

IMF Working Paper

Measures to Limit the Offshore Use of Currencies: Pros and Cons

Shogo Ishii, İnci Ötoker-Robe, and Li Cui

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Prepared by Shogo Ishii, Inci Ötker-Robe, and Li Cui¹

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Abstract

The views expressed in this Working Paper are those of the author(s) and do not necessarily represent those of the IMF or IMF policy. Working Papers describe research in progress by the author(s) and are published to elicit comments and to further debate.

Several Asian emerging market economies have recently adopted measures to limit the offshore trading of their currencies. This paper provides a general overview of such measures and evaluates the experiences of selected countries that resorted to such measures. It concludes that the measures could be effective if they were comprehensive and effectively enforced, and were accompanied by consistent macroeconomic policies and structural reforms. Such measures, however, could adversely affect investor confidence, financial market development, and nonspeculative economic and financial activities, and impose administrative burden on all parties involved.

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Author's E-Mail Address: sishii@imf.org, iotker@imf.org, lcui@imf.org

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I. INTRODUCTION

Following the Asian crisis of 1997–98, a number of emerging market economies in Asia have resorted to measures to limit the offshore use of their currencies, which had been a long-standing policy of Singapore. The authorities of these countries have been concerned that large offshore markets in their currencies could induce greater volatility in capital flows and exchange rates and make it harder for the authorities to control the money supply. They have sought to limit speculation against their currencies by restricting nonresidents' access to domestic currency funds that could be used to take short positions against the currencies.

Among the Asian countries that suffered financial turmoil, Thailand was the first country to impose restrictions on the offshore trading of the Thai baht (May 1997), prohibiting baht transactions with nonresidents and subsequently replacing the prohibition with quantitative limits. Malaysia in September 1998 imposed a number of exchange and capital controls specifically designed to eliminate the offshore ringgit market and regain monetary policy autonomy. Korea, after passing a legislation to fully liberalize the capital account in two stages, decided to maintain some of the existing restrictions, particularly those involving lending of won to nonresidents. And more recently, Indonesia tightened the existing regulations on the offshore trading of the rupiah. Measures to limit the offshore use or trading of currencies may well become a fashionable way to limit the scope for currency speculation, reflecting increasing tendency to resort to such measures in Asia and the relatively favorable experience of Malaysia.²

This paper attempts to assess the effectiveness of such measures in containing speculative pressures on currencies based on several country experiences and to identify costs associated with their use. The rest of this paper is organized as follows. Section II provides a conceptual overview of the policy of limiting the offshore use of currencies, discussing the factors that cause a currency to be used offshore, and benefits from, and the reasons and mechanisms to limit such use. Section III evaluates in more detail the experiences of selected countries in Asia that resorted to such measures, including Indonesia, Korea, Malaysia, Singapore, and Thailand. It discusses their effectiveness in achieving the objective of limiting speculation, as well as the costs associated with their use. Section IV offers some concluding remarks. Detailed country experiences are presented in the Appendix.

² The offshore use or trading of a currency has been occasionally used interchangeably with the concept of internationalization of a currency. However, a currency used or traded offshore is not necessarily an international currency that performs all three functions of an international currency, namely an international medium of exchange, unit of account, and store of value. This paper focuses on the offshore trading of a currency rather than the general concept of internationalization of currencies. For relevant literature on this latter concept, see Cohen (1971), Tavlas (1991), and Tavlas and Ozeki (1992), and the literature cited therein.

II. THE OFFSHORE TRADING OF A CURRENCY: A CONCEPTUAL OVERVIEW

Offshore currency trading refers to the intermediation of funds denominated in a given currency outside its country of issuance.³ It is the means by which credit is provided and obtained in various currencies outside the jurisdiction of the country in which the currency originates. The market where such intermediation takes place is known as the offshore currency market. Offshore currency markets are not part of the domestic or national system, although they are closely linked to them through international transactions. The funds intermediated in these markets always originate from and end up in national financial or nonfinancial sectors. The core participants of the market are financial institutions, including banks—or “eurobanks.” Large national corporations, nonbank financial institutions such as hedge funds, governments and government-related borrowers, international financial institutions including the World Bank and its affiliates, and, to a small extent, private individuals are other participants in the market.

