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Financial Market Changes and Monetary Policy in Pacific Basin Countries

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In recent years, almost all countries in the Pacific Basin have undertaken steps to liberalize their domestic financial systems and remove restrictions on international capital flows. Hong Kong and Singapore were the first to do so by removing or relaxing interest rate regulations and abolishing exchange controls in the early 1970s. Significant financial reforms have been undertaken in Japan and Malaysia since the late 1970s, in the Philippines, Australia, and Indonesia in the early 1980s, and in New Zealand in 1984.¹ More limited movements toward liberalization have occurred in Thailand. Although Korea and Taiwan (China) have also taken some steps toward financial liberalization in recent years, they still maintain relatively restrictive controls on most financial transactions, particularly international financial flows.² Thus, although the timing and extent of liberalization steps have varied across countries, virtually all countries in the region have allowed domestic and, in most cases, foreign market forces to play a greater role in their financial markets.

As the structure of financial markets has changed, both the conduct and effectiveness of monetary policy in Pacific Basin countries have been affected. The relaxation of interest rate regulations and the expanding range of sources of credit have allowed changes in interest rates to be transmitted more rapidly and pervasively to all sectors of the economy. The increased mobility of international capital has made the balance of payments and the exchange rate increasingly important channels for the transmission of monetary policy.

As a result, the authorities in these countries have had to reconsider the mix and types of money and credit market instruments employed to achieve internal and external objectives. The earlier emphasis on influencing the quantity of bank credit generally has been replaced by a greater emphasis on the control of monetary aggregates and on influencing interest-sensitive expenditures. Many countries in the region have moved from pegged to more flexible exchange rate regimes.

The purpose of this study is to review the financial market changes that have taken place among Pacific Basin countries and to discuss how

these changes have affected their conduct of monetary policy. The general nature of many of the problems encountered are similar among all countries in the region.³ Should central banks focus on control of prices, such as interest rates, or on quantities, such as money or credit aggregates, in financial markets? If the latter, should the targeted quantities be narrow or broad? How can the control of monetary aggregates be maintained and the exchange rate managed in the face of increasingly more mobile international capital flows? How can the stability of financial institutions be maintained as liberalization proceeds?

Although the general nature of the problems faced by all countries in the Pacific Basin are similar, the specific problems faced by individual countries often vary because of differences in market structure and financial institutions and in the extent to which the countries have allowed financial liberalization to advance. The economic and financial systems of these countries display a wide diversity, ranging from a high degree of government control, as in Korea, to more market-oriented systems, as in Hong Kong. Some, such as Japan, Australia, and New Zealand, and to a lesser extent the Philippines and Malaysia, had well developed nonbank financial institutions prior to the beginning of the reform process; others, such as Indonesia, Korea, and Taiwan, did not. In some countries, such as Korea and Taiwan, the presence of unorganized money markets outside of central bank control has played a role in the operation of monetary policy. In most countries the pace of liberalization has been gradual; in some, such as Australia and New Zealand, it has been unusually rapid. It is this diversity of experience among countries in the region that provides a wealth of insight concerning the nature of the problems that financial liberalization creates for the conduct of monetary policy.⁴

The plan of the chapter is as follows. First, it discusses the channels through which monetary policy works under varying degrees of domestic and international financial controls. It then examines the nature of the various financial market and monetary policy changes that have occurred in countries of the Pacific Basin region as financial liberalization has proceeded. Next, it focuses on several specific issues that have arisen concerning the conduct of monetary policy as the result of financial liberalization, including: the identification of an appropriate money aggregate to utilize as an intermediate target of policy; the effective use of monetary policy instruments; policy responses to international capital flows; and the implementation of measures for assuring domestic financial stability. Conclusions are summarized at the end.

CHANGING CHANNELS OF MONETARY POLICY

Monetary policy is a major tool for achievement of medium-term goals of price stability and output growth and of short term stabilization in response to economic disturbances. The channels through which monetary policy operates depend on the financial structure of the economy. Financial liberalization, by removing various restrictions on financial institution and changing the structure of financial markets, influences the relative importance of these different channels. Financial market changes in turn influence the relative effectiveness of different monetary instruments. As background to understanding recent developments in Pacific Basin countries, it is useful to discuss in general terms the operation of these channels as the financial structure of an economy is liberalized.⁵

Economies with underdeveloped and/or repressed financial system are characterized by interest rate regulations, restrictions on portfolio holdings of particular domestic and foreign assets, domestic credit controls, entry restrictions on new financial institutions, and international capital controls. Interest rate ceilings depress nominal and real interest rates especially in high inflation environments, and lower the levels of saving and investment. Portfolio restrictions and credit allocation controls hinder the development of open markets in primary securities and claims. Restrictions on entry to the financial system lead to high concentration and segmentation of financial markets. Controls on international capital flow limit access to external sources of credit.

In such an environment, the effects of monetary policy work primarily through changes in credit availability rather than through adjustment of interest rates and exchange rates. When bank credit is the major source of finance, a tightening of monetary policy through central bank guidance of commercial banks to restrict credit levels results in the credit rationing of bank customers. The resulting financial crowding-out squeezes aggregate demand and dampens inflation. Expansionary monetary policy effected through an easing of credit rationing works conversely.⁶ As long as financial flows are channeled primarily through the banking system almost all instruments of control of bank credit, such as reserve requirements, interest rate ceilings, and direct constraints on the growth and composition of banks' credit, work effectively as tools of monetary policy.

However, both contractionary and expansionary monetary policies in an underdeveloped financial system encourage private agents to transfer funds through unregulated channels. When credit from regulated commercial banks is tightened, agents have an incentive to seek alternative sources of funds in unregulated markets. Monetary expansion leading to inflationary pressures may also channel funds outside the regulated

banking market. In the absence of alternatives to holding currency and deposits as financial assets, inflation pressures, by lowering real deposit rates, can make commodities and other tangible assets increasingly attractive substitutes for bank assets. Inflation pressures may also tend to stimulate the growth of nonbank financial substitutes as agents seek to escape deposit rate limits in the banking sector.

