interest-rate controls. The Australian Loan Council announced that it would introduce a tender system for issuing Treasury bills and a tap system for selling Treasury bonds.[42] The former, by opening each issue to public bidding, let the bill rate be determined by the market. The latter, by making the government bonds in Reserve Bank's portfolio continuously available to the public, accommodated better the public's demand for government securi-

ties. Both measures helped strengthen the functioning of the market.[43]

Of perhaps greater practical significance was the step taken by the Australian authorities in December 1980 when, in one sentence buried in a lengthy statement, the Reserve Bank announced: "The ceilings on trading and savings bank deposit interest rates are being removed."[44] Both the savings and the trading banks were freed to compete fully in the open market for funds. The rates moved up quickly. In mid-1981, according to one account:

> "...the rates offered by banks are now more comparable with those of other financial institutions. In particular, savings banks are competing directly with building societies, while trading banks' fixed deposits on shorter maturities now compare favorably with short-term money market rates as well as rates on Treasury notes and Commonwealth bonds of comparable maturities. As a result, there have recently been large increases in the fixed deposits of both savings banks and trading banks, while permanent building societies' deposits have fallen consistently since January."[45]

Although ceilings on deposit rates were removed, the authorities did not see fit to do the same on lending rates. In the same action, in December 1980 the Reserve Bank merely raised the loan-rate ceilings by 2 percentage points from 10.5 percent to 12.5 percent. Nevertheless, this was a generous move in view of the decline of the inflation rate from an annual rate of 10 percent in 1980 to 9.4 percent in 1981 (Table 3). Still, the reluctance to lift the ceilings on lending rates reflected the Reserve Bank's continued adherence to a policy of interest-rate control.[46]

The Campbell Committee Reports

The partial deregulation in 1979–80 in Australia did not go far enough in the eyes of critics. In 1979, even before the reform began, the Government initiated a comprehensive review of Australia's financial system under the chairmanship of J. Keith Campbell. The Campbell Committee heard testimonies from experts and commissioned studies on various technical topics. In May 1980 it submitted an Interim Report and in December 1981 a Final Report.[47]

On conduct of monetary policy, the Committee recommended targeting monetary policy in terms of money-growth rates, specifically the M3 growth rate. As instruments, the Committee favored open-market operations and variable reserve requirements for banks only. Nonbank financial institutions (NBFIs), the Committee believed, should be exempt from reserve requirements because of "complex administrative problems" and doubtful effectiveness. Competitive equity between banks and NBFIs could subsequently be resolved by paying market interest on the reserves. The Committee recommended doing away with most of the policy instruments discussed in this paper—interest rate controls, general and selective credit controls, and government-security ratios over and above reserve requirements as a means of credit restraint.

On the government securities market, the Committee endorsed the tender system for marketing government securities other than savings bonds. It recommended that the terms and conditions of government borrowings, including those of the local government and semi-public agencies, be freed from the Loan Council's control. Moreover, it stated that all financial institutions should be freed from requirements aimed at supporting the government securities market.

The Committee also recommended that limitations on both domestic and foreign entries into banking and other fields of financial activities be removed to promote competition in financial markets.

In the area of prudential regulations for "investor protection," the Committee recommended abandoning the existing legalistic approach of separately regulating the different types of financial institutions. It endorsed a restructuring of the regulatory framework by the primary functions financial institutions perform: for example, payments clearing, nonbank deposit-taking from households, borrowing from households through issuing debentures, accepting large deposits primarily from business firms and securities transactions. In each category, the Committee advocated a national framework for prudential regulation, the use of "liquidity ratios" in addition to the capital ratios, and enhanced supervision by the regulatory authorities.[48]

If history is any guide, a comprehensive, rational reform of a nation's financial system is likely to encounter the combined resistance of many vested interests at the same time. Over the past two dec-

ades there have been several comprehensive reviews of the financial system in the United States. The Commission on Money and Credit study (1961), the Hunt Commission Report (1971), and the Financial Institutions and National Economy study (1975) have all recommended complete restructuring of the financial system. All significantly contributed to greater understanding of the system's weaknesses and the need for reform. Yet it was not until market forces under the pressures of inflation produced so many changes that were seriously damaging to the regulated financial institutions that the demands for reform became irresistible. Even then, a consensus could not be reached. The Depository Institutions Deregulation Act of 1980 settled for partial reforms.[49] And the Congress, two and a half years later, had to pass the Depository Institutions Act of 1982 to improve banks' and savings institutions' ability to compete against the money-market funds.

To what extent Australia will accept the Campbell Committee's recommendations is hard to foretell. The U.S. experience suggests that deregulation tends to pick up momentum once begun—unless stopped by strong political opposition.

Counter-Reform in New Zealand, November 1981

As if to underscore the last point, in November 1981 New Zealand's government reversed the course of the financial reform that had taken place during the preceding five and a half years by reimposing interest rate controls. In the words of Prime Minister R. D. Muldoon, the action was made necessary "by the practice of financial institutions disregarding repeated warnings to hold interest rates down."[50] The next month the Reserve Bank fixed the lending-rate ceiling at its level on November 25, 1981. Any increases above that level must thereafter obtain the prior approval of the Reserve Bank. This regulation was interpreted to cover not only all financial institutions but also any supplier of credit or purchaser of a financial assets, including trading companies and discounters of commerical bills, that employed more than $2 million of funds.

The reimposition of interest-rate control was preceded by a year of rising inflation caused by a rapid rise in the M2-growth rate. From an average annual rate of 15 percent in 1975–77, the M2-growth rate rose to 22 percent in 1978-79. With a lag the consumer-price inflation rate also rose, from 12 percent in 1978 to 17 percent in 1980 and 15 percent in 1981.[51]

The November 1981 measures had a familiar ring. As described earlier, under the pressures of rising inflation in 1972 the New Zealand Government also imposed general interest-rate controls with the express purpose of fighting inflation by reducing the cost of credit. How the policy had failed to achieve its purpose, brought on increasing distortions in the financial system, and then culminated in the financial reform of 1976, is now a familiar story. Nearly ten years later, a full circle is completed, except that this time, the public has acquired the experiences and expertise in circumventing controls. The market should react more quickly to the controls this time, making them even harder to manage than before.

VI. Conclusions

The conclusions of this paper may be summarized as follows:

1. In many nations monetary policy and regulatory policy are closely interrelated. In Australia and New Zealand, prior to financial reform, anti-inflation monetary policy was conducted to a large extent through regulatory controls that had significant impact on the competitive structure and efficiency of financial markets. Interest rate controls, for example, resulted in disintermediation and retardation of the growth of financial markets, without attaining their intended objectives. Disintermediation meant increased market distortions. And the stunted growth of financial markets deprived the monetary authorities of the use of open-market operations as a policy instrument for adjusting bank reserves, thus further compelling the authorities to rely on administrative control measures.

2. Unable to conduct open-market operations, the monetary authorities relied on frequent changes of reserve requirements for adjusting the level of bank reserves. Since for this policy to be effective the reserve assets must yield below-market returns, the policy imposed a burden on banks and other regulated financial institutions and gave rise to further financial disintermediation. In Australia, par-

tial relief comes from interest payments on bank reserves. In New Zealand, banks are allowed to hold government securities as eligible reserve assets. However, New Zealand may have lost some monetary control when government securities began to yield competitive market returns.

3. Both Australia and New Zealand require financial institutions to hold minimum liquid deposits. The requirement has served little monetary policy purpose. It might be justified as a prudential regulation for depositor protection in the absence of deposit insurance; however, given the lack of an active government-securities market, its usefulness for depositor protection is rather dubious. It is primarily a device for ensuring a captive market for government securities to help lower the cost of government debt financing. As such, it is equivalent to another hidden tax on financial institutions and provides further impetus for financial disintermediation.

4. To supplement general monetary policy, the authorities in the two countries also applied direct credit controls as a means for restraining credit growth and for ensuring credit availability for priority sectors. The approach again reflects the substitution of administrative measures for the market mechanism. It thwarts the proper functioning of financial markets without accomplishing the intended purposes.

5. Because all of these monetary control measures were applied with greater rigor and less flexibility in New Zealand than in Australia, problems of disintermediation and other distortions manifested themselves sooner and to a greater extent in New Zealand. As a result, more thorough financial reform also began sooner in New Zealand than in Australia.

By 1980 deregulation had made long strides in both nations. Australia continues to explore further avenues of financial reform, but New Zealand has recently reversed its course. It has re-imposed interest rate controls and brought its financial system full-circle back to its state nearly a decade ago. The action demonstrates that the course of financial reforms is, in the short run, determined more by political will than by market forces.

FOOTNOTES

1. For discussion of the conduct of monetary policy in the two nations see *Australian Financial System: Interim Report of the Committee of Inquiry* (Canberra: Australian Government Printing Service, 1980; hereafter 'Interim Report') Chapters 11-12, pp. 244–259. R.S. Deane and P.W.E. Nicholl, editors, *Monetary Policy and the New Zealand Financial System* (Wellington: Reserve Bank of New Zealand, 1979; hereafter 'NZ Monetary Policy') Chapter 15, pp. 229–243.

2. 'Interim Report,' p. 111; and 'NZ Monetary Policy,' p. 30.

3. The two foreign banks in Australia (Bank of New Zealand and Banque Nationale de Paris) are both of negligible size. The three foreign trading banks in New Zealand are the largest among the five trading banks in the country, but all three are Australian banks that had been operating in New Zealand long before the establishment of the Reserve Bank of New Zealand in 1934. They are Australia and New Zealand Bank Limited (formed by a merger in 1977 of two Australian banks that commenced operation in 1840 and 1864), Bank of New South Wales (commenced business in NZ in 1840), Commercial Bank of Australia Ltd. (commenced business in NZ in 1861). 'NZ Monetary policy,' p. 31.

4. 'Interim Report,' Table 9.1, p. 219.

5. 'Interim Report,' pp. 249–253.

6. R.S. Deans, "Interest Rate Policy: A New Zealand Quandry," Reserve Bank of New Zealand, Research Paper No. 17, March 1975, p. 20, n.5. Direct comparison of the policy's restrictiveness between the two countries needs to be qualified by the fact that different dates are used in the comparison. Comparable data are not available to the author.

7. In 1973, demand deposits accounted for 58 percent of total trading bank deposits in New Zealand, and savings deposits 74 percent of total savings bank deposits, while the corresponding ratios for Australia were 53 percent and 82 percent respectively. Reserve Bank of Australia, *Bulletin: Financial Supplement*, March 1981, p. 15. Reserve Bank of New Zealand, *Bulletin*, March 1974, pp. 51 and 58.

8. Promptly after the Reserve Bank freed banks' certificates of deposits (CDs) from the rate ceiling in September 1973, the CD rate was bid up to more than 17 percent by mid-1974 from the controlled rate of only 6.5 percent a year ago. The rate compared favorably with the 13 percent inflation rate and the 12 percent rate paid by finance companies (Table 2). Investors responded with vigor. CD deposits expanded rapidly and by mid-1974 accounted for 20 percent of major trading banks' total deposits, compared to only 4 percent a year ago. See Reserve Bank of Australia, *Bulletin: Financial Supplement*, March 1981, pp. 30–31. However, the boom in the CD market was short-lived. The next year the CD rate dropped sharply and remained low until 1980, in spite of the continued high inflation rates; correspondingly, CD's share in total banking deposits dropped to 6 percent in mid-1975 and to only 1 percent by mid-1979. The decline of the CD rate is a puzzle.

9. On surface, New Zealand's discriminatory treatment of small, short-term deposits appears to differ from Australia's uniform rate ceiling on all time deposits (except the CDs).

However, the difference was only in form, not in substance. For, although subject to only a uniform rate ceiling, banks in Australia in practice applied rate discrimination according to both size and maturity. For instance, in June 1977, when the maximum deposit rate was 10 percent, banks in Australia paid the top rate only on deposits of more than $50,000; for smaller amounts the deposit rate varied between 7.75 percent to 9.5 percent for maturities ranging from 3 months to four years. See Reserve Bank of Australia, *Bulletin*, June 1981, p. 708. Thus, it appears that in New Zealand, as in the United States, it was the authorities that restrained the banks from paying competitive interest rates on small deposits, whereas in Australia it was the banks themselves that constrained themselves from doing so.

10. 'Interim Report,' pp. 79–80.

11. P.W.E. Nicholl, "Regulation of a financial system: the New Zealand experience, 1976–1980," Reserve Bank of New Zealand, Discussion Paper G80/8, May 1980, p. 3.

12. Data in this paragraph on the commercial bill market are based on Reserve Bank of New Zealand, *Bulletin*, various issues.

13. 'NZ Monetary Policy,' p. 76.

14. Information in this subsection is based primarily on 'NZ Monetary Policy,' pp. 291–292.

15. New Zealand Department of Statistics, *Monthly Abstract of Statistics*, August 1978, p. 68.

16. Though not required to hold government securities, life-insurance companies in Australia are induced to do so by tax incentives.

17. 'Interim Report,' pp. 89–90.

18. Source: same as under note 15. The "unregulated financial sources" include producer enterprises, nonprofit organizations, the rest of the world, and unspecified "other" financial intermediaries.

19. 'NZ Monetary Policy,' p. 245.

20. "NZ Monetary Policy," Table 16.3, p. 255. See also Reserve Bank of New Zealand, *Bulletin*, October 1981, pp. 443–446 and November 1981, pp. 495–502, for a detailed description and analysis of New Zealand's reserve-ratio system as an instrument of monetary policy.

21. Except in 1976, when it was temporarily raised to 23 percent, as a supplementary measure for combating inflation. See 'Interim Report,' p. 246.

22. 'Interim Report,' p. 246.

23. The Reserve Bank of New Zealand recognizes the monetary-control problems raised by the inclusion of government securities among reserve assets, but argues that their exclusion would impair banks' competitive position relative to other financial institutions not subject to reserve requirements. See Reserve Bank of New Zealand, *Bulletin*, November 1981, especially pp. 498–502.

24. In the United States, for instance, the banks have been compensated by mandating zero interest on demand deposits and below-market interest-rate ceilings on savings and time deposits through Regulation Q, which in effect has shifted banks' burden of zero-return reserves to depositors, especially small savers. As deposit rates are deregulated, the non-payment of interest on bank reserves has become an increasingly contentious issue in the U.S. financial system. This is particularly evident in the introduction on January 5, 1983 of the "super-NOW accounts," which allows banks and savings institutions to pay market interest rates on deposits of more than $2,500, but subject the deposits to demand deposit reserve requirements. Banks argue that the change erodes their low-cost deposit base without providing a relief on their reserve burden. An obvious solution would be paying near market interest on reserves, which, however, would increase Federal budget cost.

25. 'Interim Report,' p. 249.

26. All savings banks in Australia may provide interest-bearing checking accounts to non-profit organizations, and state savings banks may provide them for households. However, balances in these accounts are small, 'Interim Report,' p. 129.

27. In the absence of regulations, financial institutions would act on their own to insure their liquidity so as to assure their good standing. See I.G. Sharpe and W.P. Hogan, "Regulation, Investor/Depositor Protection and the Campbell Report" (Processed), June 1982.

28. For details, see 'NZ Monetary Policy,' pp. 257–264.

29. 'NZ Monetary Policy,' pp. 58–59.

30. For government securities ratios for various types of financial institutions, 1960–77, see 'NZ Monetary Policy,' Table 17.1, pp. 258–259.

31. Reserve Bank of Australia, *Bulletin*, June 1982, pp. 755–756.

32. 'NZ Monetary Policy,' p. 32.

33. Reserve Bank of New Zealand, *Bulletin*, July 1981, pp. 289–290.

34. See Footnote 31.

35. *Ibid.*

36. See Footnote 33.

37. 'Interim Report,' p. 247.

38. 'NZ Monetary Policy,' p. 234.

39. *Ibid.*

40. Reserve Bank of New Zealand, *Bulletin*, January/February 1980, pp. 5–6.

41. P.W.E. Nicholl, *op.cit.*, Appendix 2, p. 16.

42. Reserve Bank of Australia, *Bulletin*, September 1980, p. 111.

43. However, although operationally these were major policy changes, their actual impact was relatively small, since even before the changes the regulated interest rates on Australian government securities had not been much out of line with the market (Table 2). The share of the "non-captive " public's holdings—i.e., those of the public outside the trading and savings banks, authorized money-market dealers, and life insurance companies—in the total government securities outstanding rose only marginally from 20.3 percent in mid-1978 to 21.1 percent in mid-1980. Reserve Bank of Australia, *Bulletin*, various issues.