Offshore currency markets engage in a number of different types of transactions, including offshore deposits and loans denominated in a currency other than that of the country in which the bank is located (e.g., deposits in and loans extended by Singapore banks in Thai baht) and over-the-counter (OTC) trading in derivatives for risk management and speculative purposes. These markets deal in maturities typically ranging from overnight to five years. While offshore currency markets are not markets where currencies change hands, they are tightly integrated with spot and forward foreign exchange markets as well as with the respective national markets. The linkage manifests itself in interest rate relationships or the relative availability of funds among the different markets. An offshore deposit trader typically uses the spot and forward foreign exchange markets to hedge his exchange rate risk associated with an offshore currency funding.⁴

³ The discussion draws extensively on the literature on eurocurrency markets (see Cassard (1994), Dufey and Giddy (1994), George and Giddy (1983), and Johnston (1982) for detailed reviews of the characteristics and functioning of the markets, and Giddy (1994), Krugman and Obstfeld (1991), and Levich (2001) for a summary of the key issues). While it initially emerged in London, the eurocurrency market has expanded to financial centers outside Europe (such as Singapore, Hong Kong, Bahrain, and the Bahamas), and has become a generic term for offshore currency markets. The prefix “euro” has been used interchangeably with “external” or “offshore” to characterize funds intermediated outside the country of the currency in which the funds are denominated.

⁴ A typical arbitrage of this kind may occur when a eurocurrency dealer borrows money, say for three months, in one currency and invests the funds in a different currency. To avoid exchange rate risk, the dealer hedges the repayment of the borrowed currency through a forward foreign exchange contract, provided that the cost of borrowing the foreign currency adjusted for the cost of hedging is lower than the cost of funds in the currency in which the funds are being invested (see Giddy (1994)).

The offshore currency market can be viewed as a parallel money market, which offers financial instruments that compete with similar products in the onshore market. The main difference between the two markets is that the offshore market separates the currency of denomination from the country of jurisdiction (i.e., it takes the exchange risk of one currency and combines it with the regulatory climate and political risk of another country where the financial center is located). Such a market generally emerges in places that already have highly developed financial structures, a broader array of instruments, and competitive, efficient institutions. The banks operating in these markets are exempted from regulations normally imposed on onshore institutions, such as reserve requirements on deposits, taxes on bank transactions, or interest or exchange rate restrictions. In some cases (but not all), they are also exempted from regulatory scrutiny with respect to liquidity and capital adequacy and extensive disclosure requirements (Ericco and Musalem (1999)).

The absence of regulations in the offshore market in turn enables offshore banks to operate more efficiently and cheaply than domestic banks. The absence of regulation also subjects them to a higher degree of competition, forcing them to keep narrower margins and lower overhead costs. The offshore banks offer somewhat better terms to both borrowers and depositors to compensate them for the inconvenience or perceived risk involved in switching from the domestic market to the offshore market (e.g., the risk of exchange controls or taxes, blocked funds, or any other event that could affect the timely return of the deposits or the amounts returned).

In the absence of domestic regulations, arbitrage would ensure that the offshore market interest rates will respond quickly to changes in domestic interest rates (or vice versa). Legal restrictions on international transactions, if effective, would insulate the onshore currency market from its offshore counterpart, where exchange rate expectations and credit conditions become the main determinants of interest rates. This would in turn lead to a deviation of the offshore interest rate from the rate in the onshore market that may be set to accommodate domestic economic conditions.

A. Factors Affecting the Emergence and Growth of Offshore Currency Trading

There are a number of well-known reasons for the emergence of offshore currency trading, including the convenience of time zones and location of customer business. By offering more rapid clearing of payments, flexibility, and trust, foreign banks in certain financial centers may compete with domestic financial institutions. Most important, however, these banks have a competitive advantage in financial intermediation over domestic banks when the latter are affected by excessive regulations in the domestic markets. Indeed, it could be argued that domestic regulations may provide a cost advantage to those who can avoid them. However, not all regulations cause a competitive disadvantage for domestic institutions. Regulations promoting disclosure of financial conditions and those activities of the supervisory authorities that strengthen the safety of the institutions would improve market confidence on domestic institutions. Hence, it is not a regulation *per se* that matters, but a regulation that imposes greater costs than benefits for financial institutions. The emergence of offshore

currency markets, therefore, reflects the presence of regulations that distort financial decisions in domestic economies⁵ (see Box 1). In the absence of sufficient coordination of supervisory, fiscal, and regulatory policies among economies, such distortions generate incentives to relocate domestic currency activities to offshore markets, which offer a more favorable regulatory and fiscal environment, as well as a broader array of financial instruments, more efficient financial services at lower transaction costs, better returns, and a greater degree of protection against political and regulatory intervention by the national economies.

The existence of an offshore currency market depends also on the market mechanism, in particular on the existence of a sufficient number of borrowers and lenders who are able and willing to take up loans from and invest funds in offshore banks. The ability to do so depends on the extent of exchange and capital controls on domestic currency transactions, while the willingness to do so is a function of the attractiveness of the deposit and lending rates offered by the offshore banks compared with the domestic financial institutions.