The development of close substitutes for bank credit and the decline in the share of banks in intermediation alter the channels of monetary policy as well as the relative effectiveness of monetary instruments. In particular, the creation of financial assets not subject to reserve and liquid asset requirements and interest rate ceilings not only increases competition by other financial institutions but also weakens the effectiveness of credit rationing as an instrument of monetary control. Rationing of bank credit tends to be offset either by recourse to new types of banking operations, such as off-balance-sheet transactions, or by an expansion of credit from unconstrained financial institutions and money markets.

The growth of unregulated financial institutions and markets and the elimination of interest ceilings on bank deposits increase the range of financial instruments affected by variations in interest rates. These changes create a greater role for interest rates in transmitting monetary policy effects. To the extent that interest rates rise in response to contractionary monetary policy, for example, the private sector is induced to hold more financial assets, and real aggregate demand, especially for inventory accumulation and fixed investment, is depressed. Monetary policy also has adverse supply-side effects to the extent that rising interest rates create an increase in the cost of working capital. As the range of sources and types of domestic credit with market-related interest rates expand, changes in market interest rates are transmitted more rapidly and pervasively to all sectors of the economy, and the effectiveness of the interest rate as a transmission channel for monetary policy is increased.

In a completely closed economy, changes in monetary policy are transmitted through the economy entirely by changes in the availability of credit and, when permitted, by interest rates. In an open economy, other channels operate as well. With unrestricted international goods flows, limited capital mobility, and a pegged exchange rate regime, monetary restraint tends to improve the current account as falling domestic demand reduces imports. The resulting foreign exchange inflows create an offset to the initial decline in domestic credit. Thus, under a pegged exchange rate, control of credit and money aggregates is difficult since any balance of payments imbalances tend to generate offsetting movements in the foreign exchange sources of the money supply, despite control by monetary authorities of the domestic credit component. Under such a regime there is

limited scope for aggregate demand management by the monetary authorities, since the authorities must adjust the money supply so as not to gain or lose reserves. Targets for money growth require the central bank to sterilize the impact of balance of payments imbalances by reducing domestic credit. The sustainability of such a policy is not clear, however, particularly in the case of continuing foreign reserve losses.

Relaxation of restrictions on international capital transactions increases capital mobility and sensitivity to fluctuations in foreign interest rates and to changes in exchange rate expectations. The problem of maintaining a pegged rate and controlling the money supply is exacerbated the greater the degree of international capital mobility. A contractionary monetary policy that raises domestic rates above foreign rates induces capital inflows that dampen the change in domestic interest rates and offset the initial credit reduction. Thus when exchange rates are pegged and capital mobility is high, the effective control of credit and money is even more severely limited.

With flexible exchange rates, control of the money supply and the ability to influence domestic interest rates are improved, and the exchange rate operates as another channel through which monetary policy affects the economy. Monetary restraint, for example, creates pressure for the nominal value of domestic currency to appreciate. The appreciation dampens the offsetting effect of tight money on domestic credit through incipient balance of payments surpluses.⁷ The adjustment of the exchange rate enhances the effectiveness of the monetary contraction by further curbing demand for domestic output and reducing inflationary pressures. With high capital mobility the exchange rate becomes an increasingly important channel for the transmission of monetary policy effects, since actual or perceived shifts in relative domestic and foreign monetary conditions rapidly affect exchange rates.

The relative adjustment of interest and exchange rates in response to a change in monetary policy also depends on expectations about the future exchange rate. Because changes in expectations in the exchange market induce adjustment in the spot exchange rate more rapidly than the real economy can adjust, changes in monetary policy can cause the exchange rate to initially overshoot its new long-run level.

While more flexible exchange rates lessen concern about the effects of balance of payments imbalances, the closer tying of national capital markets creates other limitations on monetary policy. In particular, foreign monetary shocks become a more important concern to domestic monetary authorities. For example, changes in foreign monetary policy leading to higher foreign interest rates may compel the domestic central bank to make matching changes in policy in order to limit the necessary

adjustment of the exchange rate. Thus while international capital mobility in some respects enhances the effectiveness of monetary policy, it may also place other limitations on the independence of domestic policymakers, particularly if the country is small.

PACIFIC BASIN FINANCIAL MARKET CHANGES

Recent reforms undertaken by Pacific Basin countries to liberalize their financial systems have included the relaxation of interest rate restrictions, reduction in the use of direct credit allocation or provision of special credit at preferential rates, development of open markets in primary securities, and liberalization of economic links with the rest of world through freer international capital transactions. To various extents, the relative importance of different channels of monetary policy have been affected within each individual country.

Motivations for Reform

The motivations for these reforms have arisen from a number of sources. As in many developed countries, a primary factor has been the desire to lessen the government's role in directing resource allocation and to permit market forces to reduce domestic distortions and inefficiencies.⁸ Ceilings on interest rates, often justified on the grounds that high rates discourage investment, resulted in depressed real yields, which reduced incentives to save and invest. Selective and general credit controls by central banks, while often justified by the presumption that the normal channeling of funds did not ensure socially optimum use of resources, often led to inefficient, low-return investments. Subsidized loan rates for priority sectors often resulted in inefficient credit allocation by channeling funds to large capital-intensive projects, at the expense of small firms forced to seek credit in unorganized financial markets.

The desire for financial reform has also been stimulated by the concern of monetary authorities about the development of alternative channels for domestic financial flows that arose in response to existing restrictions on financial activities. In Australia, for example, interest rate controls on commercial bank deposits led to the growth of unregulated, nonbank financial institutions, thereby reducing the effectiveness of monetary policy. In Korea and Taiwan, restrictions on financial institutions led to the development of unofficial, unregulated, "curb" markets involving small borrowers and lenders. In the mid-1970s the aggregate size of the curb market in Taiwan was as large as all other financial institutions put together. In 1980 it accounted for roughly 30 percent of total domestic assets.⁹

External macroeconomic developments and competitive pressures from abroad created another motivation for reform in many countries.¹⁰ In the face of high foreign interest rates, particularly in the United States in the early 1980s, it became more difficult to maintain tightly regulated financial systems. Faced with the demands of domestic investors for higher return investment assets, many countries introduced new money market instruments with freely determined interest rates, such as certificates of deposit, bankers acceptances, and commercial paper. In addition, as domestic markets became more liberalized, pressures for reductions in exchange and capital controls intensified as well.