44. Reserve Bank of Australia, *Bulletin*, December 1980, p. 289.

45. Institute of Applied Economic and Social Research, University of Melbourne, *Australian Economic Review*, 2nd Quarter 1981, p. 23.

46. Reserve Bank of Australia, *Bulletin*, September 1982, pp. 196–198. Another important step was taken in August 1982, when the Commonwealth Treasurer announced major changes in savings banks regulations. The "40/60 rules," previously described, was modified to require instead that the savings banks hold a minimum of 15 percent of deposits in reserve assets consisting of cash, deposits with the Reserve Bank, and Commonwealth Government securities. In addition, the savings banks were authorized to invest up to 6 percent of deposits in any assets of their choice. Presumably, the remaining 79 percent of deposits must still be in mortgage finance. Compared to the previous requirement of 60 percent in mortgage finance, this change appears to have mandated a shift of savings banks' funds from government securities towards housing. Since the market-determined government-bond rate was yielding about 15 percent and the maximum lending rate for owner-occupied housing was only 13.5 percent, it does not appear that the savings banks were made much better off by the change in regulation. In this respect, Australia's regulation on savings banks' portfolio choice is much more restrictive than New Zealand's. Reserve Bank of New Zealand, *Bulletin*, January/February 1980. pp. 5–6.

47. *Australian Financial System: Final Report of the Committee* (Canberra: Australian Government Publishing Service, 1981).

48. For a critical assessment of this recommendation, see I.G. Sharpe and W.P. Hogan, *op.cit.*

49. Thomas F. Cargill and Gillian G. Garcia, *Financial Deregulation and Monetary Control: Historical Perspective and Impact of the 1980 Act* (Stanford: Hoover Institution Press, 1982).

50. Reserve Bank of New Zealand, *Bulletin*, December 1981, p. 547.

51. International Monetary Fund, *International Financial Statistics*, various issues.

Financial Reform In Japan

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The last decade has seen a worldwide process of financial reform and innovation that has greatly altered the financial structures of many nations. These changes can be traced in large part to a common set of economic afflictions—inflation, higher oil prices, and sluggish real growth. By altering financial flows and upsetting the competitive relations among financial institutions, they have greatly strained the financial systems. In the process, policies regulating financial institutions and markets have been undercut and uncertainties attending the effects of traditional monetary and fiscal policies have increased.

No country has experienced more far-reaching financial change over the last decade than Japan. Japan began the 1970s with a highly regulated and fairly rigid financial system that contrasted sharply with its sophisticated and comparatively unregulated real economy. Although limited steps toward liberalization were taken during the 1960s, the inflation and oil shocks of 1973–1974 drastically accelerated the pace of change. By altering economic circumstances,the two forces created a need for a more flexible financial system, one in which market forces could play a greater role in allocating credit. In response to this need, Japanese authorities considerably relaxed controls on interest rates and financial flows in recent years. The process of reform and its ultimate effects, however, are far from complete.

This paper describes the progress of financial reform in Japan since the early 1970s. The following section traces the evolution of Japan's financial system during this period, comparing and contrasting the process there with that in the United States. The focus is on how the economic shocks experienced by Japan have greatly increased its economy's need for the functions served by a free financial system (one in which prices and financial flows are determined by market forces). Section II briefly reviews the major reforms that have occurred in response to these pressures and their main effects. As we will see, the flexibility of short-term interest rates and the mobility of capital between Japan and other countries has increased substantially while regulation in some other areas continues to be nearly as restrictive as before.

I. Economic Forces for Reform

At the beginning of the 1970s, both the U.S. and Japan possessed highly developed free market economies. Yet their financial systems were very different with that of the U.S. by far the more sophisticated of the two. The differences were less the product of contrasting historical experiences and real economic structures than of the much greater government intervention in the financial system in Japan than in the U.S. Still, the inflation, oil, and other major shocks of the seventies combined to serve as the "engine" for financial changes in both countries. These changes have generally weakened regulatory constraints in both countries, and nudged Japan's financial system closer to that of the U.S.

The Way We Were

The financial system of the United States has long been among the most highly developed in the world. Its sophistication is reflected in the wide variety of financial instruments available to borrowers and lenders, as well as the high degree of specialization and competition in the provision of financial services. Particularly notable are the ex-

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tensive and highly developed financial markets (markets for short-term securities such as Treasury bills and commercial paper and the long-term capital markets) all of which are accessible to a wide range of financial and non-financial entities. These markets allow funds to flow *directly* from lenders to borrowers, rather than indirectly through financial intermediaries, to a greater degree than in most other nations.

The sophistication of the U.S. financial system derives in large part from the relatively "laissez-faire" approach to financial regulation taken by U.S. authorities. Most interest rates, for example, have been left to vary with market forces. Authorities here have used controls or other administrative devices to influence the allocation of credit sparingly when compared to other countries. Most remarkably, since the 1950s, the U.S. has maintained very few legal impediments to financial flows between here and abroad, while allowing foreign institutions to compete in the domestic financial arena on a nearly equal footing with our own residents. The result, with some notable exceptions, has been a comparatively liberal regulatory environment in which market forces, rather than legal or administrative controls, usually determine the allocation of credit.

Still, regulations have substantially affected credit flows and competitive relations in certain areas. Legal ceilings on deposit interest rates, restrictions on the asset choices of thrifts, and the partially subsidized lending of several government-sponsored financial institutions have aimed at augmenting the supply of funds to housing. Other government agencies and programs have attempted to channel funds to agriculture and small business. Limitations on branching have so severely restricted geographic competition among banks and thrifts that the U.S. has thousands of depository institutions, compared to the dozens generally found abroad.

Restrictions on the financial activities of banks—most notably their exclusion from investment banking—have limited their ability to compete with non-bank financial institutions. In addition to these regulations are numerous restrictions on financial institutions' capital, exposure to individual borrowers, and choice of financial instruments and financial activities applied (at least originally) for prudential reasons. Again, though, U.S. regulation, taken as a whole, has been less restrictive than that usually found abroad.[1] Indeed, as we will see, many regulations that have been applied have become a major focus of financial change in large part because our financial system has been so free in most other respects.

In stark contrast, Japan's financial system has long been permeated by government regulation, formal and informal (see the thumbnail sketch of this system). To a certain extent, present-day regulatory policy reflects practices inherited from the development of Japan's modern financial system in the late 19th century. They include the separation of short- from longer-term finance, the segregation of financial institutions by function and sector served, and the "state-guidance" of financial activities.[2] But perhaps the major motivation of post-war government intervention in the financial system has been to influence the allocation and cost of credit to various sectors, with the most important aim to encourage business investment by channelling household savings to the corporate sector.[3]

Japan's authorities have sought to influence financial flows both directly and indirectly. Government financial intermediaries, which serve mainly small business, utilities, agriculture, and foreign trade, play a much greater role in the allocation of credit in Japan than in the U.S. (see Table 1). Policy has also affected credit flows more indirectly, although probably even more pervasively, by severely limiting the flexibility of interest rates, restricting access to financial markets, and limiting the asset and liability choices of financial and non-financial entities.

Until the late 1970s, essentially all key Japanese interest rates were constrained to varying degrees by some form of government action.[4] Deposit interest rates were set at artificially low levels in comparison with yields on other assets (in part to keep bank loan rates down by limiting the cost of their funds) and varied only sporadically. Policy seriously limited the flexibility of banks' and other financial institutions' lending rates by tying them to the central bank discount rate. Moreover, government controls over rate-setting even extended to the capital markets where rates on *newly-issued* bonds were

generally kept below secondary market yields. Even in the short-term money markets (the call, bill, and bond-repurchase markets), usually spared *explicit* interest rate controls, government participation in the rate-setting process and outright market intervention often limited rate variations indirectly (more on this in Section II).[5]

Policy restrictions on the array of financial instruments available to individuals and institutions, and limitations on access to the financial markets, served to enforce the interest rate controls by limiting substitutions among assets and by channelling funds in desired directions. Banks, for example, have traditionally been unable to "purchase" funds from the non-bank public by issuing negotiable certificates of deposit, debentures, or analogous instruments (practices common in the U.S. since the 1960s). They have had to fund their lending through deposits (with their artificially low interest rates) and borrowings from the Bank of Japan. Other financial institutions have been allowed to raise funds by issuing debentures (at rates tied to the discount rate), but they have been prohibited from deposit-taking.

Limitations on the positions of financial institutions in the bond-repurchase (Gensaki) market, and the exclusion of non-financial corporations from the call and bill markets, have impeded arbitrage among the money markets. Non-financial business has had to rely mainly on bank loans and internal funds to finance investment because regulation has discouraged bond finance and effectively prohibited commercial paper issues.[6] Services provided by financial institutions have also been restricted by policy as, for example, banks have until recently been prohibited from acting as underwriters or dealers in securities markets.

Table 1
Financial 'Profile' of Japan and U.S.

	U.S. (%)		Japan (%)	
	1972	1980	1972	1980
1. Gross Savings as Fraction of GNP	15.7	15.3	38.3	31.6
2. Fraction of Funds Raised 'Directly' in Domestic Securities[1] Markets by Domestic Non-Financial Sectors	NA	31.8	4.7	11.5
3. Share of Total Funds Raised by Domestic Non-Financial Sectors:				
a. Business	45.1	39.8	59.4	47.4
b. Households	37.7	29.6	18.6	19.4
c. Government	17.1	30.5	21.9	32.8
4. Share of Total Assets of Financial Institutions held by:				
a. Commercial Banks	NA	32.3	NA	34.9
b. Other Private Financial Institutions	NA	56.3	NA	37.6
c. Government Financial Institutions	NA	7.6	NA	23.3
5. Share of Funds Raised by Corporate Business Via:[2]				
a. Loans from Banks	21.1	25.1	58.0	41.7
b. Loans from other Private Financial Institutions	35.5	21.6	32.7	44.2
c. Bond Issue[3]	22.9	33.0	1.9	5.0
d. Equity	20.3	20.3	7.3	9.2

Sources: (1) OECD *National Income Account Statistics*.
(2) Country sources on flow of funds statistics.
(3) OECD *Financial Statistics*.
(4) OECD *Financial Statistics*.
(5) "Flow of Funds of the Japanese Economy," various years for Japan; and OECD *Financial Statistics* for U.S.

Note: 1. Figures refer to the fraction of total funds raised by domestic non-financial sectors that were supplied directly in domestic financial markets (figures for U.S. also include funds supplied by foreign sector).
2. Funds raised (or 'financial sources') *exclude* all trade credit for the U.S., and foreign trade credits received by government for Japan.
3. For the U.S., figures include short-term securities issued by corporations.

Most restrictive of all were regulations governing financial relations between Japan and other countries. Virtually all financial flows into and out of the country were subject to ceilings, prior approval, or other limitations. The financial activities of Japan's banks abroad were closely supervised and occasionally curtailed by the authorities. Foreign institutions' access to Japan's financial system was very restricted, although not only by overt discrimination. In particular, the restrictions applied to all banks (although not equally) on branching and conversions of foreign currency into yen worked a particular hardship on foreign banks, who, because of their relatively late entry into Japan's market, have had more limited sources of yen funds than their Japanese competitors.[7] Foreigners were generally denied access to the bond and equity markets, whether as borrowers, lenders, or dealers.[8]

Not surprisingly, regulatory policy has given the Japanese system several distinctive characteristics. Policy has tended to assign each type of financial institution its own particular funding base and to circumscribe its lending sphere. As a result, the activities of different types of financial institutions generally overlap less than they do in the U.S. Regulation has also circumscribed the financial outlets available to non-financial sectors, particularly to the household sector where mortgage credit has been very scarce and consumer credit virtually unavailable.[9]

Interest rate controls, together with limitations on asset/liability choices, have severely stunted the development of Japan's money and capital markets. In fact, virtually all external funds raised by households and businesses in Japan have been obtained "indirectly" through financial intermediaries. Typically, less than ten percent of funds raised domestically in Japan flow directly between surplus and deficit sectors via the financial markets, compared to about thirty percent in the U.S. (Table 1). The variety of maturities, denominations, and other features of financial instruments in Japan is also much more limited than here. Furthemore, by often preventing interest rates from moving to their market-clearing levels, controls have led to widespread reliance by financial institutions on quotas and other "credit-rationing" devices. Partly as a result, relations between individual banks and their corporate clients tend to be stronger and more personalized in Japan than is generally the case in the United States.

Finally, these effects of regulation have influenced the transmission of monetary and fiscal policy-actions to the private economy. Until very recently, monetary actions to smooth fluctuations in economic activity relied on corporations' dependence on bank lending, and banks' dependence on Bank of Japan credit, for their effect. For example, to slow real activity, the central bank would reduce its credit to private banks to force them to curtail their lending to business. The resulting squeeze on corporate liquidity usually led to a prompt reduction in business investment.[10] Thus, the short-run timing, force, and incidence of monetary restraint depended more on *administrative* restrictions of the quantity of credit than on regulating its cost. As we will soon see, government debt management policy also has been profoundly affected by regulation-induced limitations on the financial markets.

Winds of Change

Financial change in Japan and the U.S. can hardly be said to have begun with the 1970s. Japan had taken steps to increase interest rate flexibility during the 1960s, for example. And in both countries there has been long-standing dissatisfaction with the distortions brought by regulation and considerable support for reform within as well as outside government. At the beginning of the 1970s, economic considerations and political forces opposing change were in rough balance with pressures for change.

During the next decade, several worldwide economic upheavals upset the equilibrium and dramatically accelerated financial reform and innovation in Japan, the U.S., and many other nations. Developments such as the surge in world inflation beginning in the early 1970s, the slowing of real growth and shifts in industrial structure resulting *in part* from the oil price increases, and the breakdown of fixed exchange rates over 1971–1973 fundamentally altered the costs and benefits of existing regulatory policy, rendering much of it obsolete. Still, the ultimate effects of these forces have been conditioned by institutional circumstances, so that the resulting processes of financial change have varied considerably among countries.

In the U.S. probably the most important factor shaping financial change over the last ten years has been our inflation. Inflation, by widening the gap

between real returns on regulated deposits and market yields, helped spur the growth of money market funds, NOW accounts and other substitutes for traditional demand accounts, greatly increasing pressures for interest rate deregulation. Inflation contributed substantially to the thrift industry's woes by raising the cost of its funds above yields on the long-term mortgage assets to which regulation largely confined them. The burden of commercial banks' required reserves increased with inflation, spurring an exodus from Federal Reserve membership and prompting Congress, in 1980, to extend reserve requirements to all depository institutions. These developments, in turn, have altered competitive relations among financial institutions, generally to the detriment of banks and (especially) thrifts, causing them to seek opportunities outside their traditional spheres. One result has been intensified pressures to allow banks greater involvement in the securities business and to relax restrictions on interstate banking.

The pervasive impact of inflation, and the way in which it has fostered financial innovation, owe much to the comparative freedom of the U.S. financial system. Regulation has long rested on a somewhat precarious foundation, given the wide variety of unregulated substitutes for regulated instruments and activities. Once inflation made such substitutions worthwhile, the process of financial change became virtually irresistible. That these changes occurred spontaneously in the private sector, largely outside the control (and often despite the efforts) of authorities, is a further indication of the latitude enjoyed by the private financial system in the U.S. As we will now see, financial change in Japan's more controlled system proceeded along a very different path.

Japan's Path

In Japan, policies and institutions tailored to the conditions of the 1950s and 1960s did not work nearly as well in the very different economic environment of the last decade. This experience led to financial reforms aimed at liberalizing interest rates and financial flows. But, in contrast to the U.S., the resulting financial changes have largely been directed, indeed imposed, by the authorities mainly because regulatory policy has allowed very little scope for spontaneous innovation in the private sector.

Inflation's role in this process was important but not nearly as central as it was here. By dramatically lowering many *real* interest rates and greatly increasing their variability, the surge in inflation in the mid-1970s increased consumer dissatisfaction with regulated deposit rates and demonstrated to officials that controls on nominal interest rates were apt to add to the volatility of real rates. But because Japan's inflation was comparatively short-lived (lasting mainly from 1973 to 1976) and financial choices were so circumscribed, inflation did not disrupt financial flows and competitive relations to nearly the degree seen in the U.S.[11] Moreover, financial reform in Japan extended to areas not as obviously related to inflation, such as the liberalization of controls on international capital flows.