The existence of a significant offshore market also requires that offshore banks be able to keep clearing accounts with onshore banks and freely transfer funds from such accounts (i.e., nonresident convertibility holds). Transfer of funds into and out of offshore banks is eventually made by means of a transfer in domestic banks, and hence, offshore banks must be able to undertake such transfers freely for the offshore market in that particular currency to survive. Even when restrictions on transfers prevail, however, an offshore market may still emerge in the currency in the form of a non-deliverable forward (NDF) market, where it is possible to undertake transactions without having access to the currency itself (Box 2).

B. Benefits of and Reasons to Limit the Offshore Currency Trading

Offshore currency trading can provide a number of benefits. First, it can allocate resources efficiently to the most productive uses, provide investors with better returns at lower transaction costs, and facilitate diversification of currency risks for investors and borrowers, particularly when ability to hedge financial risks is limited in the onshore market. Second, offshore currency trading adds liquidity to and thus contributes to the depth and breadth of foreign exchange markets in domestic currency, with offshore parties (including “speculators”) freely participating as counterparties to domestic currency transactions. Deeper and broader spot and forward foreign exchange markets, in turn, facilitate the efficient pricing of domestic securities and enhance the development of domestic securities markets. Third, active offshore currency trading can increase the signaling role of efficient pricing, with the greater interest rate elasticity of capital flows forcing the concerned authorities to maintain consistent macroeconomic policies to prevent major shifts in capital flows. Finally, it may raise the issuing country’s financial sector earnings, since loans,

⁵ Such regulations include high unremunerated reserve requirements, excessive reporting and disclosure requirements, interest rate or credit controls, and high withholding taxes.

Box 1. Emergence and Growth of Eurocurrency Market

The offshore currency market often refers to the Eurocurrency market. The size of this market grew from about nil in 1960 to about \$9.5 trillion in 1999 on a gross basis and \$5.5 trillion on a net basis (excluding interbank deposits). The annual growth rate of the market exceeded 20 percent prior to the 1990s, but fell to 5 percent since then. The eurocurrency market originated in Europe, but has expanded to other financial centers outside Europe, including the United States (accounting for the 11.6 percent of eurocurrency activities in 1999), Cayman Islands (6.8 percent), Japan (5.7 percent), Singapore (4.4 percent), Hong Kong (3.9 percent), and the Bahamas (2.5 percent).

The best known Eurocurrency market is the Eurodollar market, a market where dollars are held in the form of deposits (mostly time deposits) and loans in banks outside the United States. Eurodollars were born in the late 1950s, when banks outside the United States began to lend dollar funds within Europe (especially in London) to finance foreign trade or other economic projects. The early growth of the Eurodollar market in the 1950s was stimulated by political considerations and government financial regulations. The Cold War between the United States and the former Soviet Union boosted the growth of the Eurodollar market, as the former Soviet Union and its Eastern European allies chose to safeguard their dollar balances by keeping them in Western Europe, which is outside the U.S. jurisdiction. They feared that the United States might confiscate dollars placed in the United States.

Several financial regulations contributed to the early growth of the Eurocurrency market. The first episode was the 1957 sterling crisis, when the British government prohibited London-based banks from financing third-country trade in pound and encouraged the use of dollars for this purpose, attracting dollar deposits and lending dollars instead of pounds.

In the 1960s, against the background of the weak balance of payments, the United States adopted a series of measures to discourage U.S. lending abroad, which boosted the Eurodollar market. The first of these measures was the Interest Equalization Tax in 1963, which discouraged Americans from buying foreign assets by taxing those assets' returns. Next was the U.S. Voluntary Foreign Credit Restraint Program announced in early 1965; the program limited the ability of U.S. banks to lend directly in U.S. dollars to foreigners, thereby inducing U.S. banks to shift foreign operations to their branches in overseas markets, particularly to the Eurocurrency market. Under Regulation Q, the Federal Reserve established ceilings on the interest rate that banks could pay on time deposits of various sizes and maturities. No interest was allowed on demand deposits, and during the period 1957-64, a ceiling of one percent interest was applied to time deposits of less than 90 days. When U.S. monetary policy was tightened at the end of the 1960s to contain inflationary pressures, market interest rates were driven above the Regulation Q ceiling, making it difficult for U.S. banks to attract time deposits for re-lending. The banks started borrowing funds from their European branches, which faced no restriction on the interest rates on Eurodollar deposits and thus were able to attract deposits from the United States.

In the early 1970s, capital controls experimented by European governments similarly helped to promote the non-dollar segments of the Eurocurrency market. For example, Germany maintained a number of regulations, including higher reserve requirements on deutsche mark deposits held at German banks by nonresidents and prohibition of interest payments on such accounts. At roughly the same time, the Swiss National Bank imposed heavy interest rate penalties on nonresidents with onshore Swiss franc accounts. Both regulations, designed to limit nonresident demand for DM and Swiss francs, encouraged agents to deposit offshore.