The role of external considerations in the motivation to reform may be seen in the example of Thailand. Given its fixed exchange rate regime and the absence of controls on capital movements, Thailand found that credit controls and interest rate ceilings were unsustainable in the face of large international capital flows. As a result, Thai authorities introduced some measure of flexibility in the setting of interest rates and the exchange rate, in order to restore control of money aggregates. Indonesia had similar motivations for liberalizing measures that began in 1983.

Some countries found it desirable to reform their domestic financial systems in order to increase the capacity of commercial banks and private securities markets to absorb growing amounts of government debt. The governments in these countries traditionally had financed their deficits by borrowing from the central bank or commercial banks, often compelling them to hold government securities at below-market interest rates. To avoid the inflationary consequences of monetization of growing volumes of debt by the central bank and to increase the incentives of private financial institutions and investors to acquire this debt, financial reform was deemed desirable.

In Japan, for example, the total amount of government debt outstanding increased from less than 10 percent of gross domestic product in the mid-1970s to more than 30 percent in the early 1980s. The difficulties banks in Japan experienced with absorbing these government debt issues prompted reforms that enabled greater distribution of bonds among the Japanese public. Indonesia and Malaysia were also motivated to develop money markets in order to finance government sector deficits, although for the former, a desire to reduce the need for foreign borrowing was also a significant factor.¹¹

Interest Rate Liberalization

Almost all countries have relaxed interest rate controls on bank deposits. In many instances the authorities have also sought to encourage

the development of new financial instruments with open market determined interest rates.

Some countries have proceeded rapidly. Singapore, for example, removed restrictions on bank rates in July 1975 and also allowed the establishment of a variety of money market instruments.¹² In Australia, beginning in 1980, interest rate ceilings on deposits and loans were relaxed rapidly; currently there are no controls on deposit rates, and a ceiling exists only on small bank loan rates. Indonesia liberalized many interest rates in 1983 and announced the formation of several short-term money markets in 1985. In New Zealand, as part of a general reform, all interest ceilings were removed in 1984.

Other countries have moved more slowly in lifting controls on deposit rates and encouraging the development of money markets. For example, prior to the start of financial reform in the mid-1970s, the interbank and gensaki (repurchase) markets were the only financial markets in Japan not subject to explicit interest rate controls, though even these markets were still subject to administrative guidance. In the late 1970s the Japanese authorities allowed the development of markets for several new financial instruments with market determined interest rates, including negotiable certificates of deposit and money market certificates. They have proceeded more cautiously, however, with reforms that would affect bank deposit rates. As of the end of 1986, roughly 70 percent of bank deposits still remained subject to interest rate controls.

Even in countries that have lifted controls on most financial transactions, provisions are still made to ensure favorable interest rates on loans to priority sectors of the economy. In October 1978, Malaysia announced measures which reduced administrative guidance, made bank interest rates more flexible, and established markets for bankers' acceptances and CDs. However, despite the fostering of price competition, sectoral allocations of bank loans are still regularly imposed, and priority sectors are favored with low interest rates. In the Philippines, interest rate ceilings were removed on deposits of more than two years' maturity in August 1980, and on bank savings and time deposits by the end of 1981. At the same time, a large proportion of domestic credit is still allocated by public sector financial institutions on nonmarket terms.

In other countries, even though formal interest rate controls no longer exist, rates are still determined oligopolistically. For example, since 1964 Hong Kong banks have restricted the interest rates they pay on deposits with maturities less than twelve months to a level determined by the Hong Kong Association of Banks or its predecessor, the Exchange Banks' Association.¹³ However, there are indications that, as the 1970s progressed, competition from the Euro-market and from the deposit-taking

companies, which are not subject to the interest-fixing agreement, have compelled the Association to adjust the deposit rates more frequently in order to keep the rates in line with market conditions.¹⁴

Some countries, such as Korea and Taiwan, have been much more reluctant to reduce interest rate controls, particularly on bank deposits. In these cases, concern about the effects of a rapid, widespread rise in interest rates on the economy, and particularly on the industrial sector, have limited the extent of decontrol of bank deposit rates. Although Korea continues to set all deposit rates in the commercial banking sector, it has allowed short-term finance companies greater freedom to set interest rates within a range between the banks' rates and those of the unofficial curb loan market, where interest rates are market determined. Taiwan did relax official restrictions on bank lending rates in 1980, but allows rates to be set by a bankers cartel, the Taipei Bankers' Association. It has sought to meet the demands of investors for higher return investment assets by establishing some open-money markets in recent years, including certificates of deposit and bankers acceptances. However, as the volumes in these officially sanctioned money markets and in the illegal curb market have grown, pressures on the regulated institutional markets have intensified.¹⁵

Thailand has also been reluctant to fully relax regulation of bank interest rates. Interest rate ceilings on both bank deposit and loan rates are still employed, although more flexible adjustment of these ceilings has been exercised in the 1980s. Nonbank financial institutions, however, have been permitted to develop relatively freely.

Reduction in Credit Controls

In addition to lifting interest rate controls, most countries have reduced the use of credit allocation rules and window guidance as instruments of monetary policy. Quantitative bank lending guidance was terminated in Australia in June 1982, selective credit ceilings were abandoned in Indonesia in June 1983, and guidelines on credit to the private sector were abolished in New Zealand in 1984. Window guidance of commercial banks in Japan has gradually diminished. Singapore and Hong Kong impose no credit allocation requirements on their banking systems.

However, many countries, including Korea, Malaysia, Philippines, Taiwan, and Thailand, still continue to make use of credit allocation rules to some extent as instruments of monetary policy. Korea, for example, terminated direct credit controls on lending by individual banks in 1982, and ended preferential rates for specified borrowers in November 1984, yet continues preferential rediscounting facilities to banks which lend to

exporters and other designated industries, and maintains credit allocation requirements for banks as well.

Reductions in Exchange and Capital Controls

The authorities in most Pacific Basin countries have relaxed their exchange and international capital controls following the liberalization of domestic financial markets. Accompanying the relaxation of controls has been movement toward greater flexibility in exchange rates.