The more fundamental pressures for financial change in Japan have come from two basic economic changes over the last decade: (1) changes in the financing *needs* of various sectors of the economy resulting (mainly) from the slowing of real growth and shifts in industrial structure, and (2) the breakdown of fixed exchange rates over the period 1971–1973.[12]

The slowing of real growth in Japan has sharply altered traditional financing patterns both directly and indirectly. Slower growth greatly reduced the business investment rate, making corporations less dependent on bank loans. Japan's household savings (which have remained very high in relation to income) no longer flow to business to the same degree as before. Instead, a much larger fraction now goes to the government sector as fiscal measures to spur growth have increased the public sector budget deficit to 4–6 percent of GNP from the 1–2 percent average during the early 1970s. Japan's savings have also flowed abroad via the large current account surplus incurred over the period 1976–1978 and in 1981.

The pattern of financial flows among individual industries has also been altered as production has shifted away from heavy industries such as steel and ship-building toward autos, chemicals and the emerging high-technology semi-conductor and computer industries. Moreover, financing patterns have not only changed considerably, they have often become more variable (and probably less predictable) than before, as illustrated by the swings in

the financial deficits of the corporate and foreign sectors depicted in Chart 1.

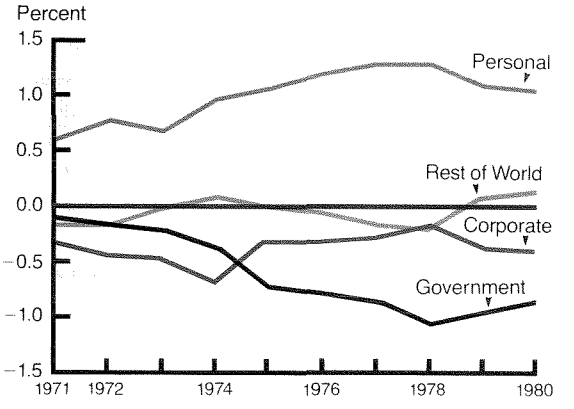
Financial liberalization in Japan has also received a powerful impetus from a momentous change in the *international* financial system: the switch from fixed to flexible exchange rates during the 1971–1973 period. This change reflects the much greater divergence in nations' macroeconomic policies (particularly toward inflation) over the last ten years compared to the preceding two decades. As a result, direct controls on certain financial prices critical to Japan's economy (exchange rates) were no longer practical. Consequently, Japanese authorities must now be concerned that actual exchange rates reflect their equilibrium levels and that exchange rate volatility from temporary factors be minimized.

By altering financial flows and incentives, both changes have made enforcement of traditional restrictions more problematic while, at the same time, rendering them less effective in accomplishing their original aims. For example, as corporate dependence on bank loans has fallen, the authorities can no longer be confident that *simply* restricting bank credit will have the prompt, predictable impact on economic activity it had in the past. More and more, the short-run transmission of monetary policy actions has to rely on affecting the *cost* of credit to the private sector, necessitating greater flexibility in (at least) shorter-term interest rates. Likewise, the increased diversity in policy under floating rates probably increased pressures for international capital flows. (In the previous fixed-rate regime, countries had to pursue compatible inflation policies, at least in the long-run.) For this reason, effective capital controls are apt to be more costly to maintain because the incentives to evade them, and the distortions arising from them, are probably greater.

More important, these changes have substantially increased Japan's need for certain abilities possessed by a free financial system, abilities sorely missing from the rigidly controlled system of the past. These include the abilities to pool information from disparate sources to achieve an efficient allocation of savings; to provide a wide variety of financial instruments with maturity, liquidity, and other characteristics suitable to the diverse (and variable) needs of borrowers and lenders; and to provide financing to ease the adjustment to changing financial surpluses and deficits of various sectors. Japan's

Chart 1

Financial Surpluses of Non-Financial Sectors:
Percent of GNP



greatly increased need for these functions explains why financial reform has generally resulted in *liberalization*, rather than the substitution of one set of controls for another.

Pooling Information

In any economy as diverse as Japan's, information about financial needs and opportunities is apt to be widely dispersed among individuals. Any one particular entity can be knowledgeable about its own requirements, but it cannot be perfectly informed about the needs of others. This is one problem any financial system faces: how to "pool" dispersed information to allocate credit to its most productive uses.

The credit allocation process in Japan has been centralized by our standards. It has relied heavily on the decisions of government authorities and officials at the private lending institutions. The success with which these officials gathered the information required to determine the economy's needs determined the efficiency with which funds were allocated.

Indeed, the presumption underlying the traditional regulatory approach was that responsible officials were knowledgeable and skillful enough to direct funds to their most productive outlets. This presumption is not valid (if it ever was) under the changing economic conditions now facing Japan. Officials in government and private lending institutions can hardly be expected to have acquired the detailed knowledge now needed to allocate savings

efficiently, nor can they plausibly know the "right" exchange rate, since its value is determined by a variety of factors often not directly observable even after their occurrence.

Pooling information for the efficient allocation of funds is a task to which free financial markets are particularly well-suited. In such a system, *prices* serve to inform all parties about financing needs and availability. The subsequent allocation of funds therefore depends upon the circumstances of and information available to both borrowers and lenders. Moreover, lenders do not have to possess detailed knowledge about where funds can be most effectively employed. The *price* that individual borrowers are willing to pay, based on their assessment of how productively they can use the funds, effectively communicates this information. In this way, free financial markets can effectively use considerably more information than is available to any single participant, or group of participants, and are therefore apt to be much more efficient in allocating funds in a changing economy.

Reaping the benefits of free financial markets, however, requires a shift in the emphasis of regulatory policy. As long as authorities relied on their own knowledge of financial prices and direct credit flows, they had an incentive to restrict access to the markets in order to minimize the resources and effort involved in regulation. But if the knowledge possessed by diverse households and businesses is to be used, those actors must be allowed to buy and sell freely, and prices must be allowed to vary to reflect their knowledge. Thus, liberalization of international and domestic financial flows, and of interest rates, has become more necessary.

Provision of Financial Instruments

Another task of a financial system is to provide financial instruments with the maturity, liquidity, risk and other characteristics needed by borrowers and lenders. The mix of instruments required depends greatly on the pattern of financial flows as, for example, the more funds flowing to housing, the greater the need for mortgage and similar securities. Japan's system has traditionally met such needs by providing a strictly limited array of instruments tailored to the needs arising from a *particular* financial-flow pattern. But, as shifts in financial flows have altered these requirements, they have also underscored the need for more flexible financial markets and institutions that can accommodate widely varying types of assets and liabilities.

The burgeoning government debt resulting from the large budget deficits incurred in recent years illustrates this process well (Table 2). Largely because Japan lacked a short-term market for government debt, it has financed the deficits with long-term government bonds of very limited (original) maturities.[13] Yet private entities have been reluctant to acquire large quantities of such debt, partly because the underdeveloped state of the bond and other financial markets severely limits its marketability and, hence, its liquidity. This dilemma has led the government to allocate its debt among the financial institutions at rates generally below those prevailing on the secondary markets. Until 1977, the institutions' ability to sell this debt (on the secondary market or "over-the-counter") was also quite limited. Not surprisingly, the liquidity, and the profits, of financial institutions, particularly banks, have suffered significantly from this policy.[14] Indeed, the absorption of the debt has become, perhaps, a greater problem for Japan's economy than the real demands on Japan's savings of financing the deficits.[15]

Almost certainly this burden would have been considerably less in a free financial system with well-developed secondary markets and other facilities capable of making even very long-term instruments relatively liquid. Japan's past (and, to a lesser extent, its current) policies have largely prevented such outlets from developing. For this reason, the large overhang of government debt is likely to goad further financial reform in coming years.[16]

And Adjustment

Finally, a financial system must also serve to ease the *cost of adjustment* to changes in financial deficits and surpluses. Any sector that develops such an imbalance must either finance it or make real adjustments in spending and/or income to eliminate it. Both adjustments are usually costly. Financial facil-

Thumbnail Sketch of Japan's Financial System*

Financial institutions in Japan are far less numerous, and more specialized, than those found in the U.S. There are seventy-six Japanese commercial banks, the thirteen largest of which are known as the "City banks" and the remainder as "Regional banks." These banks have extensive nationwide networks of branches developed prior to World War II (since the War, the authorities have virtually frozen the establishment of new branches). Assets of Japanese commercial banks, which consist primarily of loans to business and (more recently) government securities, are funded primarily through demand and time deposits (at rates fixed by the government) issued to the public *and* by extensive borrowing from the central bank (Bank of Japan) through its discount window. (In contrast, the Federal Reserve's discount window serves only the temporary needs of U.S. banks). In addition, about 60 foreign banks have opened branches in Japan since the War. Because these institutions do not have many branches, their access to yen funds has been very limited (coming mainly from conversions of foreign currency, subject to stringent government ceilings). Consequently, their main function has been to extend dollar (and other foreign currency) loans to Japanese institutions. As in the U.S., all commercial banks in Japan have traditionally been prohibited from engaging in the underwriting of securities. However, beginning in 1982, they were permitted to underwrite and deal in *government* securities. Many banks, (along with the long-term credit banks) also engage in the foreign exchange business under special license.

As Japanese commercial banks were originally "designed" to provide short-term funds to business, longer-term finance has mainly come from the 3 long-term credit banks and 7 trust banks (as well as insurance companies) that issue longer-term debentures and trust (analogous to time) accounts, respectively. In practice, however, commercial banks provide substantial medium-term funds for business investment, blurring the distinction between them and the designated long-term financial institutions. As with bank loan rates, rates on these institutions' liabilities and loans are linked by regulation to the Bank of Japan's discount rate. Japan also has numerous institutions serving small business (mainly mutual loan and savings banks, and credit associations and cooperatives), as well as agriculture. Unlike the U.S., however, there is no major group of *private* financial institutions specializing in mortgage finance, which is very scarce in Japan. Government financial institutions, which play an extensive role in credit allocation, provide financing to small-business, agriculture, foreign trade and housing. These institutions draw their funding from the government-run postal savings system, which competes with the banks for household savings. Indeed the postal savings system has been allowed to offer accounts with somewhat higher interest rates and other features more attractive to households than those afforded banks. As a result, the system's share of total household deposits has risen from about 20% in 1975 to 30% at present.

*For more detailed description, see especially Layman as well as *The Japanese Financial System*, and *The Banking System in Japan*.

The short-term financial markets in Japan include the Call market (for 1–7 day funds), the Bill market (for commercial bills of 1–3 months maturity), the bond-repurchase or 'Gensaki' (primarily 3-month) market, and (more recently) the market for bank certificates of deposit. (Japan does *not* have a genuine market for short-term government securities, mainly because very few have been avilable to the public). The first two of these are essentially interbank markets, providing temporary liquidity to individual banks and funnelling "excess" funds of the regional banks to the city banks. The "Gensaki" market *traditionally* has served non-financial corporations, as until recently financial institutions' positions in the market were limited by the authorities. Interest rates in these markets have typically been free of *direct* controls although not always free of indirect government influence.

Despite active and generally unregulated secondary markets, Japan's longer-term financial markets, particularly the bond markets, are very limited. Private corporate bond issues must be individually approved by the authorities, who have generally set the issue-rates below secondary market yields. As a result, bonds and equities play a comparatively minor role in private corporate finance in Japan (debt-equity ratios are far above those U.S. corporations would tolerate), the bulk of longer-term funds coming from financial intermediaries. In effect, the long-term bond markets have largely been reserved to the government, which issues nearly all its debt there, and to public corporations.

The primary responsibility for regulating private financial institutions, including banks, resides with the Ministry of Finance (MOF—Japan's Treasury). The Ministry sets regulated interest rates and ceilings or quotas on controlled (domestic and international) financial transactions, where applicable (e.g. ceilings on bank issues of certificates of deposits; ceilings on banks' conversion of foreign currency into yen). The MOF also reviews numerous applications for approval of various financial activities, such as new bond issues (where it regulates the issue terms) or additional bank branches. Thus it is the MOF that has direct control of the pace and direction of financial reform in Japan.

The Bank of Japan is primarily responsible for monetary and exchange rate policies. In principle, the Bank possesses all the conventional tools of monetary policy: reserve requirements (which, at 2.5% on checking deposits, are much lower than in other industrial countries), the discount rate, and open market operations. In practice, the Bank has augmented bank reserves primarily through direct lendings at its discount window, although this source has been supplemented since the early 1970s by purchases and sales of commercial bills in the market. In seeking to moderate fluctuations in economic activity (and contain inflation shocks in more recent years), the Bank often has also relied on direct, but general, credit controls, in particular, ceilings on private banks' borrowings from the discount window and on "window guidance" quotas on individual banks' lending to the private sector. However, whether window guidance has actually been necessary for the implementation of monetary policy, or merely served to allocate the burden of monetary restraint among institutions, has been fiercely debated in Japan.

ities can reduct this cost, either by stretching out the adjustment or by making it unnecessary when the imbalance is temporary. Again Japan's regulated system could meet traditional needs, but it has proved less capable in promoting smooth adjustment to the shifts in deficits and surpluses seen in recent years.[17]

This limitation probably was a major factor spurring the liberalization of controls on international capital flows in 1978. As indicated earlier, the balance between domestic savings and investment (and government) demand has fluctuated considerably in recent years, producing large swings in the current account balance. To the extent that capital controls have impeded the financing of these imbalances, adjustments have been forced onto exports, imports, and exchange rates. For example, if Japan were to be unable to fully finance its current account deficit, it would have to increase exports, reduce imports, or allow the exchange rate to depreciate (or, more likely, some combination of all three). Besides adding to exchange rate volatility, such adjustments could have very disruptive impacts on wages and prices, aggregate demand, and resource allocation in Japan (not to mention her trading partners).[18]

Reprise

Financial changes in the U.S. and Japan over the last ten years largely reflect tensions created by their traditional regulatory approaches. Similar economic events have sharply heightened these tensions, but as the two countries' policies have differed greatly, so have their processes of financial reform. In the U.S., stringent regulation of the sort common in Japan has been more the exception than the rule. Consequently, financial change has largely originated in spontaneous innovations in the private sector that subsequently spurred, often belated, regulatory reforms. Japan applied regulation throughout the financial system to "custom-fit" its capabilities to the economic circumstances of the 1950s and 1960s. In the process it severely limited its adaptability. This is the main reason that financial change there appears to be more far-reaching, and more under the control of authorities, than that in the U.S. Indeed, as we will now see, as far as financial reform in Japan has already gone, many of its most important implications have yet to be realized.

Table 2
Placement of Japanese Government Debt[1]
(Amount Outstanding)

	1972	1976	1980
Total as Fraction of GNP (%)	10.8	16.9	35.7
Maturity:[2]			
Medium and Long Term (%)	65.0	81.8	85.8
Short Term (%)	35.0	18.2	14.2
Share Held By: (%)			
Central Bank	21.6	30.1	18.4
Financial Institutions	28.9	33.9	53.4
Private Banks	19.6	27.2	19.5
Other Private Financial Institutions	9.3	6.7	14.3
Public Financial Institutions			19.4
Fraction of Total Assets of: (%)			
Central Bank	21.0	52.5	70.6
Private Banks	2.4	5.9	8.6
Other Private Financial Institutions	1.3	1.5	6.1

Notes: 1. Figures refer to the debt of the central government only, and exclude debt issues of public corporations, public financial institutions, and local authorities. Data refer to *fiscal* year (ending March).
2. Most debt held by the Bank of Japan is short-term; most debt held by banks and other private financial institutions, as well as the public, is medium or longer term. Maximum maturity on government debt is 10 years.

Source: Bank of Japan, *Economic Statistics Annual*.

III. Japan's Reforms and their Effects

Financial changes in Japan, as in the U.S., over the last decade have concentrated in areas of greatest tension between changing economic conditions and regulatory structures. During this period, reforms have significantly increased the flexibility of interest rates and improved access to and variety in financial markets in *certain areas*.

The main changes and their most apparent effects on financial prices and flows, as well as those areas that reform has yet to touch, are described below. It should be noted though that both regulation and reform in Japan are generally more implicit and informal than here. As is often observed, the U.S. is a much more legalistic society than Japan. Changes in regulatory policy here come as the result of legislation, or explicitly announced changes in administrative rules. Futhermore, actions not explicitly forbidden by regulation are nearly always presumed to be allowed. In Japan, regulation is less formal, and less codified. Until recently, many actions of private entities were presumed to be forbidden unless explicitly authorized. As a result, significant changes in regulatory policy have at times come from shifts in the *application* of existing rules rather than their explicit changes. Explicit changes in policy have often served, in part, to ratify changes that have already occurred informally. For this reason, it is not always easy to determine precisely when a given change in Japanese regulatory policy occurred.