In Hong Kong the last official exchange controls were abolished in December 1972, and there are no controls on international capital flows by residents or nonresidents. The Hong Kong dollar was allowed to float freely in November 1974; however, since October 1983 it has been pegged to the U.S. dollar.

Singapore completely liberalized foreign exchange transactions in June 1978. In principle, near-perfect international capital mobility exists: residents are free to make transactions in any currency as well as to invest in any currency. While nonresidents are similarly free to transact in Singapore dollars, the authorities have sought to limit linkages between domestic money markets and the Asia dollar market, an offshore currency market, where rates are freely determined. This has been done by prohibiting the use of the Singapore dollar in the Asia dollar market, by levying a high interest tax on investment transactions by foreigners conducted in the domestic markets of Singapore, and by limiting local borrowing by nonresidents. Since 1975, the Singapore dollar has been pegged to a trade-weighted basket of currencies.

In Malaysia there are virtually no restrictions on capital inflows, nor on capital outflows as long as they are not financed by local borrowing. The Malay dollar has been allowed to float since 1973.

Thailand allows relatively free capital movements, although certain private capital outflows are restricted. It has tied its currency to the U.S. dollar, with devaluations in July 1981 and November 1984. Since the latter devaluation, the currency has been pegged to a currency basket.

As in the case of domestic financial transactions, Japan has followed a gradual process of deregulation of international financial transactions. In May 1979, foreigners were allowed for the first time to acquire gensaki (repurchase) securities. A new foreign exchange law was initiated in December 1980 which liberalized most capital controls. In 1984, in an agreement with the United States, actions were announced enabling further liberalization steps affecting international capital transactions. Throughout this process the yen has been allowed to float freely.

Other countries have eliminated capital controls more rapidly. Australia moved to a floating rate regime in December 1983, while at the

same time abolishing almost all foreign exchange controls. New Zealand removed many restrictions on international capital movements in 1984, simultaneous with its domestic financial liberalization, and allowed its currency to float in 1985. Indonesia also liberalized its foreign capital transactions rapidly in 1983 and 1984.

International capital movements remain greatly restricted in Korea and, until only recently, in Taiwan as well. In December 1978 residents of Taiwan were permitted to hold foreign exchange deposits in designated banks and to buy and sell foreign exchange through these banks. In February 1979, the exchange rate was allowed to float within limits set by a small group of commercial banks together with the central bank. In July, 1987 new measures relaxing restrictions on some international capital flows were adopted.

Instruments of Monetary Policy

As the proportion of financial instruments carrying market-determined interest rates has grown, there has been a greater emphasis by most central banks on the control of monetary aggregates rather than bank credit. To an increasing extent, the control of monetary aggregates is accomplished through the active use of open market operations, accompanied by a tightening of access to the discount window. The use of other instruments, such as reserve and asset requirements, has diminished significantly.

The Philippines began open market operations in the late 1970s, and increasingly has relied on them as its primary instrument for controlling money growth; access to the rediscount system has been restricted considerably. A repurchase market for government securities was set up in Thailand in 1979 to facilitate open-market operations. Since 1985 open-market operations in the government bond market have been the main instrument in controlling the supply of reserve money. As part of a financial reform in June 1983 in Indonesia, domestic credit ceilings were abandoned, access to preferential rediscount facilities was tightened, and greater emphasis was placed on controlling money aggregates. In February 1984 the central bank of Indonesia began active open-market operations in terms of its own debt certificates, although it still relies greatly on rediscounting. Open-market operations became more important in Malaysia during the 1980s as well, but reserve and liquidity ratios and credit allocation rules continue to be used as instruments. Since 1979, Korea has used the growth rate of its M2 money stock as an intermediate target of monetary policy.

Monetary control in Japan has been based upon control over the interbank call and bills markets. This control is exercised through open-

market operations, in addition to discount policy and reserve ratios, and to a lessening extent, window guidance of the large city banks.¹⁶ The Bank of Japan has also used M2 plus CDs as a major monetary policy indicator since 1976.

Until the mid-1970s, the principal instruments of monetary policy in Australia were changes in reserve requirements and informal controls on bank lending. Commercial (trading) banks had to hold a proportion of their deposits as required reserves with the Reserve Bank and government securities as liquid assets, while savings banks were restricted to holding housing loans and government securities. Open-market operations were relatively limited, partly because of the narrowness of the market, which was in turn a result of extensive regulation. Since the late 1970s, the orientation of monetary policy has turned increasingly toward the use of open-market operations to control the growth of money aggregates.

New Zealand formerly relied on the varying of reserve requirements and of asset ratios by banks, as well as credit controls as instruments of monetary policy. With the reforms initiated in 1984, it switched to targeting a monetary base measure (primary liquidity) through open-market operations; asset ratio requirements were dropped totally in February 1985.

Singapore and Hong Kong conduct monetary policy somewhat differently than the countries above. Singapore maintains an unannounced exchange rate target by intervention in the foreign exchange market. Open-market operations in domestic assets are limited, since the government securities market is still thin.¹⁷ This policy effectively subordinates control of the money supply to external considerations. While Singapore still maintains reserve and liquid asset requirements, they are not currently important instruments for monetary control; asset ratios are not binding.

Hong Kong, which does not have a formal central bank, generally allows market forces to determine the volume and allocation of credit, with base money creation effected by two private note-issuing banks. The government does not engage in open-market operations, nor is there any mechanism for government lending to banks. Since 1983 the note-issuing banks have been required to back their issues by foreign assets; the Hong Kong dollar was pegged in October 1983. Even though Hong Kong does not have a central bank that itself intervenes in the foreign exchange market to sustain the peg, under the present institutional arrangement market arbitrage effectively gives the same result.¹⁸

PROBLEMS IN THE CONDUCT OF MONETARY POLICY

The process of financial liberalization has created a number of general problems for countries in the Pacific Basin concerning the conduct of monetary policy. Most of the problems are similar to those faced by developed countries in other regions that have recently experienced financial innovations.¹⁹ Should central banks focus on control of prices, such as interest rates, or quantities, such as money or credit aggregates, in financial markets? If the latter, should the targeted quantities be narrow or broad? Narrowly defined quantities are more easily controlled, but the links to the real sector have become more tenuous as the interest elasticity of demand for money has risen as a result of liberalization. Broader aggregates, while more closely related to the real sector, are less susceptible to control. Moreover, shifts in the relations between monetary aggregates on the one hand, and GNP and prices on the other, have called into question reliance on any single money target. Maintaining control of monetary aggregates if exchange rates are fixed in the face of increasingly more mobile international capital flows is another area of concern. The problem of financial stability, while also of concern to developed countries, is of even greater concern to the developing countries in the region because of the potentially greater fragility of their financial institutions and their relative inexperience in financial supervision.