Interest Rate Liberalization

Regulation, traditionally, has had three characteristic effects on Japanese interest rates. First, *some* rates have been kept considerably below those that would have prevailed in free markets. Second, the variability of *real* interest rates has probably been increased by constraints on the flexibility of nominal interest rates, because those constraints could have prevented nominal yields from adjusting to shifts in expected inflation. Finally, regulation has tended to segment financial markets; as a result, yields on very similar instruments have often diverged sharply during periods of tight money. Changes in these three patterns over time provide indirect indications of the progress of reform.

Two sets of reforms adopted during the 1970s have noticeably modified these patterns. First, in 1970 the authorities began to link most explicitly regulated interest rates (except the money market rates) to the central bank discount rate, although to varying degrees.[19] Prior to 1970, those rates varied little. Since then, bank lending rates, as well as long-term lending rates and yields on newly issued bonds and debentures, have moved *roughly* in proportion to variations in the discount rate (except during the 1973-74 and 1979-80 "tight" money periods). Deposit rates have also varied more than before this change, although by considerably less than lending rates (see Chart 2-C). Because the discount rate has fluctuated more over the last decade than during the 1960s, the effect has been to increase the variability of nominal regulated rates linked to it.

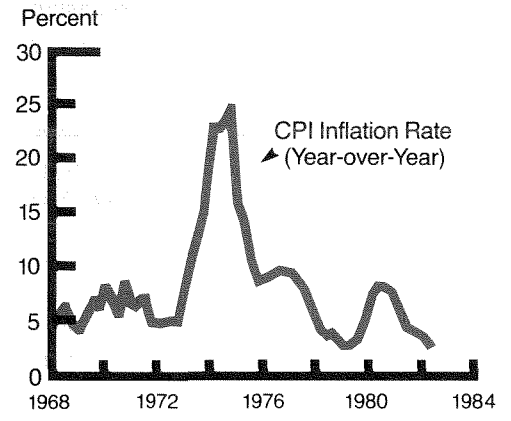
Second, in 1978 and 1979, interest rates in the traditional money markets were, in effect, completely deregulated. Japan largely ended official participation in the setting of call rates, restrictions on the resale of commercial bills and limitations on financial institutions' access to the Gensaki market.[20] The last two moves linked the money markets more closely, and sharply reduced the large spreads among money market yields that used to emerge during periods of tight money. For example, during the money slowdown of 1973-1974, the Gensaki rate rose considerably above the call and bill yields (see Chart 2-B). This suggests that the restrictions on call/bill rate flexibility were especially binding during tight-money periods and that substitution between these markets and the Gensaki market was effectively limited. Since 1978, money market yields have remained much closer together, even through the slowing of money growth in 1979-1980[21], providing tangible evidence of the liberalization of these markets.

How far have these reforms gone in giving Japanese interest rates the flexibility they would have in a completely free market? While the variability of nominal rates has been substantially greater over the last decade than before, the variability of several fundamental determinants of interest rates—inflation and real income—has also risen (see Table 3). Whether actual interest rates now reflect their *equilibrium* values to a substantially greater degree than before is thus not immediately obvious.

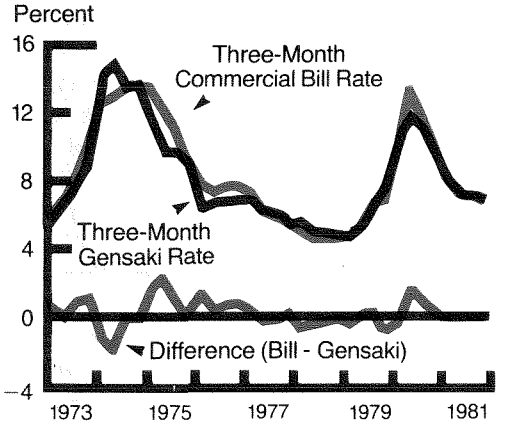
Chart 2

Interest Rates and Inflation in Japan
(Quarterly)

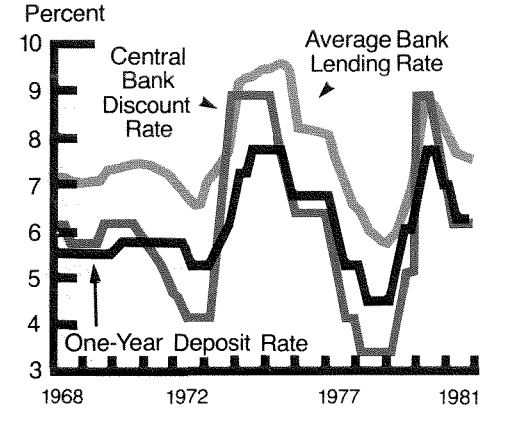
A. Japanese Inflation Rate



B. Commercial Bill and Gensaki Rates



C. Bank Loan, Deposit and
Bank of Japan Discount Rates



Two other comparisons are more suggestive. First, in a free market, nominal interest rates are apt to be *more* variable than their *real* counterparts because nominal rates tend to adjust to offset changes in expected inflation (at least partially); where nominal rates are controlled, real rates will be more variable.[22] Thus the variability of real versus nominal rates in Japan provides a rough gauge of interest rate flexibility. Second, it is useful to compare the variability of Japanese rates with that of their counterparts in the U.S., which (except for deposit rates) are essentially market-determined.[23] Such comparisons are given in Table 3 for three periods: 1968-1972, 1973-1977, and 1978-1981.[24]

The figures in the table suggest that some constraints on the flexibility of the Japanese call rate existed prior to 1978 (by moral suasion and/or government intervention in the bill market), but that the reforms of 1978-1979 have effectively relaxed them. The real call rate varied more than the nominal rate over the first two periods, from 1968-1977, the opposite of the pattern consistently observed for U.S. short rates (and also for Japan's Gensaki rate, which traditionally has been closest to being market-determined). However since 1978, the variability of the "real" call rate has fallen markedly, both absolutely as well as in relation to the nominal rate, suggesting that it is now essentially a "free-market" yield.

Similar comparisons point to more substantial increase in the flexibility of bank lending rates. Over the earliest period, the (average) nominal lending rate in Japan was much less variable than its real element (and less variable than the U.S. prime rate). The variability of nominal lending rates in Japan increased sharply during 1973-1977, but the variance of the real rate increased by even more as inflation surged dramatically during the first two years, and then fell back nearly as precipitously. However, since 1978, bank lending rates have followed the pattern more nearly characteristic of a free market, with real rates varying less than their nominal counterparts. This suggests that these rates in Japan are now at least *nearly* as flexible as those a

Notes: 1. Inflation rate is calculated as the percentage change over the same quarter of the previous year.
2. The Gensaki (bond-repurchase) rate for 1973–74 is estimated from the graph in the September 1981 *Asian Monetary Monitor*.
3. All data are quarterly averages.

free-market would determine.[25]

Finally, these reforms have had much less impact on the setting of deposit rates and in the bond markets. Deposit rates have varied more during the last decade than during the 1960s, but they remain below rates available to financial and non-financial institutions in the open markets, and almost certainly below the level a free-market would set. Indeed, real deposit rates fell to double-digit *negative* levels during the 1973-1974 inflation surge, and their average level in the last several years has not differed greatly from that of the 1960s (compare Charts 2-A and 2-C). Reform has also not significantly altered the practice of keeping yields on newly-issued bonds (generally) below those on the secondary markets. As indicated in Chart 3, the average level and variability of the primary-secondary market yield gap has not differed greatly since 1978 from that observed previously.

Liberalization in Domestic Financial Markets

As explained in the last section, Japanese regulation has severely limited access to financial markets as well as the types of instruments available to them. Authorities used these limitations as a complement to interest rate controls in their efforts to influence the cost and allocation of credit. For this reason, reform in this area has also been most extensive in the short-term financial markets.

Measures taken during the 1970s have resulted in the creation of two new short-term financial markets. When financial institutions were authorized to trade in certain commercial, industrial, and trade bills (generally with 1-3 months maturity) in 1972, the "Commercial Bills" (or "bill-discount") market was established.[26] One result has been to give banks the important secondary-reserve asset they largely lacked prior to 1972. Not surprisingly the market grew rapidly, becoming the largest of Japan's money markets until very recently (Table 4).

In 1979, authorities again responded to banks' needs. This time the need was for additional funding sources to absorb government debt. The banks were authorized to issue negotiable certificates of

Table 3
Variability of Japanese and U.S. Interest Rates

	1968–72	1973–77	1978–81
Nominal Interest Rates:			
Japan: Call Rate	1.43	2.94	2.69
Repurchase ('Gensaki') Rate[1]	NA	2.12	2.59
Average Bank Lending Rate[2]	.27	.90	1.08
Long-Term Government Bonds[3]	.24	1.00	1.30
Industrial Bonds	.79	1.14	.77
U.S. Fed Funds Rate	1.69	2.38	3.89
3-Month T-Bill Rate	1.22	1.32	3.21
Prime Lending Rate	1.24	1.74	2.78
Long-Term Government Bonds[3]	.68	.51	2.34
Real Interest Rates[4]			
Japan: Call Rate	1.56	3.71	1.12
Repurchasing Rate	NA	1.55	1.15
Average Bank Lending Rate	1.37	5.44	.98
U.S. Fed Funds Rate	1.44	1.87	3.37
3-Month T-Bill Rate	.99	1.56	2.78
Prime Lending Rate	.97	1.09	3.69
Memoranda:			
Variability of (CPI) Inflation: U.S.	.45	2.02	1.35
Japan	1.48	6.34	1.97
Variability of Industrial Production (% Change): U.S.	4.57	7.81	4.75
Japan	6.26	10.56	3.10

Notes: All data are end-of-month:

(1) Three-month rate, available from 1975–1981 only.
(2) Average of short-term and longer-term lending by banks.
(3) Seven-year maturities
(4) "Real" rates are the nominal rates minus average consumer price inflation over the previous year.

deposit. The growth of this outlet has since been somewhat constrained by a very high minimum denomination (about $2 million) for CD's (set to attract corporate rather than household funds) and by official ceilings on the amount that individual banks can issue.[27] Still, this market has also grown rapidly, although it remains smaller than the other short-term markets. Indeed its development probably has been an important factor in the recent decline in importance of the bill market.

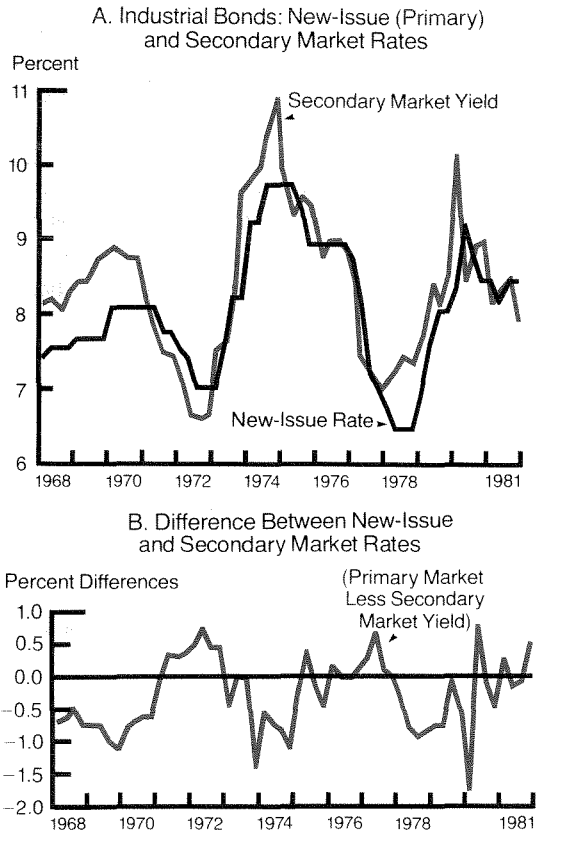
The banks' difficulties in absorbing government debt also prompted a major reform of Japan's banking law that took effect in April 1982 (the first such reform since 1927). In addition to codifying bank regulations, the new law explicitly authorizes banks to purchase, sell, and underwrite government securities under administrative guidance. This step, at least potentially, constitutes the first significant change in the division of powers among financial institutions in Japan since World War II.[28]

Changes in other markets have been more limited and more subtle. Asset choices available to households have improved somewhat, particularly with the introduction in the early 1970s of a combined demand-savings facility at banks similar to the Automatic-Transfer from Savings' (ATS) accounts now available in the U.S.[29] More recently, the government has attempted to improve consumer finance facilities. It has, for example, encouraged U.S. finance companies to enter the Japanese market. Still, household financial choices in Japan remain very restrictive compared to those long available here.

Reform also has not greatly altered the *formal* restrictions facing private corporations in the bond markets. While the increase in public-sector debt greatly expanded the market for government bonds, maturities on this debt were broadened to make it more attractive to the public. As a result, a genuine market for short-term government securities is now developing.[30] This growth has greatly stimulated the secondary market for government bonds, and, indirectly and more modestly, that for private bonds as well. Furthermore, the authorities have accommodated corporations' increased demand for bond finance (due in large part to fluctuations in short-term interest rates) to a substantial degree as evidenced by the significant rise since the early 1970s in the share of their external funds raised from bond

Chart 3

Industrial Bond Yields:
Primary and Secondary Market Rates
(Quarterly Averages)



issues.[31] Still, perhaps because the government now has to rely heavily on the bond-market facilities to market its own debt, it continues to require approval of each individual issue by private corporations, and (more important) to set primary market yields below those on the secondary market.[32]

Japan's Financial Relations With Abroad

The most recent phase of Japan's financial reform —liberalization of its financial relations with other countries—has also had dramatic effects. Most restrictions on Japanese entities' borrowing from and lending to other countries have been lifted, as have most limitations on their ability to buy and sell foreign exchange. Furthermore, Japan has significantly eased the access of foreign institutions, particularly banks, to Japan's financial markets.

As explained in the last section, these reforms were intended mainly to facilitate the financing of Japan's current account imbalances and to improve the efficiency of foreign exchange markets. Their effect has been to force the integration of important segments of Japan's financial system with those abroad. Ultimately, such integration may prove to be the most powerful force for further liberalization in domestic markets.

The development is all the more remarkable in that reform of capital controls was hardly an issue during the 1960s. Over most of that period, Japan's current account imbalances were relatively small, and nearly all financial transactions with abroad were closely controlled by the authorities. However, the growing overvaluation of the yen during the late 1960s and early 1970s led to large current account surpluses that effectively forced the gradual liberalization of capital controls, particularly those limiting outflows. To this end, a market for yen-denominated bonds issued by foreign entities, called the 'Samurai' market, was opened in 1970. Still, the effect was more symbolic of changes to come, since until very recently the market was restricted to international agencies.

The magnitude of financial flows between Japan and abroad increased sharply in the 1970s compared to the 1960s (Chart 5). The activities of Japanese banks in the U.S. and other industrial countries, particularly in the Eurocurrency markets, were allowed to expand dramatically. However, until the late 1970s, the basic policy of regulating virtually all capital flows was retained. The policy during this period might be characterized as the "faucet approach." During periods of current account surplus and/or upward pressure on the yen, outflows were actively encouraged while controls on capital inflows were tightened; large current account deficits and a declining yen often led to the reverse of this policy. In addition, foreign banks operating in Japan continued to find their activities severely curtailed by various restrictions, some plainly discriminatory.[33]

Several factors converged during the late 1970s to produce more explicit and radical changes in these policies. First, fluctuations in the current account between large surpluses and large deficits, as well as wide variations in the yen, underscored the need for stable financial links with other countries. Such links would accommodate the changing financial flows needed to finance the current account (and hence prevent gyrations in exchange rates), but a regulatory policy that alternately tightens and loosens controls on these flows is apt to discourage such flexibility.

Second, the major reforms of Japan's internation-

Table 4
Outstanding Balances in the Call, Bill, Gensaki, and CD Markets
(Year-End)
(Trillion Yen)

	Call	Bill	Gensaki	CD Issues
71	1.5	N/A	N/A	—
72	1.0	1.8	N/A	—
73	1.2	4.1	N/A	—
74	2.2	5.2	1.7	—
75	2.3	4.4	1.8	—
76	2.6	5.1	2.1	—
77	2.6	6.1	3.1	—
78	2.3	6.6	4.2	—
79	3.5	6.3	4.0	1.3
80	4.1	5.7	4.5	7.0
81	4.7	4.0	4.5	2.8

Source: Bank of Japan, *Economic Statistics Annual*.