What To Target?

Financial liberalization has created new concerns for monetary authorities formerly accustomed to relying on interest rate and direct credit controls in conducting monetary policy. As they have permitted greater flexibility of interest rates and freedom in financial market transactions, they have had to decide whether to conduct monetary policy primarily in terms of targeting prices, such as interest rates, or quantities, such as money or other credit aggregates.

In most cases, as liberalization has proceeded, emphasis has been placed on influencing monetary quantities. This emphasis is in large part a result of the increasing desire by most national monetary authorities to use monetary policy to achieve greater price stability rather than to allocate credit within the economy.

The greater opportunities for domestic residents to acquire credit from unregulated financial intermediaries or from open markets resulting from financial liberalization have weakened the effectiveness of credit controls by providing a source of credit outside the regulated channels. Thus, direct controls on lending have become less effective in limiting

credit expansion, as regulated intermediaries have ceased to be the sole sources of large amounts of funds.

The central banks that have focused on greater control of monetary aggregates face the same problems as countries in other regions in the choice of appropriate money aggregate indicators and in determining the relation between the chosen indicator and the ultimate objectives of monetary policy. Authorities typically find it easier to achieve a narrow target for items in the central bank's own balance sheet. New Zealand, for instance, has used a monetary base measure, growth in "primary liquidity," defined currently as the deposits of trading banks with the central bank plus government securities with less than one month maturity. Two issues, in particular, have arisen with respect to the use of this target in New Zealand.

The first issue relates to the appropriate circumstances under which the level of the target should be adjusted.²⁰ A recent increase in the national sales tax was perceived by some as being inflationary and therefore requiring a lowering of the monetary base target level. An increase in the interest rate paid on bank reserves (settlement cash), perceived as leading to an increased demand for primary liquidity, has caused some to call for a rise in the base target level.²¹ As yet, New Zealand's central bank has not adjusted its target.

The second issue concerns the appropriate definition of the monetary base. When base targeting was begun, the definition included government securities with up to six months' maturity, but over the period December 1985 to April 1986 this was changed to include only securities with up to one month's maturity, under the presumption that the latter was more controllable. This issue is symptomatic of the general problem of defining how broad a target on which to focus.

The growth of available financial instruments has made it more difficult to determine which money aggregate to use as an indicator of monetary policy. The distinction between narrow and broad money is less meaningful since many financial instruments can have both transaction and investment features. Furthermore, the decline in transaction costs has widened the spectrum of liquid assets. The increase in closer substitutes for narrow money aggregates as a medium of exchange has reduced the predictable effects of changes in the supply of money on the interest yields of other financial instruments.

This has led many countries to target broader aggregates in order to retain a stable statistical relation between aggregates and key nominal spending variables such as GNP or inflation.²² However, financial reform has made the assessment of even broad movements in money and credit aggregates more difficult. As in the United States and elsewhere, the

changing role of nonbank intermediaries for monetary policy has become a source of concern.

The experience of Australia is illustrative. Prior to financial liberalization monetary policy impacted predominantly on banks and bank lending. Because of deposit rate ceilings, banks lost funds to nonbank financial intermediaries. Liberalization, by removing interest ceilings, portfolio restraints, and other direct controls on banks, improved the competitive position of banking institutions. As a result of the reintermediation of funds by the banking sector, any previously stable relationships between monetary aggregates and key economic variables have tended to break down.²³ In January 1985, Australia abandoned its M3 (defined to include currency plus demand and time deposits with trading and savings banks) target range for monetary growth. It has since adopted an eclectic approach, by monitoring an assortment of indicators, including interest rates, the exchange rate, and the underlying economic trends, as well as the main monetary aggregates. In addition, the government has sought to increase public information about the future pattern of government finance.

The monetary authorities in Japan, like Australia, profess to use an eclectic approach in the determination of monetary policy. Some have attributed the relative stability of the Japanese economy over the last decade to a monetarist policy on the part of the Bank of Japan, based on the observation that the fairly steady decline in Japanese broad money growth since the mid-1970s has coincided with a decline in the inflation rate.²⁴ However, others contend that there is little institutional or empirical evidence that the Bank of Japan adheres to money aggregate targeting.²⁵ Announced money targets for the main aggregate indicator -- M2 plus CDs -- are more forecasts of actual money change than guidelines for policy.²⁶ In actuality, the evidence appears to be that Japan continues to use the interbank rate as an operating target but also looks at other indicators such as the aggregates and the exchange rate.

In some countries, such as Korea and Taiwan, the presence of unorganized, curb money markets outside of central bank control has created similar problems concerning the targeting of broad money aggregates. In Korea, for example, although some adjustment of interest rates on bank deposits and some growth in nonbank financial institutions have been allowed, the development of open money markets has been discouraged,²⁷ and many borrowers and lenders operate in unauthorized markets. Recent financial changes, such as the raising of interest rates on some demand deposits accounts relative to other callable deposits, have weakened the relation between the narrow aggregate, M1, and economic activity. But because the flow of funds from nonbank financial institutions to private curb money markets is also very volatile, M3 and broader credit

aggregates have become much less easily controllable in the view of Korean authorities. Consequently, since 1979 Korea has used M2 as a planning target.²⁸ Taiwan has been similarly concerned about the effects of arbitrage flows between the highly regulated deposit banks, the curb market, and also the gradually growing open money markets.

In contrast to most countries in the region, Hong Kong and Singapore have both chosen to target financial market prices -- their exchange rates. Singapore has generally tightened its money supply in order to raise the exchange value of its currency and reduce foreign pressures on its interest rate and price level.²⁹ In Hong Kong, which, as noted above, has no central bank, current institutional arrangements effectively allow market forces to maintain a pegged exchange rate. In particular, because Hong Kong's government Exchange Fund stands ready to buy or sell local currency at a fixed dollar rate from private note-issuing banks, market arbitrage sustains the peg.³⁰ Thus, as in the case of Singapore, the monetary base and the money supply change primarily in response to balance of payments imbalances, as under a gold standard.