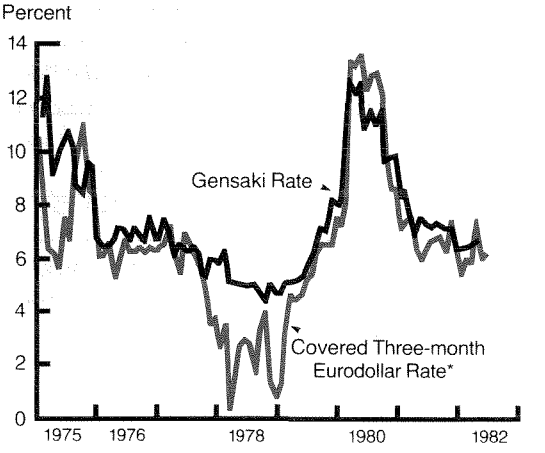
al financial relations have been directly related to the culmination of the current phase of domestic reform. Unrestricted arbitrage between international and domestic financial markets could easily lead to highly volatile and disruptive capital flows as long as interest rates in the domestic markets (particularly those to which foreigners are given access) are prevented from adjusting to market forces. Beyond this, authorities have sometimes seen integration of Japan's financial system with that abroad as a means to promote the development of the domestic financial system. Finally, pressures from abroad to open Japan's domestic product markets to foreigners have been accompanied by demands that discrimination against foreign financial institutions also cease.

Whatever the reasons, regulatory policy in Japan's international financial relations has virtually been reversed since 1978. In 1979, foreigners were granted access to the Gensaki market as part of the domestic reforms discussed earlier. In one stroke, this action effectively linked Japan's money-markets with those abroad. This is graphically demonstrated by the gap between the Gensaki rate and the covered (in the forward market) yield on 3-month Eurodollar deposits (Chart 4). Since these instruments have very similar characteristics (other than the currency they are denominated in), their yields in dollars should be very close in a free market. Indeed, this has been the case since mid-1979. Prior to that time, the gap between the two rates was often very wide as capital controls effectively prevented the arbitrage between the Gensaki and foreign markets that would have closed the gap.[34]

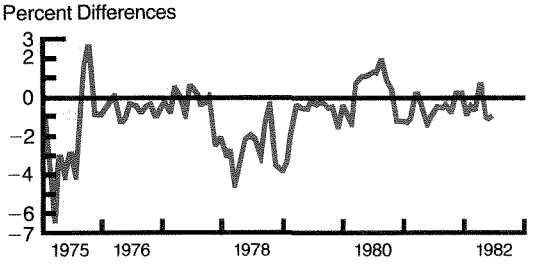
Controls of all types of capital flows were greatly liberalized, and in many cases abolished, by a new foreign exchange law that took effect in December 1980. This law reversed the old principle whereby transactions were prohibited unless specifically authorized by the authorities. Now, as in the U.S., nearly all financial transactions with abroad are presumed permitted unless expressly prohibited or otherwise explicitly regulated. The importance of such a change is considerably more than technical, given the considerable delay and cost Japanese institutions often encounter in obtaining official sanction for their actions. Still, authorities have not irrevocably relinquished control over these flows,

Chart 4

A. Gensaki Rate Versus the Covered Three-Month Eurodollar Rate



B. Difference of Covered Eurodollar and Gensaki Interest Rates



*The covered Eurodollar rate is the 3-month Eurodollar interest rate "adjusted" (i.e. plus) the 3-month forward premium on the dollar vis-a-vis the yen.

as the law also allows them to reimpose restrictions if (in their judgment) conditions require them. Indeed, this "escape clause" has been used during 1982 to relieve pressure on the yen by restricting capital outflows.

That controls on capital flows have been relaxed substantially can be seen from Chart 5. Note in particular that the volume of banking inflows and outflows, as well as purchases and sales of foreign securities, increased dramatically after 1979 in both absolute terms and in relation to exports.[35] (This pattern also suggests that the 1980 foreign exchange laws in part ratified earlier liberalizations in the application of capital controls.)

Finally, this period has also seen a virtual end to overt discrimination against the operation of foreign banks in Japan. These banks' access to yen funds was substantially improved by the opening of the CD market in 1979, as well as by subsequent in-

creases in their quotas on foreign currency/yen conversions. In addition, foreign banks have been given access to the Bank of Japan's discount window, and authorized (at least in principle) to participate in loans subsidized by Japan's export-import bank and the Japan Development Agency. These steps have effectively extended to foreign banks treatment equal to that of their Japanese counterparts.

However, equal treatment has not greatly alleviated the main problems faced by foreign banks in Japan for two reasons. First, the government has extended "equal treatment" to domestic banks as well, allowing them to extend foreign currency loans to domestic corporations, an area that was previously the preserve of foreign banks. Second, Japanese regulations have traditionally treated large and small banks (defined by their share of the *domestic* market) differently, in part to maintain their relative market positions. Although the foreign banks in Japan are among the *world's* largest, they are treated as small or medium-sized banks by Japanese authorities since (because of past limitations on their activities) their share of the *Japanese* market is fairly small.

What Next?

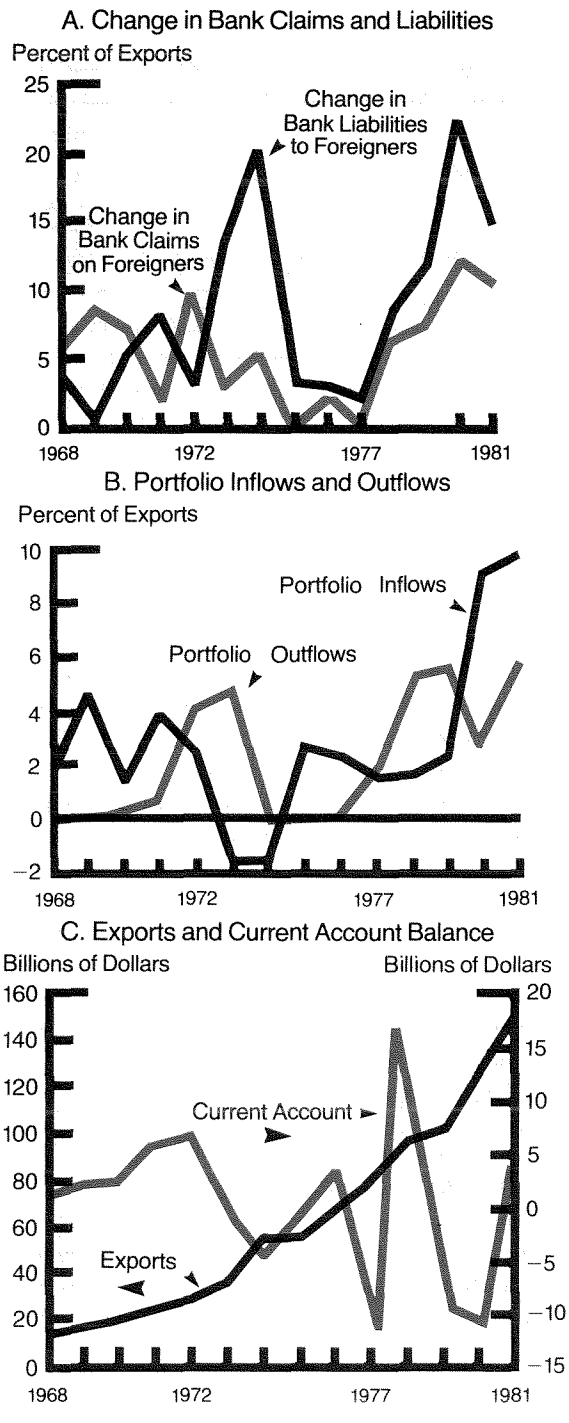
While progress toward financial liberalization has been considerable, albeit uneven and incomplete, the reform process in Japan is far from over. Almost every month brings an announcement of new liberalizations. Judging from official pronouncements, further reforms in consumer and mortgage finance, banking, and in Japan's international financial relations are planned. For example, there has been widespread discussion, and much official interest in "internationalizing" the yen, that is, in promoting its use in international trade and finance.

Internationalization is seen (by the authorities) as desirable, perhaps even necessary, as Japan's financial system becomes more open to foreign influences, and as Japanese institutions play an increasingly important role in international financial markets.[35] Still, few concrete steps have been taken toward this goal. The authorities have so far resisted pressures to establish an international banking zone in Tokyo, one that would be free of deposit rate and other regulations applying to the domestic activities

Chart 5

Selected International Capital Flows for Japan

(Percent of Exports)



of banks. One reason for this reluctance is that officials apparently fear such a center could interfere with the conduct of monetary and other financial policies.

This last example illustrates that further reforms in Japan may well prove more difficult than those already adopted. The changes described earlier were spurred by prevailing economic conditions; those remaining, while important for the long-term efficiency of Japan's financial system, are less pressing. Further reforms are also likely to alter substantially the competitive positions of various financial institutions, and thereby raise economic and political barriers to their achievement.[37] Still, the experiences of the U.S. and Japan have demonstrated that financial reform develops its own momentum since, by changing the financial environment, it generates pressures for further change.

IV. Conclusion

Despite the similarity in timing, the process of financial change in Japan and the U.S. displays as many contrasts as similarities. Both countries have witnessed substantial transformations in their financial systems over the last decade, mainly because that period has brought especially great economic changes. The contrasts lie in the nature of the changes that have resulted and reflect the very great differences between the traditional financial structures of the two countries.

On the whole, financial change in the U.S. has been more narrowly focused than in Japan. Change here has been spurred primarily by inflation, and it has centered on deposit rate ceilings and limitations on the competitive powers of depository institutions. Reform in Japan has largely been a response to fundamental changes in the requirements of business, households, and government for a more flexible and adaptable financial system. Reform in Japan has thus been substantially more extensive than that here even though its progress has been uneven. Interest rate flexibility and the mobility of international capital have increased substantially, but household asset choices and conditions facing private corporations in the capital markets have changed much less.

Japan's financial system has changed more than that of the U.S. largely because it was so much more heavily regulated to begin with. Because of its flexibility, the U.S. system was able to accommodate economic changes without substantial changes in *financial structure*. Japan's more extensive regulation also largely explains why its authorities have been much more successful in controlling the pace and direction of change than their counterparts here.

The U.S. and Japanese experiences with financial change suggest several lessons for policymakers in both countries. Their experiences demonstrate that the greatest costs of financial regulation are not necessarily those distortions it imposes in a *static* economic environment, but rather those it leads to when economic conditions are changing rapidly. In the U.S., for example, financial innovations in response to economic changes have considerably complicated the task of controlling, indeed of interpreting, fluctuations in money growth. These problems have come when money-control is particularly critical for the economic well-being of the nation. Japan's difficulties in adjusting to increases in government debt, floating exchange rates, and other economic changes have been greatly compounded by limitations on its financial system resulting from past regulation. Thus, both nations' experiences illustrate that delaying reform until pressures for it becomes irresistible can often entail considerable cost.

Japan and the U.S. have also shown that financial regulations and financial reforms are often highly interrelated. Japanese authorities utilized capital controls partly because of limitations of the domestic financial system. As liberalization of those capital controls has become necessary, reform of the domestic system has become more urgent. Their interdependence illustrates that financial reform can lead to the unravelling of regulation. For this reason, further liberalization in Japan's financial system, and further change in our own, is very likely.

FOOTNOTES

1. Only in its limitations on branching by banks and thrifts has the U.S. been markedly more restrictive than other major industrial nations. Most other countries have constrained deposit interest rates to some degree, although some have allowed these rates to vary more with market yields than here. Many other countries follow our practice of separating commercial and investment banking (Switzerland a major exception). However, generally the U.S. has limited lending rates less extensively than most other developed nations (except in consumer, and to a lesser extent in mortgage finance). No country has limited international capital flows, or the access of foreigners to the domestic financial system, less.

2. See Prindl, pp. 3–8. Other excellent descriptions and analyses of Japan's financial system include: Suzuki; Layman; Wallich and Wallich; and the Bank of Japan's *The Japanese Financial System* (1978). E. Sakakibara, R. Feldman and Y. Harada ("The Japanese Financial System in Comparative Perspective") provide a highly provocative comparison of the U.S. and Japanese financial systems. They point out that competition among financial institutions is fierce despite apparently stringent regulation. They also argue that the high degree of financial intermediation fostered by Japanese regulation had some significant social benefits.

3. See Hayden, pp. 3–5 and Ackly and Ishi, pp. 159–160. Another consideration now a major obstacle to interest rate liberalization in the bond markets is the government's desire to keep the cost of servicing its debt down. Of course, whether controls have actually succeeded in promoting business investment, much less increasing real growth, can hardly be taken for granted, since generally any subsidy to a sector must be paid for with a tax, implicit or explicit, whose effects must be accounted for in judging the total effect of the subsidy.

4. An excellent discussion of the evolution, and motivation, of government controls on interest rates, is given in "Steps Toward Flexible Interest Rates..." See also the discussion in Layman and *The Japanese Economic System*. Suzuki (Chapter Three) gives an illuminating explanation, and critique, of the 'logic' of interest rate controls in Japan.

5. The authorities have influenced rates in the bill market through their purchases and sales; in addition call rates were, until recently, set by a consultation process among the dealers and government, which *may* have subjected these rates to some 'moral suasion.' See the *Banking System in Japan* (1981), pp. 97–98.

6. Corporate bond issues in Japan must be individually approved by authorities (often a tedious process). Along with limitations on issue yields and maturities, this practice has, to say the least, discouraged this financial outlet. Indeed, private corporate bonds (industrial bonds) have tended to be purchased by the principle bank lenders to the issuer, making them effectively a loan in another guise. Moreover, equity finance has been discouraged by the Japanese practice (*not* apparently government imposed) of issuing new stock at par (primarily to existing holders); Wallich and Wallich (pp. 301–302) provide a plausible interpretation of this practice. A description of the mechanics of the bond markets can be found in *The Japanese Financial System*, pp. 126–137.

7. Indeed, lending by Japanese banks in the euromarkets was virtually halted by the authorities in 1976–1977, following the Herstadt and Franklin-National debacles. See Q. Lim, "The Year of the Samurai," *Euromoney*, February 1978.

8. In 1970, Japan opened a 'Samurai' market for yen bonds issued by foreigners. Access has largely been confined to international agencies, however.

9. Of course, the limitation of household financial outlets *may* have helped channel savings to business. Note, however, that the ratio of residential investment to GNP in Japan (6–7 percent) has generally been higher than that for the U.S. (4–5 percent). Still, the share of total savings going to this outlet is considerably lower in Japan than here.

10. For a more detailed discussion, see Pigott, 1978.

11. This is not to say that inflation has had no influence on financial reform in Japan. Households appear to have become more sensitive to yield differences on bank deposits and postal-savings accounts as a result of the increase in inflation, and market yields, during 1973–1974. This has led to an acceleration of a longer trend under which the share of total household deposits held with the postal savings system has increased. However, the 'disintermediation' problems of Japanese banks have not been nearly as severe as those experienced by U.S. depository institutions, particularly our thrifts. For a discussion, see "Trends in Personal Savings...," Bank of Japan Research Department Special Paper No. 98, April 1981.

12. The reasons cited here for Japan's financial reforms are very similar to those discussed in an excellent article on "Financial Innovation and Monetary Indicators in Japan" by Dorothy Christelow, in the *Quarterly Review* of the Federal Reserve Bank of New York, Spring 1981. See also, "Steps Toward Flexible Interest Rates...," p. 3.

13. Generally, maturities have been limited to seven and ten years, although beginning in 1977 the government began to issue shorter maturities in limited quantities. Of course, the average maturity of *outstanding* debt has been declining over time, with a considerable portion coming due beginning in 1985; this situation is of considerable concern to the authorities.

14. For a description of this process, and its effects on the private financial institutions, see the *Mitsui Bank Monthly Review*, September 1982, and the *Fuji Bank Bulletin*, October 1980. A more general discussion of the burden of the deficit and the debt is given in the *Economic Survey of Japan 1980/1981* by Japan's Economic Planning Agency. For several years, until 1977, banks were forbidden to sell off the government debt allocated to them, although in practice the Bank of Japan stood ready to purchase bonds one year *after* their issue. Since 1977, banks have had much greater freedom to sell their government debt to the public, and in fact have generally sold over half the amount of their subscription.

15. This point is made, eloquently, in the *London Economist* ("But Mr. Suzuki, Your Big Budget Deficit is Far Too Small"), October 23, 1982.

16. Of course government debt, is not the only factor altering financial preferences in Japan. As financing patterns

have changed, competitive relations and the desired characteristics of assets and liabilities have been transformed virtually everywhere. The impact on corporate finance is discussed in "The Financing of Japanese Industry," Bank of England *Quarterly Review*, Vol. 21, No. 4 (December 1981), pp. 510–518. In particular, as short-term interest rates have come to vary more, corporations naturally have an incentive to increase longer-term financing to reduce cash-flow variability from short-term interest rate fluctuations. Their greater internal funds (relative to investment needs) probably has increased their need for liquid assets as outlets for excess cash. Relaxation of capital controls, by giving corporations and banks greater access to the financial facilities available abroad, has had analogous effects. For a general discussion of these shifts, see the *Fuji Bank Bulletin*, January 1981, as well as Dorothy Christelow's article.

17. The need to liberalize financial markets to facilitate private 'adjustment' is further discussed in Martin Gilman, "Japan's Financial Coming of Age..." and in "A Time for Radical Change" in *World Business Review*, February 1981. See also the discussions in Hayden and in Christelow.

18. Indeed, liberalized capital flows potentially contribute to exchange rate stability by insulating the market from temporary fluctuations in demand and supply. For example, a temporary trade deficit that led to exchange rate depreciation would spur an offsetting capital inflow, to take advantage of the exchange appreciation likely when the imbalance ends. This mechanism helps to insulate exchange markets from factors perceived as transient, by linking the actual exchange rate to its long-run value. However, if liberalized capital flows are actually to reduce exchange rate instability, two conditions must be met. First, the long-run value of the exchange rate must be perceived as reasonably stable; this means that government policies determining this rate must be credible and stable. Japan has met this condition more than many countries, as it has been comparatively successful in controlling a major determinant of the yen's ultimate value—its own inflation. At the same time, though, domestic financial markets must be reasonably efficient. Otherwise, 'excessive' variations in interest rates in 'thin' or otherwise limited domestic markets will be transmitted to the exchange markets, possibly adding to exchange rate volatility. This is one illustration of a more general principle—that a need for financial liberalization in one area spawns a need for liberalization in other markets. That is, to have a properly functioning foreign exchange market, Japan will ultimately have to have more efficient domestic markets. For this reason, the shift to floating exchange rates should be a major spur to domestic financial reform.

19. For a description of this system, see "Steps Toward Flexible Interest Rates...," pp. 7–10.

20. A very illuminating discussion of the impact of interest rate liberalization in Japan is in "Japan: The Impact of Interest Rate Liberalization," *Asian Monetary Monitor*, November–December 1980. This discusses effects on interest rate variability, relations among yields on similar instruments, and on bank earnings.

21. This development is analyzed in more detail in the *Asian Monetary Monitor* piece: see Chart I.

22. In the U.S. for example, there is considerable evidence suggesting that, *prior to 1979*, most variations in nominal interest rates reflected changes in expected inflation.

23. Comparisons of the variability of nominal interest rates in Japan with that of other nations are given in "Steps Toward Flexible Interest Rates..." as well as in Suzuki, Chapter Three.

24. These intervals divide the period into (roughly) thirds, to indicate interest rate behavior before the effects of the reforms discussed in the text were apt to be evident (i.e. 1968–1972), behavior after the early 1970s reforms but prior to the changes later in the decade (1973–1977, the period when Japan's inflation waxed and waned), and behavior resulting from the 1978–1979 reforms (which should be reflected in the figures for 1978–1981).

25. Except, perhaps, when monetary restraint has been severe. The fact that real and nominal short-term rates in Japan have been less variable than those in the U.S. over 1978–1981 is probably most a reflection of 'peculiar' conditions here, that is the dramatic increase in interest rate volatility after the October 1979 change in Federal Reserve operating procedures.

26. Prior to 1972, the call market provided limited facilities for one and two-month financing. However, this function was assumed by the bill market, and since 1972, the call market mainly services very short-term needs (maturities are generally 1–2 day, and a maximum of one-week).

27. These ceilings, which are stated as fractions of bank capital, have been raised substantially since 1979, allowing the market to grow rapidly.

28. For a detailed discussion of the new law, and the events leading to it, see M. Shimojo, "The New Banking Law of Japan: Securities Business by Banks," pp. 83–116; see also Leon Hollerman, "Japan's New Banking Law" in the January 1982 issue of *The Banker*. Both articles reveal the ambiguities in this law, illustrating that administrative 'interpretation' in Japan generally can affect critically the way law is applied. The ultimate extent of banks powers in the securities markets remains somewhat unclear.

29. For a more detailed description of this innovation, and the factors leading to it, see Dorothy Christelow's article.

30. See Shimojo, "The New Banking Law of Japan...," p. 101.

31. See "Features of Recent Corporate Financing," Bank of Japan Economic Research Department, Special Paper No. 100, especially pp. 14–15. Admittedly, the authorities' willingness to accommodate corporations increased need for bond finance (at least to some degree) is 'liberalization,' at least in the application of regulation. However, the large government debt in the face of a limited market for long-term bonds almost certainly has been an impediment to corporate efforts to reduce their dependence upon loans from banks and other financial institutions.

32. Of course, new-issue yields on government debt are set below those on the secondary market in large part to reduce the cost of servicing this debt. Given this policy, it would be difficult for the government to liberalize issue terms of corporate bonds without seriously undercutting the market for its own securities.

33. Among the discriminatory steps were the exclusion of foreign banks from the Bank of Japan's discount window, as

well as from participation in loan subsidies from the Japan Development Bank and its Export-Import Bank. However, foreign banks have also enjoyed certain advantages over their domestic counterparts: in particular, they have *not* been forced to take up government debt as have their Japanese competitors.

34. For a more detailed analysis of arbitrage between Japan's money markets and those abroad, see Otani and Tiware, "Capital Controls and Interest Rate Parity: The Japanese Experience, 1979–1981," IMF *Staff Papers*, 1981.

35. The increase in these capital flows is much more dramatic in absolute (dollar) terms. Admittedly, the size of these flows relative to exports, as shown in Chart 5, was nearly as high in 1974–1975. However, then the authorities administratively permitted such flows to aid in current account finance; the scale of these transactions subsequently fell sharply. The present situation is fundamentally different (unless the authorities reverse course by applying the 'escape clause' extensively).

36. An excellent discussion of the forces spurring, and those retarding, internationalization, can be found in Hayden.

37. For example, lifting restriction on bank deposit rates now could further erode earnings, which already have been depressed by their purchases of government debt (note the similarity to the dilemma facing the Depository Institutions Deregulation Committee here in the U.S.). Of course, reforms already in place create further pressures for change as well. For example, debt-service of corporations in Japan is becoming more variable and less predictable as the flexibility of short-term interest rates increases; as indicated earlier, this gives them an incentive to exploit the long-term capital markets to a greater degree than before.

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The Asian Dollar Market

by Kenneth Bernauer*

The Asian dollar market has grown at a very rapid pace since its inception in 1968. From a small base of $30.5 million, the market's size in its major center—Singapore—reached $85 billion at the end of 1981. Nearly as dramatic has been the transformation of the market's structure and functions. At the beginning it was almost exclusively an interbank market that served as an adjunct to the Euro-dollar market. But given the impetus of the 1973–1974 oil price "shocks," it has become a mature banking center serving the rapidly growing economies of East Asia. As with the Euro-dollar market, the growth of the Asian dollar market has also generated considerable controversy, both as to the reasons for its growth and the resultant impacts on the areas, primarily Singapore and Hong Kong, that host it.

The purpose of this paper is to review briefly the developments in the Asian dollar market and to analyze the costs and benefits of this "offshore" financial facility on the centers in which it is located. Section I describes the nature of the market and considers the factors that led to its creation and shaped its development. Section II describes how the functions and structure of the market have evolved over time, while Section III analyzes how the market has affected its primary center, Singapore.

I. Origin of the Asian Dollar Market (ADM)

The Asian dollar market consists of a group of banks in Singapore and Hong Kong that accept deposits and make loans in U.S. dollars (and certain other foreign currencies).[1] Their deposits are time, rather than checking accounts. Those institutions in Singapore authorized to accept ADM deposits are known as "Asian Currency Units" or ACUs. As with its counterpart—the Euro-dollar market centered in London, the ADM is "offshore" in the sense that its financial instruments are denominated in a currency different from that issued by the host country. Indeed, by purely financial criterion, the market centered in Singapore is indistinguishable from that in London. The only unique characteristic of the two centers is their geographic location.

Why Offshore?

Since the Asian dollar market is an offshore market, its origins and development need to be considered in the context of the development of such markets. Offshore markets for dollars (and several other currencies) have developed for three basic reasons. First, the prominent role of the U.S. dollar in international trade and finance has given rise to a very substantial foreign demand for dollars, both for transactions and investment purposes. Foreign corporations, as well as U.S. corporations operating abroad, use dollar instruments frequently in their activities. Foreign governments, too, hold a substantial portion of their international reserves in dollars. For all of these entities, an offshore dollar market reduces the transactions costs of converting other currency into dollars.

Second, the U.S. regulatory environment has given offshore dollar facilities certain advantages over those in the domestic U.S. market. Reserve requirements and ceilings on deposit interest rates applied to banks here in the U.S. are generally not applied in the offshore centers. The lack of such regulation has allowed them to offer more attractive terms on deposits and loans than domestic U.S. banks can offer.

Third, offshore centers generally also have "locational" and "skill" advantages similar to

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those accounting for the existence of regional banking centers in the U.S. For example, thanks to its historical role as a world banking center, London has developed a skilled labor force and body of expertise in providing banking services. (For a discussion of London's prominence in the Euro-dollar market, see the boxed narrative of the development of the Euro-dollar market.) Moreover, proximity to the ultimate users can be a considerable advantage to an offshore center. For example, since London banks are in the same (or similar) time zone as their European customers, they are often able to consummate transactions more quickly than their New York competitors. Close proximity can also make communications and the gathering of information on conditions affecting the credit-worthiness of borrowers easier. These reasons help explain why offshore centers are likely to persist even as the U.S. eases its regulations on domestic banks.

Why an Asian Offshore Center?

The Asian dollar market illustrates that the creation of an offshore facility requires a favorable regulatory climate as well as a demand for its services. A need for the facilities of an Asian offshore dollar center existed well before its inception in 1968. Developed and developing countries of the region had long used the dollar extensively in trade and investment activities. However, prior to 1968 they used the facilities of the major Western dollar centers, primarily New York and London.

One advantage of an offshore market in the Far East over that already in Europe involves the time-zone difference between London and East Asian capitals. Due to this considerable time-differential, Far Eastern bankers generally could not consummate transactions with London banks within a single day because the London market was closed during most or all of the normal working day in East Asia. To bridge this gap, the region needed an offshore center in the Far East that would be open when the London market opened. In this respect, Singapore had the advantage over Hong Kong and Tokyo—3:30 p.m. there corresponds to 9:00 a.m. in London.

Still, an Asian offshore market was not feasible until regulations were altered to allow banks there to compete on equal terms with their London counterparts. The impetus for these changes came in the mid-1960s from Bank of America. The U.S. presence in Viet Nam had increased the use of dollars in the region and led Bank of America to expect the Asian-Pacific area to become a prime source for dollar funds. The bank set out to attract them. Its plan was to establish facilities in Asia to offer smaller investors deposits at competitive market rates and minimums of only $25,000 instead of the $100,000 required in London.

To realize this objective, the Bank of America had to sell this concept to a government in Southeast Asia that would be willing to provide the necessary tax incentives. With its lack of a natural resource base, Singapore was highly receptive to the idea and was willing to provide the needed fiscal enticements in hopes that the income generated from the financial services sector would bolster the country's balance of payments and also help to diversify the country's economy.

To put the Asian dollar market on equal footing with the Eurocurrency market, the government of Singapore in October 1968 exempted from withholding tax the interest paid to non-residents placing deposits with banks in Singapore licensed to deal in foreign currencies. Before this change, the withholding tax payable on deposit interest for non-resident deposits in foreign currencies was 40 percent. A string of additional tax concessions to foreign banks to promote the offshore market followed. For example, in January 1973, the tax on bank profits from Asian dollar offshore loans was cut from 40 percent to 10 percent, while the tax on the profits of Asian dollar loans to local residents remained at 40 percent. (One should note, however, that ACU's lending to local residents are generally restricted by the Monetary Authority of Singapore, to a total of 30 million Singapore dollars (about 1.4 million U.S. dollars per lending institution.) Moreover, several estate and stamp duties were either waived or rescinded. Chief among these was the removal in March 1972 of the 10-percent stamp duty on the face value of bills of exchange, certificates of deposit and promissory notes. Furthermore, in June 1973, stamp duties on offshore loan agreements were waived. Three years later, non-resident holdings of foreign currency deposits were made exempt from estate duties.

Complementing the multitude of tax conces-

Development of the Euro-dollar Market

The sterling crisis of 1957 precipitated the formation of the Euro-dollar market. The Suez crisis and worsening inflation in Britain put intense downward pressure on the pound sterling and prompted the British government to impose capital controls. The government placed controls on nonresident sterling borrowing and lending by British banks and put restraints on sterling credits granted to countries engaging in third-party transactions. These moves caused a shift away from financing third-party trade with sterling credits and deposits toward the use of dollar financing.

The reduced importance of the pound in comparison to the dollar should have prompted a shift in business from London to New York except that Communist countries preferred to place their dollar deposits in western Europe; they feared that the United States would confiscate those deposits if put in the U.S. Moreover, U.S. regulatory policy indirectly encouraged the development of an Euro-dollar market. Policies such as the U.S. Interest Equalization Tax imposed a substantial levy on the sale of foreign bonds and equities in the U.S. and restrictions on American outward direct investment that virtually forced U.S. companies wishing to expand abroad to have access to Euro-dollar financing.

Furthermore, since 1933, the U.S. government has imposed ceilings on interest rates commercial banks and other depository institutions can pay on their checking and time deposits. These ceilings, specified in the Federal Reserve's Regulation Q, have been maintained in large part to ensure a low-cost source of funds to the main supplier of home mortgages—savings and loan institutions. The Regulation Q ceilings were not applied to deposits booked at U.S. banks' overseas branches, which were also free from reserve requirements. The exceptions allowed U.S. bank branches located abroad to compete with foreign banks not subject to such regulations. Bank branches abroad could offer their corporate customers a competitive rate on time deposits and actually recoup some of the funds lost on domestic deposits. The freedom from reserve requirements and interest rate restrictions, therefore, gave Euro-markets a competitive edge.

While the avoidance of reserve requirements and usury ceilings can explain the growth of the Euro-dollar market, it does not explain how London became the center of that market. According to many observers,* the competitive edge enjoyed by London stems in large part from its substantial head-start in acquiring the skills for conducting international transactions and its proximity to the European market. These accidents of history and geography were matched by deliberate actions of the British government to grant a substantial latitude to banks operating in London to accept deposits and to make loans in foreign currencies.

*See, for example, McKinnon, 1977.

sions, the government of Singapore liberalized a number of regulations affecting foreign banks to improve their competitive position against their counterparts in the Eurocurrency market. In January 1972, the monetary authorities in Singapore abolished the 20 percent liquidity ratio that licensed banks operating in the Asian dollar market were required to hold against deposits. In June 1978, exchange controls were completely lifted. Residents were permitted to borrow and lend in all currencies and to deal in foreign exchange. The terms and conditions governing offshore banks were subsequently revised to grant them greater freedom in dealing with residents. These last measures were aimed at putting Singapore on a more competitive footing with its major rival in the region, Hong Kong.

II. Growth and Evolution of the Market

As mentioned, the Asian dollar market has grown quickly since its inception in 1968 (see Tables 1-3). From a small capital base of $30.5 million, the market in Singapore alone, which now accounts for the bulk of activity, had grown to over $85 billion by the end of 1981. The estimates of the Asian dollar market activity in Hong Kong given in Table 3 suggest that the overall size of the market in the two centers was about $134.2 billion in 1981, with the Singapore portion about 75 percent greater than that in Hong Kong. These figures, however, overstate the total size as the data include interbank transactions that involve some double-counting of actual market transactions. Earlier estimates suggest that the aggregate figures may overstate the actual size of the total market by one-quarter to one-third.

In any case, the market has grown extremely rapidly. Most growth concentrated in the early years as demonstrated by the Singapore market which more than doubled in size in each year through 1973. But although growth subsequently tapered off, it remains impressive. The increase in the Asian market's share of total offshore dollar transactions has been dramatic. Singapore's share of the European and Asian markets combined increased from .35 percent in 1970 to 4.77 percent by the end of 1981 (Table 4). If Hong Kong's share were also to be counted, the ADM's overall market share would have been 7.4 percent.