Thus, in general, the increased difficulties of identifying and measuring money aggregates and changes in the channels of monetary policy have created problems for monetary control and targeting in almost all Pacific Basin countries. The problem of targeting aggregates is particularly acute for those countries where, as liberalization proceeds, new and changing channels of intermediation between financial sectors are arising.

Policy Instruments

Changes in the financial environment have also required monetary authorities in Pacific Basin countries to reconsider the mix of their policy instruments. While the ultimate goals of monetary policy -- price stability and noninflationary growth -- may have remained constant, changes in the relative use of various instruments of monetary policy have occurred.

Prior to recent developments, reserve requirements were a commonly used instrument among Pacific Basin countries. In the late 1970s legal reserve requirements on deposits were as high as 30 percent in Indonesia and 20 percent in Malaysia, well above levels that prevail in most developed countries. Relatively few countries currently use reserve requirements as major monetary instruments. Most countries have either dropped use of liquid asset ratios or these ratios are not presently binding. For example, Singapore dropped asset ratios following the reform of its banking system in 1975. New Zealand dropped the use of asset ratios in February 1985. In Hong Kong the legal minimum liquidity ratio is 25 percent, but the ratio typically held is 50 percent.³¹

These developments reflect a wide recognition that changes in reserve requirements and asset ratios are too blunt as instruments and can have adverse effects on the long-term development of the financial system. Small changes in the required reserve ratio necessitate relatively large shifts among commercial bank assets which take time to accomplish if they are not to be disruptive. In addition, overreliance on reserve requirements, by increasing the costs of financial intermediation, results in higher costs to bank customers.³² Another consideration is that the discriminatory effects of changes of reserve requirements on banking institutions compared to nonbanking institutions may encourage disintermediation from the banking system.

The use of the discount mechanism as a monetary instrument has also declined in many countries. With greater emphasis being placed on restraining money growth in order to contain inflation pressures, many central banks have found it impractical to use the discount mechanism as a tool to reduce commercial bank credit. For reduction in central bank lending to be effective in decreasing the growth of commercial bank credit, it is necessary for banks to be substantially indebted to the central bank. However, in those countries where this is so, discount policies typically involve subsidy elements or credit allocation requirements.³³ Consequently, reductions in discount financing may impose unsustainable losses upon commercial banks and continued credit flows to priority sectors may still be required.

Open-market operations possess the advantage of flexibility in comparison to the instruments discussed above. However, the use of open-market operations is not without problems. In many Pacific Basin countries, open-market operations were limited in the past by the thinness of private money markets. To enhance their ability to conduct open-market operations, authorities have sought to encourage the development of private secondary markets in government securities, as well as of callable loan markets in which banks can lend excess funds. This has compelled the elimination of the common practice of keeping the yields on government securities artificially low and/or forcing commercial banks and the central bank to absorb them. In addition, it has necessitated more restrictive access to discount facilities, with the discount rate raised high enough above market rates to preclude financial institutions from evading the effects of contractionary open market operations by borrowing at the discount window.

In fact, in many countries government bond issues are now sold increasingly through market auctions or syndicates to the private sector. However, in many cases where government issues are primarily long term, the short-term markets remain thin. This limits the use of open-market

operations and has prompted monetary authorities in some countries to advocate a shortening of the term structure of government debt.

In Japan, substantial issues of medium- and long-term debt have been marketed to the private sector since the late 1970s. Only recently have short-term issues become more common. At present, however, the Bank of Japan is required to purchase short-term government securities directly from the Ministry of Finance at below market rates. These securities cannot be sold in private markets.³⁴ In fact, the Bank of Japan has become a strong advocate for a more open market in short-term government securities in order to provide more flexibility in using open-market operations as a monetary tool. Japan's Ministry of Finance, concerned about the implications for its financing costs, has been hesitant to allow this to happen. The continued lack of development of short-term markets is one reason why other tools, such as the discount rate, are still used actively as a monetary instrument in Japan.

In some countries where short-term government securities markets remain limited, central banks have sought to remedy the situation by issuing their own liabilities in which to conduct open-market operations. The Philippine National Bank, for example, did so in the mid-1970s. The central bank of Indonesia also has issued its own instruments recently.

International Capital Flows

High international capital mobility also presents problems for the conduct of monetary policy. As discussed earlier, maintaining effective domestic monetary control is difficult when the authorities simultaneously peg the domestic currency and permit relatively free international capital flows. Under such circumstances, changes in the domestic credit component of the money supply generate offsetting movements in foreign exchange assets through balance of payments imbalances, rendering monetary policy ineffective. In order to maintain the effectiveness of monetary policy and also to offset the effects of foreign real shocks -- such as divergent fiscal trends abroad and large changes in oil and commodity prices -- many of the countries in the Pacific Basin have moved to greater exchange rate flexibility. Some of the smaller countries in the Pacific Basin region that allow relatively free international capital movement (Hong Kong and Singapore, for example) have chosen to maintain pegged exchange rates and give up control of their money supplies altogether. Other countries, such as Korea and Taiwan, also peg their exchange rates but have preferred to limit the impact of international capital flows on monetary policy by maintaining capital restrictions.

For countries that have only partially liberalized their domestic and/or foreign financial markets, international capital flows potentially

can create another concern for monetary authorities. As the experience of Thailand indicates, countries that liberalized their international capital transactions prior to liberalizing domestic financial markets expose their domestic interest rates to foreign arbitrage forces. In Thailand's case, the resulting capital outflows were a major factor in allowing greater adjustment of domestic interest rates and the beginning of domestic financial reform.³⁵ Thus, monetary authorities must be prepared to deal with the competitive pressures that international capital flows can create on domestic financial markets.³⁶

The simultaneous removal of international capital controls and domestic interest rate restrictions can also adversely affect an economy. In particular, large-scale capital inflows in response to higher domestic interest rates can appreciate the domestic currency and hurt the tradables sector.³⁷ This has been the experience of many Latin American countries. For this reason, it has been argued that international liberalization, particularly of the capital account, should be delayed until liberalization of the domestic financial sector is complete.³⁷

Most countries in the Pacific Basin, in fact, have adopted a gradual approach to liberalization, beginning with domestic markets. Two notable exceptions, Australia and New Zealand, deregulated both domestic and external financial transactions within a relatively short period of time. In fact, their initial experiences following these steps involved both high interest rates and appreciating currencies, which in turn dampened domestic growth.

Assuring the Stability of Financial Institutions

For countries undergoing financial liberalization, supervisory and regulatory concerns also may play an important role in the conduct of monetary policy.³⁸ The stability of individual financial institutions is at relatively little risk when financial institutions' investment and pricing decisions are extensively regulated. The relaxation of interest rate controls and portfolio restrictions, however, can expose financial institutions to greater risks. For example, greater price competition among private financial institutions reduces profit margins, and greater fluctuations in interest rates can stimulate more speculative activity. In cases in which banks are government owned, the greater freedom allowed such banks in their operations may also result in riskier activity. Thus, concerns about existing methods of supervision of financial institutions may increase with liberalization.

There are two reasons why the extent of these concerns is potentially greater for the developing countries in the Pacific Basin than for the more developed countries. First, banks in developing countries in the past have

been generally more restricted in portfolio diversification. Their acquisition of foreign assets has been limited or distorted by exchange and capital controls. They were often required to acquire certain domestic assets, such as government securities, at below-market value. Moreover, because the real economies of developing countries are typically highly specialized, portfolio holdings of domestic loan assets are not likely to be very diversified. The limited extent of portfolio diversification implies that banks in developing countries are likely to be more seriously affected by various shocks, such as fluctuating commodity prices, than are those in developed countries. In the transition from this environment to liberalized financial markets, greater concern about the solvency of private financial institutions is likely to arise. In the case of government-owned banks, concerns about solvency take the form of the potentially greater costs of subsidizing bank activity in a liberalized environment.

Second, developing countries typically lack standard accounting practices and credit rating systems. In addition, prior to liberalization, supervision and regulation in many developing countries have been directed primarily to ensuring satisfaction of government guidelines regarding credit pricing and allocation, rather than to whether institutions were making prudent credit decisions. The limited experience of both private markets and monetary authorities with the evaluation of credit risk thus also prompts concern about supervision and regulation in liberalized financial markets.

Hence, in implementing financial reforms, monetary authorities in developing countries need to consider what measures to undertake in order to promote financial stability. In particular, it may be desirable to give banks and other institutions greater freedom to diversify their portfolios by holding more foreign assets. It may also be desirable to allow financial institutions greater flexibility to hedge their interest rate risks. The elimination of various restrictions on private portfolio choice may need to be accompanied by an increase in prudential supervision by measures such as tighter auditing and strengthening of bank capital positions. Monetary authorities must also consider the need for increased deposit insurance and short-term bank borrowing from the central bank in order to maintain the solvency of individual institutions.

SUMMARY

In recent years, almost all countries in the Pacific Basin have undertaken steps to liberalize their domestic financial systems and remove restrictions on international capital flows. The resulting structural

changes in financial markets have affected the relative importance of the channels through which monetary policy operates. The greater opportunities for domestic residents to acquire credit from unregulated financial intermediaries or from open markets resulting from financial liberalization have weakened the effectiveness of credit controls. Moreover, the developments have allowed the effects of changes in interest rates to be transmitted more rapidly and broadly through the economy. The increased mobility of international capital has enhanced the role of the balance of payments and the exchange rate as major channels for the transmission of monetary policy.

As the structure of financial markets has changed, almost all countries have replaced their earlier emphasis on influencing the quantity of bank credit by a greater emphasis on the control of monetary aggregates. This emphasis is in large part a result of the increasing desire by most countries to use monetary policy to achieve greater price stability rather than to allocate credit within the economy. Many countries in the region have also moved from pegged to more flexible exchange rate regimes.

At the same time, financial liberalization has in many cases increased the difficulties of choosing appropriate monetary aggregates to target. The increase in close substitutes for narrow money aggregates as a medium of exchange has reduced the predictability of the relation between narrow monetary aggregates on the one hand and inflation on the other hand. In countries where unorganized money markets outside of central bank control continue to play a major role in domestic finance, complicating the targeting of monetary targets, the authorities have adopted an eclectic approach in the determination of monetary policy, on the basis of a number of monetary aggregates and economic variables.

Financial market changes in Pacific Basin countries have required the use of more flexible monetary instruments in order to adjust to changing demand and supply conditions in financial markets. Changes in reserve requirements and asset ratios have become widely recognized as instruments that are too blunt and that have adverse effects on the long-term development of the financial system. With greater emphasis being placed on restraining money growth, many central banks have found it impractical to use the discount mechanism for controlling commercial bank credit.

Consequently, open-market operations have become the main instrument of monetary policy in most countries. To facilitate the greater use of open-market operations as a monetary policy instrument, however, monetary authorities must continue to encourage the development of private money markets, particularly in short-term government securities.

The issuance of central bank liabilities as debt instruments may serve as an effective alternative.

As liberalization proceeds, central banks in the region must also balance the objective of promoting the effectiveness of monetary policy with that of maintaining a sound financial system. The limited extent of portfolio diversification by financial institutions in many developing countries implies they may be very sensitive to the effects of various economic shocks. In many countries the experience of both private markets and monetary authorities with the evaluation of credit risk is inadequate. Thus, during the transition to liberalized financial markets, monetary authorities must consider effective measures for monitoring the soundness of private financial institutions and the costs of subsidizing government-owned banks. Such measures may include stricter auditing, strengthening of bank capital requirements, and more deposit insurance.

The process of financial liberalization in most Pacific Basin countries is still ongoing. While significant changes have occurred, relatively few countries thus far have fully liberalized all of their financial markets. As the process continues, the monetary authorities in each country will need to continue to adapt to the new changes in their financial systems.

NOTES

1. New Zealand experienced a brief period of interest liberalization between 1976 and 1981 that was abruptly reversed and not resumed until 1983.

2. Greenwood (1986) provides a survey of the financial deregulation process in seven East Asian countries, including Taiwan, South Korea, Hong Kong, Malaysia, Singapore, Thailand, and Indonesia.