The sharp increase in Singapore's share of offshore dollar activity can be traced in large measure to the substantial growth in the number of banks

Table 1
Asian Dollar Market in Singapore

End of Period	Number of ACU's+	Total Assets/Liabilities U.S. dollars (millions)	Annual growth rate (percent)
1968	1	30.5	—
1969	11	123.0	303.3
1970	16	389.8	216.9
1971	21	1,062.8	172.7
1972	24	2,976.1	180.0
1973	46	6,277.1	110.9
1974	56	10,357.5	65.0
1975	66	12,597.4	21.6
1976	69	17,354.1	37.8
1977	78	21,018.3	21.1
1978	85	27,040.1	28.1
1979	101	38,162.7	41.1
1980	108*	54,392.6	42.5
1981	—	85,852.0	57.8

* end of March 1980

+ Asian Currency Unit (ACU) is a separate accounting unit of banks and other financial institutions given approval to transact in the Asian dollar market.

engaging in the offshore business operating in the country. From Bank of America's initial entry in 1968, the number of financial institutions taking Asian dollar accounts in Singapore increased to 120 by the end of 1982. Seventy-four of these institutions are banks, 26 of which are locally incorporated while 48 are foreign banks. Among the foreign banks, U.S. banks are in the lead with 25 facilities, followed by Europe with 22.

The scope of Asian dollar operations in Hong Kong has shown a somewhat lower rate of increase. This may reflect the fact that foreign banks were already well established in Hong Kong when the Asian dollar market began. For example, the number of foreign banks increased from 52 to 115 in Hong Kong from the end of 1969 to February 1980, an increase of 112 percent. Over the same interval, the number of foreign banks in Singapore rose from 7 to 48, or nearly sevenfold.

Functions of the Market

Two types of transactions are basic to both offshore and onshore banking centers. The first is financial intermediation, in which banks borrow, that is, take deposits, from non-bank entities with surplus funds and re-lend them to those with finan-

Table 2
Volume of Funds Lent in Hong Kong and Singapore Markets
(billions of U.S. dollars)

	Hong Kong			Singapore
(year-end)	Bank Loans Abroad, etc. (A)	DTC's* Loans Abroad, etc. (B)	Total (A) + (B)	Total funds lent to Non-banks by Singapore ACUs
1973	0.70	N.A.	N.A.	1.21
1974	1.50	N.A.	N.A.	2.70
1975	2.45	N.A.	N.A.	3.47
1976	3.60	N.A.	N.A.	4.39
1977	4.41	N.A.	N.A.	5.28
1978	3.48	4.95	8.43	6.38
1979	5.89	5.59	11.48	8.48
1980	7.58	7.11	14.69	12.40
1981	10.81	9.79	20.60	19.45

*DTC - Deposit Taking Companies

Table 3
Volume of Funds Raised in Hong Kong and Singapore Markets+
(billions of U.S. dollars)

	Hong Kong			Singapore
Year-end	Bank deposits from overseas banks (A)	DTC's* deposits from overseas banks (B)	Total (A) + (B)	Total Amount of Liability on ACU accounts
1973	1.75	N.A.	1.75	6.28
1974	3.14	1.20	4.34	10.36
1975	4.21	N.A.	4.21	12.60
1976	5.90	N.A.	5.90	17.35
1977	7.98	3.55	11.53	21.02
1978	10.68	5.70	16.38	27.04
1979	14.68	6.28	21.14	38.16
1980	22.97	9.72	32.69	54.39
1981	29.92	18.42	48.34	85.85

+Includes interbank transactions between Hong Kong and Singapore.
*DTC - Deposit Taking Companies

cial deficits. In performing this function, banks engage in "maturity transformation," that is, they offer liabilities that are shorter-term and more liquid than those of their assets. The second is *interbank* borrowing and lending. Unlike transactions with non-banks, the maturities of interbank borrowing and lending tend to be closely matched because the interbank lending of one bank at a given maturity is the interbank borrowing of some other bank at that maturity. Both types of transactions are prominent in mature banking markets, but in offshore markets such as the Eurocurrency markets, wholesale interbank activities tend to dominate.

In its earlier years, the Asian dollar market served primarily as a conduit of funds from the Asian region to Europe and North America. The main reason behind this transfer of funds lay in the higher interest rates and greater investment opportunities existing outside Southeast Asia at the time.[2] This pattern is evident in the differing bank/non-bank shares of liabilities and assets in the markets, as well as in the distribution of the maturities of assets and liabilities. As Table 5 indicates, deposits of non-banks (with Singapore ACU's) were slightly greater than 62 percent of all liabilities in 1970, while loans to non-banks were less than 4 percent of total assets. Not surprisingly, given that their main borrowers were other banks, offshore banks in the Asian dollar market carefully matched the maturities of their claims and liabilities prior to 1974 (See Table 6).

As the market matured, however, this pattern changed dramatically. The oil price increases of 1974 caused a large-scale "recycling" of OPEC funds, formerly placed in Europe and North America, back to developing countries. The intervening years have seen funds flowing from Europe and the U.S. to Asia via the Asian dollar market. In its 1980 Annual Report, the Monetary Authority of Singapore (MAS) said that "76 percent of ACU funds were taken up in Asia in early 1979." This shift has led to an equally dramatic change in the composition and maturity structure of assets and liabilities in the market. By 1981, the non-bank share of total deposits had fallen to 15.9 percent from 62.5 percent in 1970, while loans to non-bank customers had risen from 3.6 percent of assets in 1970 to 22.7 percent in 1981. Reflecting this shift toward financial intermediation, the maturity of the market's assets has lengthened significantly in comparison to that of its liabilities since 1974.

The Asian dollar market now has a structure closely resembling that of the London Eurocurrency

Table 4
Comparison of Gross Size of Offshore Dollar Market and Assets/Liabilities, Singapore Asian Dollar Market 1970–1981

Year	Gross Offshore Dollar Market Size* (Billion U.S. $)	ACU Liabilities (Billion U.S. $)	ACU as Percent of Offshore Market
1970	110	0.390	0.35
1971	150	1.063	0.70
1972	210	2.976	1.42
1973	315	6.277	1.99
1974	395	10.357	2.62
1975	485	12.597	2.60
1976	595	17.354	2.92
1977	740	21.018	2.84
1978	950	27.040	2.85
1979	1220	38.163	3.13
1980	1655	54.393	3.28
1981	1800	85.852	4.77

*Source: Morgan Guaranty Trust—based on foreign currency liabilities of banks in major European countries, the Bahamas, Bahrain, Cayman Islands, Panama, Canada, Japan, Hong Kong and Singapore.

market and, in broader terms, a mature offshore market. Interbank transactions dominate in both Singapore and London to virtually the same degree. At the end of 1981, interbank deposits as a proportion of total foreign currency deposits stood at 77 percent in Singapore and 76 percent in London. Not only is the share in interbank deposits the same, but the maturity structure of assets and liabilities are also virtually identical, as can be seen from Table 7. The table also shows that the maturity structure of foreign currency assets and liabilities of banks operating in Singapore and London is highly skewed to the short-end of the market, as is typical of banking markets. For both assets and liabilities, the greatest number of maturities falls in the category of "less than one month," followed by "one month to three months," and then by "three months to twelve months." Reflecting their financial intermediation activities, the asset side of the banks' balance sheet is less skewed to the short end of the market than the liabilities side. For example, assets with maturities exceeding one year comprise 24 percent of total assets in London and 17 percent of total assets in Singapore. This compares with 4 to 5 percent of total liabilities in both centers.

One could gain greater insights into the types of transactions that are conducted in the Asian dollar market by dividing assets and liabilities into their bank and non-bank parts. The Singapore authorities provide no such breakdown at different maturities,

Table 5
Asian Dollar Market in Singapore: Distribution of Sources and Uses of Funds (Percent)

Item	1970	1975	1976	1977	1981
Total Assets	100.0	100.0	100.0	100.0	100.0
Loan to non-bank customers	3.6	26.2	23.3	22.8	22.7
Interbank funds	95.0	72.2	74.6	74.9	72.5
Other assets	1.4	1.6	2.1	2.3	4.8
Total Liabilities	100.0	100.0	100.0	100.0	100.0
Deposits of non-bank customers	62.5	16.4	11.3	10.7	15.9
Interbank funds	36.2	81.7	86.8	87.3	77.4
Other liabilities	1.3	1.9	1.9	2.0	6.7

Table 6
Composition of Outstanding Amount of Funds Raised and Employed on the ACU Accounts, by Maturity (percent)

	Fund raising					Fund employment				
Year-end	1 month or less	Over 1 month but 3 months or less	Over 3 months but 1 year or less	Over 1 year but 3 years or less	Over 3 years	1 month or less	Over 1 month but 3 months or less	Over 3 months but 1 year or less	Over 1 year but 3 years or less	Over 3 years
1973	23.5	24.7	48.2		3.6	20.6	24.5	50.1	4.8	
1974	27.3	26.5	44.1		2.1	19.4	28.1	44.8	7.7	
1975	24.8	31.8	41.1		2.3	16.0	29.8	39.3	14.9	
1976	49.2	27.9	19.4	1.6	1.9	35.1	27.3	20.9	3.2	13.5
1977	51.0	29.3	17.4	0.9	1.4	35.7	27.6	20.8	4.8	11.1
1978	45.9	30.2	20.8	2.1	1.0	34.4	28.2	20.5	4.9	12.0
1979	48.2	29.0	19.0	3.0	1.0	35.0	26.0	20.0	6.0	13.0
1980	44.4	30.0	20.5	3.0	2.0	32.0	27.0	22.0	5.0	14.0
1981	46.5	30.0	20.0	2.0	1.0	35.0	27.0	21.0	4.0	13.0

Source: Monthly Authority of Singapore, Quarterly Bulletin

but the London authorities do. Performing this exercise for London banks, given their strong similarities with the Singapore market, may therefore prove useful. Such a breakdown is provided in Table 8.

For the non-banking sector, an extensive maturity transformation is evident with the average term to maturity of loans to nonbanks (claims) far exceeding that of deposits (liabilities). For example, about 58 percent of total credits are for a maturity of one year or more, while 44 percent are for a maturity of three years or more. By contrast, the liabilities of the non-banking sector are concentrated in the short-end of the market. Maturities of three months or less constitute about 70 percent of the liabilities to non-banks.

In contrast, the assets and liabilities of interbank transactions are almost perfectly matched at each and every maturity. The very limited amount of maturity transformation undertaken in trading among Eurocurrency banks reflects the use of that market vehicle for arbitrage and hedging activity. As a hypothetical example of the latter activity, consider an Austrian firm that uses a local bank to cover its exchange rate risk in deutschemarks. The

Table 7
Maturity Analysis of Liabilities and Claims in Foreign Currencies (percent) (December 1981)

	Claims	
Maturities	**London**	**Singapore**
1 month	31.2	35.0
1 month to 3 months	23.0	27.0
Over 3 months to 12 months	21.8	21.0
Over 1 year to 3 years	7.4	4.0
3 years and over	16.6	13.0
	Liabilities	
Maturities	**London**	**Singapore**
1 month	42.9	46.5
1 month to 3 months	28.9	30.0
Over 3 months to 12 months	24.5	20.0
Over 1 year to 3 years	2.3	2.0
3 years and over	1.6	1.0

Table 8
Maturity Analysis of Liabilities and Claims in Foreign Currencies, Banks and Certain Other Institutions in the United Kingdom November 18, 1981

	Total (U.S. $ millions)		Banks		Nonbanks	
Maturities	**Credits**	**Liabilities**	**Credits**	**Liabilities**	**Credits**	**Liabilities**
1 month	31.1%	42.9%	26.7%	31.2%	4.4%	11.7%
	120,218	144,780	1,030	105,344	17,128	39,436
1 month to 3 months	23.0%	28.9%	20.1%	22.3%	2.9%	6.6%
	89,009	97,555	77,734	75,313	11,275	22,242
Over 3 months to 12 months	21.8%	24.5%	17.7%	19.8%	4.1%	4.7%
	84,574	82,685	68,580	66,817	15,994	15,868
Over 1 to 3 years	7.4%	2.3%	3.6%	1.8%	3.8%	0.5%
	28,618	7,751	14,083	6,144	14,535	1,607
3 years and over	16.6%	1.6%	4.7%	1.0%	11.9%	0.6%
	64,070	5,360	18,206	3,446	45,864	1,914

Singapore Asian Currency Units
Assets & Liabilities*
(In U.S. $ million)

ASSETS

End of Period	Loans to non-banks	Interbank Loans Total	Interbank Loans In Singapore	Interbank Loans Outside Singapore	Other Assets
1968	1.4	29.0	NA	NA	0.1
1969	0.9	120.5	NA	NA	1.6
1970	13.9	370.2	13.1	357.1	5.7
1971	188.8	850.8	38.5	812.3	23.2
1972	600.9	2,331.1	99.4	2,231.7	44.1
1973	1,214.3	4,961.9	261.5	4,700.3	101.0
1974	2,629.4	7,528.0	223.0	7,305.0	199.9
1975	3,303.4	9,098.5	270.1	8,828.4	195.5
1976	4,048.3	12,951.4	414.4	12,537.0	354.4
1977	5,281.2	15,252.5	573.4	14,679.1	484.6
1978	6,376.8	19,829.7	866.6	18,963.1	833.6
1979	8,484.0	28,093.7	1,100.4	26,993.3	1,585.0
1980	12,402.3	39,552.3	1,084.7	38,467.5	2,438.0
1981	19,452.2	62,249.9	1,495.2	60,754.7	4,149.9

LIABILITIES

End of Period	Total Assets/ Liabilities	Deposits of non-banks	Interbank Funds Total	Interbank Funds In Singapore	Interbank Funds Outside Singapore	Other Liabilities
1968	30.5	17.8	12.6	NA	NA	0.1
1969	123.0	97.9	23.7	NA	NA	1.4
1970	389.8	243.7	141.0	5.7	135.3	5.1
1971	1,062.8	237.9	811.2	56.4	754.8	13.7
1972	2,976.1	398.7	2,550.1	145.0	2,405.1	27.3
1973	6,277.2	912.8	5,249.3	405.6	4,843.7	115.1
1974	10,357.5	1,614.2	8,531.4	675.6	7,855.8	211.7
1975	12,597.4	2,067.7	10,294.3	584.0	9,710.3	235.4
1976	17,354.1	1,960.3	15,067.2	799.2	14,268.0	326.6
1977	21,018.3	2,254.6	18,350.3	1,382.8	16,967.5	413.4
1978	27,040.1	3,600.0	21,987.2	1,442.5	20,544.7	1,452.9
1979	38,162.7	5,771.4	29,424.9	1,881.8	27,543.1	2,966.4
1980	54,392.6	9,322.2	40,879.6	1,304.3	39,575.3	4,190.8
1981	85,852.0	13,658.9	66,443.2	1,817.6	64,625.6	5,749.9

*Includes Inter-ACU transactions.

Source: The Monetary Authority of Singapore.

local bank switches into DM from schillings and places proceeds in a Euromark deposit in London. The price that the firm pays to acquire the DM in the future is approximately equal to the interest rate spread between the two currencies. Since the flow of international trade is in both directions, the use of the forward exchange market for hedging activities should not make the deposit side more liquid than the asset side.[3] Another major activity in the interbank market and the forward market is interest arbitrage. To exploit all excess profit opportunities, banks will undertake covered interest arbitrage until interest rate differentials are aligned with forward premia or discounts. These types of transactions best characterize the London Eurocurrency market and other offshore market centers.

A further reflection of the Asian dollar market's status as an offshore market distinct from the Euromarkets is that its interbank funds come from any location where there are surplus funds and not only from Asian countries. As noted above, one prominent source for funding has been through the London Eurocurrency market. More recently, banks in the Middle East have become highly visible depositors in the Asian dollar market. In fact, many Arab banks are seeking licenses to operate in the Asian dollar sector.[4]

Non-bank sources of deposits come mainly from multinational corporations with surplus funds to invest, central banks and other government agencies responsible for handling foreign exchange reserves, affluent individuals and local business firms involved in international and regional trade. Most nonbank borrowers of funds have until recently been manufacturers. In 1971, for example, over 50 percent of ACU's loans were to the manufacturing sector. Since then, the share of loans to the manufacturing sector has consistently declined to about 28 percent of the total in 1978.