3. These problems are similar to those encountered by the United States and European countries that have recently experienced bursts of financial innovation. The experience of developed countries with financial innovation has been well summarized by Ahktar (1983) and the Bank for International Settlements (1986).

4. Aghevli and others (1979) provide an earlier discussion of monetary policy in several Asian countries.

5. A useful analysis of the workings of monetary policy in a repressed economy can be found in Buitier (1986).

6. The presumption that money has nonneutral effects on real activity, at least in the short to medium run, may be explained by rigidities in the adjustment of wage and other contracts. As nominal wages and prices adjust over time, the real effects of monetary policy tend to disappear, with only changes in nominal magnitudes persisting in the long run.

7. These adjustments presume satisfaction of the appropriate elasticity conditions and the availability of resources.

8. Growing empirical evidence (for example, McKinnon, 1973; Lanyi and Saracoglu, 1983; and Townsend, 1983) indicates that such financial restrictions have retarded economic growth by most developing countries. There is generally a positive relationship between the degree of development of the financial sector, including in particular freer interest rates, and economic performance in developing countries.

9. See Cheng (1986, p. 151).

10. Greenwood (1986), in fact, has argued that a main impetus for liberalization in some countries came from local foreign banks, who sought access to lower cost local funds in order to finance trade credit.

11. A desire to limit the growth of foreign indebtedness was also a factor behind interest liberalization in the Philippines.

12. Competition in Singapore's banking industry has been intensified by the presence of a government institution, the Post Office Savings Bank, which has aggressively competed for funds.

13. These regulations were implemented ostensibly to prevent the destabilizing interest rate competition experienced during banking crises in the early 1960s. They were formalized in legislation in 1981 that established the Association and empowered it to require banks to observe the interest rates it set.

14. See Moreno (1986).

15. In 1984 Taiwanese authorities allowed local and foreign banks to establish offshore banking units. These units were permitted to accept deposits and make loans in foreign currency at free market rates. However, domestic borrowers and lenders are restricted from operating in this offshore market.

16. See Cargill and Hutchison (1987).

17. This in part is a result of the requirement placed upon Singapore's monetary authority to sell government bonds in order to finance government budget surpluses.

18. While the Hong Kong dollar was allowed to float from 1974 to 1983, some have characterized this system as unstable (Greenwood, 1983). Also see Moreno (1986, 1987).

19. The experience of developed countries with financial innovation has been summarized by Ahktar (1983). The major changes he describes include: the greater reliance by banks and other financial institutions on interest-sensitive funds to finance their activities as interest controls have been relaxed; increasingly widespread use of variable or floating rate financial techniques; and the growth of marketable financial instruments, including the development of specialized financial techniques which unbundle and facilitate the transfer of market and credit risks. These changes have resulted in greater competition among financial institutions and the systematic breakdown of segmentation between financial markets. Also see a study by the Bank for International Settlements (1986).

20. This issue is the same as the "base drift" argument in the United States. See Walsh (1986).

21. See Walsh (1987).

22. Judd and Trehan (1987) argue that a broad-based money aggregate like M3 appears to provide more useful information for conducting U.S. monetary policy than M1.

While the Federal Reserve has used M1 as its leading indicator of real GNP and inflation since the mid-1970s, this policy presumes that M1 is a stable function of the macro variables of interest to U.S. policymakers -- GNP, prices, and interest rates. However, the increase in closer substitutes for M1 as a medium of exchange as a result of financial liberalization in the 1980s reduced the predictable effects of changes in the supply of money on the interest yields of other financial instruments. They conclude that gradual, piecemeal deregulation may present bigger problems for the implementation of monetary policy when targeting monetary aggregates than once and for all or, at least rapid, deregulation.

23. See Dougherty (1986).

24. See, for example, Friedman (1983).

25. See Hutchison (1986) and Dotsey (1986).

26. Publicly announcing targets for monetary expansion may directly affect private expectations of inflation. However, the potential benefit of, say, lowering inflation expectations by announcing a lower money growth rate must be balanced against the undesirable effects of subsequently exceeding the targets.

27. In fact, Korean authorities outlawed an unofficial repurchase market in 1984.

28. See Shin (1986). Current plans are to add CDs to M2 as a monetary target because of the high substitutability of the former with bank deposits.

29. See Fry (1985).

30. The debt of the Exchange Fund (certificates of indebtedness, or CIs) backs the note issues of private banks. The Fund passively sells or redeems this debt when approached by the private banks. Since the banks are also required to back all holdings of CIs by foreign assets, the volume of note issues effectively is linked to the foreign exchange reserves of the banking system. See Moreno (1986, 1987).

31. See Scott (1986). While Hong Kong also has reserve requirements, they are irrelevant given the absence of any limits on the ability of private banks to obtain currency (CIs) from the Exchange Fund. See note 30.

32. These costs can be especially high since central banks rarely pay interest on required reserves.

33. See Aghevli and others (1979, pp. 796-800).

34. See Royama (1986).

35. Concern about the tendency of domestic credit to be strongly affected by external developments has at times also prompted authorities in Thailand to reimpose some restrictions on domestic financial markets. See Greenwood (1986).

36. Glick (1987) provides an empirical analysis of real interest linkages between several Pacific Basin countries and the United States. He finds evidence that the extent of these linkages is generally comparable to that between most European countries and the United States.

37. The appropriate order of liberalization of domestic and foreign financial markets is an important topic in the development economics literature. See, for example, Edwards (1984), Frenkel (1982), and Mathieson (1986).

38. These issues are well discussed in Dooley and Mathieson (1986).

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of optimal monetary and exchange rate policies, is broader in the sense that it explicitly takes into account the authorities' objectives. This chapter adopts the latter approach and examines the relationship between monetary and exchange rate policies by considering the factors that have led the authorities in developed and developing countries in the Pacific Basin to alter their use of monetary policy instruments and exchange rate arrangements during the past decade.

The chapter has three sections. The first section examines the monetary policy instruments and exchange rate arrangements that have been used in selected Asian countries during 1975-1985. This was a period of substantial structural change for almost all of these countries, including changes in exchange rate arrangements, substitution of monetary for credit