According to the Monetary Authority of Singapore (MAS), non-bank financial institutions and the manufacturing sector absorbed more than 56 percent of total non-bank loans in 1979. Among the industries involved were the chemical and chemical products sectors which include petroleum refining, metals, textiles and clothing. The share of loans for financing trade and general commerce was also significant. In addition, some loans were used to finance the balance of payments needs of countries adversely affected by the higher oil prices during the year.

Hong Kong versus Singapore

The growth and development of the Asian dollar market has brought a significant differentiation in the functions carried out by its two major centers, Singapore and Hong Kong. Indeed, the two centers tend to complement one another. Hong Kong serves as the major center for syndicated loans in the Far East (Table 9), while Singapore dominates the funding side of the market (Table 3). Put simply, Singapore gathers deposits from various outside sources while Hong Kong deploys them. Reflecting this division, the liabilities of Hong Kong participants to their Singapore counterparts ($42.6 billion at the end of 1981) greatly exceed their claims ($28.4 billion at the end of 1981).

The differentiation between the two centers is

Table 9
Number of Syndicated Loans to Asian Countries, Arranged by Financial Institutions in Hong Kong, Singapore and other Markets

Year		Hong Kong	Singapore	Total (including others)
1974		7	1	43
1975		18	0	51
1976		24	4	60
1977		28	5	60
1978		36	15	61
1979		53	10	106
1980	(January/February)	11	1	21

Source: Bank of Japan—Development of International Financial Markets in Hong Kong and Singapore.

partly the result of their regulatory environments. In particular, Singapore does not tax the interest earned by non-residents on their deposits with its Asian dollar market participants, while Hong Kong, until recently, applied a 15-percent tax to such earnings. Singapore's tax policy encouraged its dominance in gathering deposits. However, since February 1982, when Hong Kong abolished its tax on non-resident interest earnings, its ADM deposit liabilities have grown by more than 50 percent.

One of Hong Kong's main advantages in loan syndication is its proximity to the major loan customers in the Asian market. Its other advantages include superior legal resources for loan syndication endeavors and a relatively relaxed bank-regulatory climate that includes reporting requirements much less detailed and extensive than those imposed by the MAS on its bankers.[5]

Over the past three to four years, the largest borrowers in Asia have come overwhelmingly from its northern portion. In fact, South Korea, Taiwan, and the Philippines (plus Hong Kong itself) dominate the Asian loan syndication market. These three countries received nearly $14.7 billion in syndicated credits from the offshore dollar markets in the period from 1979-1981, nearly three-quarters of the total provided to the Asian-Pacific region as a whole (Table 10). Hong Kong's proximity to these countries is apt to make it easier for its banks to gather the necessary information and to conduct the negotiations and other transactions such loans entail than their Singapore competitors.

On the other hand, Singapore is geographically closer to Indonesia and Malaysia (which together received a total of $5.0 billion in credits from 1979 to 1981), countries which, given their favorable growth outlook, show great potential as future markets for syndicated loans. Hence, Singapore's share of this market could increase in coming years.

Table 10
Current Account Balances of and Eurocurrency Credits to Selected Developing Countries in the Asia-Pacific Region, 1975–81
(U.S. $ millions)

Country	1975	1979	1980	1981
South Korea				
Current Account	−2,000	−4,590	−5,770	−4,993
Eurocurrency Credits	347	3,258	1,917	2,824
Malaysia				
Current Account	−160	1,052	−253	−2,763
Eurocurrency Credits	425	1,168	—	1,725
Philippines				
Current Account	−99	−1,918	−2,479	−2,774
Eurocurrency Credits	363	2,067	1,056	1,257
Taiwan				
Current Account	−500	+241	−965	+497
Eurocurrency Credits	135	1,063	314	928
Thailand				
Current Account	−500	−2,146	−2,287	−2,686
Eurocurrency Credits	5	200	824.6	660
Indonesia				
Current Account	−1,109	+980	+2,850	−1,168
Eurocurrency Credits	1,607.5	670.4	1,079.5	442.5
Hong Kong				
Current Account	+1,840	−526	−2,233	−2,565
Eurocurrency Credits	543.4	788.7	597.4	71.4
Singapore				
Current Account	−75	−1,002	−1,592	−1,751
Eurocurrency Credits	45	149.3	50	70

III. Benefits and Costs

To a potential host, an offshore financial center offers some obvious benefits, but it carries some possible drawbacks as well. The benefits include increased employment, job-training leading to an upgrading of labor-force skills, and increased tax revenue, as well as higher export earnings from financial services provided to foreigners. The drawbacks arise from the need of a successful offshore center to be exempt from many regulations applied to domestic financial institutions. This exemption may weaken regulatory constraints on the domestic financial system by making it difficult to prevent offshore facilities from being used to finance domestic activities. There is, therefore, a danger that such facilities could interfere with the conduct of domestic monetary and financial, as well as exchange-rate, policies.

Any country that has considered establishing an offshore center has had to weigh the potential disadvantages against the likely benefits. The United States, in establishing an International Banking Facility (IBF) in 1980 to allow U.S. banks to compete with their counterparts in the offshore centers, imposed rules to ensure that the facilities did not interfere with the conduct of U.S. monetary policy. In particular, the U.S. required the IBF to lend only to *non-residents* and prohibited IBF checking accounts with non-bank depositors. Japan's authorities have been unwilling to establish an offshore facility in Tokyo despite widespread support from Japan's domestic and foreign banking communities for such facilities because they fear that it would disrupt their domestic monetary and financial objectives. The benefits and costs posed by the Asian dollar market to its host countries are therefore important to an understanding of that market's development.

Singapore's Experience

Singapore's experience with offshore facilities is likely to be more relevant for other countries than that of Hong Kong. The reason is that Hong Kong has no central bank and only a very limited degree of independence in its monetary policy. Hong Kong also has no government debt to manage or exchange control to administer. The Colony's financial policies aim at supervising and regulating banks, and for this reason, offshore facilities do not pose as great a "threat" to its domestic monetary and exchange rate policies as they may pose elsewhere. In contrast, the MAS performs all the traditional functions of a central bank *except* issuing currency. Its functions and responsibilities include the supervision and regulation of banking and financial institutions, exchange control, and the supervision of the business of offshore banks.

The regulations Singapore applies to offshore banks are designed, in part, to be consistent with the government's other financial policy objectives, which include the protection of the local banking industry, control over the exchange rate, and monetary control. Before embarking on their Asian dollar business, for example, banks in Singapore must seek a license from the MAS. Furthermore, in carrying out their offshore activities, the licensed banks must set up their own separate accounting departments—the Asian Currency Units. Each ACU receives individual management guidelines that govern even the sources and uses of its funds.

The MAS provides four types of banking licenses: (1) a complete banking license, (2) a restricted license, (3) a license for offshore operations, and (4) a license to carry out merchant banking operations. The four licenses correspond to full, restricted, offshore and merchant banks, respectively. As the name implies, full commercial banks provide a complete range of commerical banking services. Restricted banks, unlike full banks, cannot accept deposits of less than 250,000 Singapore dollars (about $20,000 U.S. dollars) and offer savings accounts. Thus, restricted banks provide wholesale rather than retail banking services. Offshore banks are not allowed to accept deposits in Singapore dollars but can make loans in Singapore dollars and foreign currency to domestic residents and non-residents. Their activities are mainly confined to wholesale banking. Finally, the merchant banks offer the traditional range of services in

underwriting stocks and bonds, investment counselling, and (increasingly) the packaging of loans to the Far East.

The licensing procedure is intended to prevent an influx of foreign banks operating in the domestic money market from jeopardizing the local banking industry. A series of fiscal incentives provide further protection. Loans by offshore banks to domestic residents are subject to a corporate tax rate of 40 percent, while loans to non-residents are subject to a concessionary rate of only 10 percent. Moreover, an offshore bank's total lending to non-residents is generally limited to 30 million Singapore dollars. The concessionary rate of 10 percent along with the absence of reserve requirements on ACU deposits were aimed at putting Singapore on a competitive footing with other offshore centers.

On the ACU part of their business, domestic banks are subject to the same treatment as foreign banks, but reserve requirements are imposed on their Singapore dollar deposits. These requirements consist of: (1) a six percent non-interest-bearing cash reserve to be held with the Monetary Authority of Singapore; (2) a ten percent primary liquid asset requirement—notes and coin, excess cash reserves held with the MAS, call loans, and short-term treasury securities; and (3) a ten percent second tier of liquid assets including excess items under (2), commercial bills, and longer-term government securities.

Because Singapore allows domestic residents to hold foreign currency deposits, it has had to maintain the 40 percent withholding tax on domestic non-bank residents' interest from foreign currency deposits in ACU's, even though *foreign-owned* deposits are exempt from tax. The uniform rate of taxation on domestic-owned deposits is necessary to pre-empt extra incentives for domestic residents to switch from domestic currency deposits to foreign currency deposits. Non-bank foreigners are discouraged from holding interest-bearing deposits in local currency (Singapore dollars) because they would be liable for the 40 percent withholding levy. The tax structure, therefore, gives foreigners strong incentives to deal with ACU's only in foreign monies, but gives domestic residents no comparable incentives to move out of Singapore dollars.

Nevertheless, the tax structure does not remove all incentives for residents to switch to foreign currency deposits. While no *tax* advantage accrues to domestic residents holding foreign currency deposits, there are incentives for the banks to encourage domestic residents to switch from a Singapore dollar deposit to an ADM deposit. Chief among the incentives is the reserve requirement demanded for Singapore dollar deposits but not for U.S. dollar (or other foreign currency) deposits. The requirement amounts to a tax on banks' local currency liabilities because the reserves are non-interest earning assets. To avoid the reserve requirements on Singapore dollar deposits, the banks can offer residents an ADM deposit rather than a Singapore dollar deposit.[6] In fact, the reduction in the effective cost of deposits is such that the banks can offer a slightly more attractive yield on the ADM deposits and thereby encourage domestic residents to make the switch.

Clearly, such shifts could have a debilitating effect on domestic monetary control. The exchange of domestic currency deposits for ADM accounts would reduce the domestic banks' Singapore dollar deposit liabilities and lower the broadly-defined domestic money stock (since ADM accounts are time deposits, they would most likely substitute for similar domestic deposits). To avoid this problem, the Monetary Authority of Singapore faced several possible options in the early 1970s[7]: (1) rely on moral suasion to discourage domestic banks from conducting such operations, (2) pay a competitive interest rate on required reserves, thereby removing the incentive, (3) impose direct penalties on such shifts, (4) subject Asian dollar market deposits to reserve requirements, or (5) eliminate domestic reserve requirements. Of these options, Singapore authorities have come to rely on moral suasion. Imposing reserve requirements on ADM deposits would have removed banks' incentives to offer more attractive rates on their ADM currency deposits, but the ultimate effect would have been to reduce their ability to offer interest rates competitive with those offered in other offshore markets. That option would simply have shifted ADM transactions to some other center. Eliminating domestic reserve requirements would have made domestic monetary control much more difficult, while paying interest on reserves could involve considerable cost. The option of imposing penalties was deemed infeasible.

Still, while moral suasion may have been the most feasible alternative, it is unlikely to be very effective when incentives for shifts from the offshore to the onshore market are strong. A classic illustration of this difficulty in separating offshore from domestic transactions occurred in 1972-1973 when there were heavy inflows of speculative capital:

> "Because domestic interest rates were higher than those in the Eurocurrency market, they swapped foreign currency for local currency through the medium of local banks—a practice allowed under the terms and conditions of ACU operations—and re-lent such funds to local residents at a higher rate for speculative investment. Between January 1972 and March 1973, ACU interbank deposits with Singapore banks increased by an incredible 259 percent. The upshot was excess liquidity at home which threatened Singapore's exports."[8]

Hong Kong too experienced a similar destabilizing effect during the 1972-74 period. These experiences demonstrate that the measures necessary to make an offshore center competitive may at times interfere with other policy objectives. Nonetheless, the benefits of an offshore center may well be great enough to justify incurring the costs.

Benefits

The most immediately discernible benefit of the Asian dollar market for Singapore lies in the valuable financial services it has provided, services that have improved the country's balance of payments. The Singapore economy has shown a consistent balance of trade deficit and the gap between imports and exports has widened in recent years because of the run-up in oil prices. This shortfall in trade has been met through large surpluses on services and net inflows on capital account. Although Singapore's balance of payments data is too incomplete to estimate the contribution of financial services to offsetting the trade deficit, the overall contribution of the service sector has been substantial. In 1981, the balance of trade deficit amounted to $6.3 billion, of which 60 percent was offset by the net surplus on the service account.

In addition to helping finance the trade deficit, the Asian dollar market has contributed heavily to the growth of Singapore's economy. The growth rates of the financial service sector have been robust compared to other components of GNP. Prior to the inception of the Asian dollar market in 1968, the share of GNP that consisted of financial and business services amounted to 8 percent, but in 1980 this ratio stood at more than 18 percent. The growth of the financial service sector was substantially higher than the growth of GNP, which averaged an annual rate of 8 percent over the same period.

Finally, the existence of an offshore center transmits to the populace of the host country valuable skills in the fields of banking and finance. Between 1970 and 1979, employment in the financial service sector in Singapore has grown much more rapidly than employment in either the manufacturing sector or the total economy. By the same token, the proportion of skilled workers employed in the financial sector is nearly twice that for the economy as a whole (skilled workers are defined here to include professional, technical, administrative and managerial workers). Thus, the establishment of an offshore market has not only soaked up an excess supply of labor but has added to the human capital of Singapore.

Furthermore, the presence of foreign banks and their accompanying staff has probably stimulated the development of a string of complementary service activities. Chief among these would be services associated with tourism. These services add further to the number of employed and the skill level of the population. Finally, the presence of an international financial market has probably made Singapore more attractive to regional corporations and multinational firms as a location for their operations in the Far East.

IV. Conclusion

The need for an Asian dollar market was apparent long before its inception in 1968. Countries in the region were turning to the major western dollar centers, primarily New York and London, until Singapore used a series of tax concessions and changes in banking regulation to encourage the development of an Asian offshore center. Beginning in 1968, direct stimuli such as exemptions

from interest withholding tax, lower taxes on bank profits from Asian dollar offshore loans, and the lifting of all exchange controls spurred the market to its phenomenal growth. The market began as a conduit for funds from Asia to the European markets, but has quickly become a mature offshore banking center.

The creation of the Asian dollar market has cost Singapore some loss of domestic monetary control but the benefits to the country seem to support its initial decision. The boom in financial services has improved the country's balance of payments and imparted additional jobs and skills in banking and finance to its population.

The Asian dollar market is likely to undergo many more changes in the years ahead. At present, Singapore is still mainly a fund collection center, although its government is hoping to make inroads into Hong Kong's share of the loan syndication business. This ambition was succinctly expressed by Singapore's Trade and Finance Minister, Coh Chok Tong, in his budget speech of 1980: "In the 1980s, we shall develop Singapore into a financial supermarket offering a wide and sophisticated range of financial services."

What is certain about the future of the Asian dollar market is that other Asian countries will pose stiffer competition in the years ahead. Hong Kong, for example, is trying to increase its fund collection activities, while Japan is contemplating the establishment of an international banking facility on its shores. The market will also be affected by recent financial developments within the international banking community. In particular, how that community resolves the problems of lending to developing countries will be key to the further development of the Asian dollar market.

FOOTNOTES

1. In actuality, these markets involve trading in a wide spectrum of currencies, but because of the dominance of the dollar—90 percent of transactions in the Asian dollar markets and 75 percent in the Euro-currency markets—the terms Asian dollar and Euro-dollar are generally used interchangeably with Asian currency and Euro-currency.

2. See the *Annual Report* of the Monetary Authority of Singapore for 1973.

3. See McKinnon, 1979.

4. See the *Far Eastern Economic Review*, July 24, 1981.

5. Certain aspects of Singapore's tax structure are less favorable compared to Hong Kong, though. For example, foreign residents of Singapore pay a 40 percent maximum tax on their income, while Hong Kong levies a graduated tax with a maximum of 25 percent. The overall corporate tax rate in Singapore is also higher—40 percent compared to 16.5 percent in Hong Kong—*but* ACU's interest in their earnings from loans to *non-residents* enjoys the more advantageous tax rate of 10 percent.

6. Admittedly, banks thereby expose themselves to foreign exchange risk since they have a future liability in U.S. dollars and spot assets in Singapore dollars. However this risk can be hedged by a "swap" of Singapore for U.S. dollars, that is, by selling Singapore dollars in the spot exchange market and purchasing them in the forward market.

7. See Hewson, 1979.

8. See the *Annual Report* of the MAS for 1979.

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