The importance of the regulatory environment in the development of offshore currency markets is illustrated by the rapid growth of the offshore markets in some Asian currencies. Such markets provide more efficient financial intermediation, in part reflecting their more favorable regulatory environment, and in part the availability of a wide range of financial instruments, including hedging instruments that were limited or restricted in the domestic markets.

investments, and trade transactions in domestic currency are executed increasingly through the domestic financial sector.

Despite these benefits, some countries regulate the offshore trading of their currencies, in general to isolate the domestic foreign exchange market from the potentially destabilizing influence of offshore currency trading and thus to maintain control over domestic policy.

Box 2. Non-Deliverable Forward Markets¹

A non-deliverable forward (NDF) contract is similar to an outright forward exchange transaction (buying one currency and selling the other for delivery at a future date at a predetermined rate), except that it requires no exchange of the principal sums of the contract at maturity. Instead, the difference in values produced by comparing the contracted rate with the market rate at maturity is settled in a major currency, such as U.S. dollars. NDFs provide an effective vehicle for hedgers or traders to deal for notional forward currency amounts when traditional forward markets are thin or subject to capital controls that prohibit or limit access to foreign entities. Since settlement is in a major currency, funding difficulties in local currency are avoided. NDF markets are widely found for currencies that are not freely convertible (for current or capital transactions) and their trading tends to be concentrated in liberal environments, such as Singapore and Hong Kong (for Asia), London (for Europe and the Middle East), and New York (Latin America). The clients are usually large local corporations that wish to hedge trade flows or the currency risk in capital investments, international portfolio investors with paper holdings, or speculators taking a position on the currency.

Although no local currency changes hands in NDFs, the NDF activity may affect the domestic market to the extent that the offshore bank hedges its exposure by dealing in spot with a local bank. Even if access to the spot market is restricted by exchange controls, the act of hedging the exposure offshore still feeds through to the domestic market, since there may always be agents prepared to circumvent controls if the rewards are sufficiently attractive and the enforcement capacity of the authorities is weak. NDF activity hence is soon reflected in the local exchange rate. Similarly, domestic interest rates quickly adjust to the situation offshore. To cover an over-lent offshore position, foreign investors sell their holdings of domestic paper to benefit from the higher NDF yields. This puts upward pressure on local interest rates. Alternatively, some dealers engaged in NDFs may choose not to hedge when faced with difficulties due to the existence of capital or exchange controls, when they are willing to take on the risk of an adverse currency movement, or when they act as a broker (i.e., performing transactions when they can match a customer who wants to take a short position with another who wants to go long). Such activity may still impact on the domestic market through the reaction of the domestic agents to interest rate developments offshore.

¹ See Applied Derivatives Trading, February 1997–98, Treasury Services: Emerging Market Currencies Report, Cashmore (1996), IMF (1997), and Reed (1996).

Two main sources of interrelated macroeconomic concerns have been expressed in the literature against the offshore transactions in domestic currencies: (1) they lead to a reduction in the ability of the authorities to conduct an independent monetary policy, particularly under a fixed exchange rate regime, and thus a subsequent loss of control over macroeconomic conditions, and (2) they have a destabilizing influence on the onshore foreign exchange market.⁶

⁶ An additional concern is related to the effect of the absence of regulation on the financial stability of the offshore markets and its subsequent impact on the onshore financial institutions. These concerns centered around the offshore trading of industrial country currencies, but the analysis and arguments are also applicable to emerging markets. While significant differences of view existed on the validity of these arguments (see Johnston (1982) for an extensive review of the debate), most of these concerns have been put to rest in industrial countries. The industrial country authorities acknowledged that eurocurrency markets were fully competitive with traditional onshore banking systems, and instead of attempting to eliminate the offshore markets, they opted to factor them in in setting domestic (continued...)

According to the first argument, the regulation-free aspect of the offshore market would reduce the effectiveness of domestic monetary and inflation control, as the extension of domestic currency loans by offshore banks could potentially expand the supply of the currency in question, cause the nationally defined money and credit stocks to understate the total magnitude of monetary and credit aggregates, and undermine the restrictive stance of domestic monetary policy that attempts to limit credit and monetary expansion through instruments such as reserve requirements. Such considerations, for example, played a role in German and Swiss authorities' efforts to limit transactions in domestic currency instruments with nonresidents in the 1960s and 1970s (see Johnston (1982), Languetin (1986), Marston (1995), and Tavlas (1991)).

It has also been claimed that offshore currency markets serve as a source of finance for exchange market speculation and hedging activities. More specifically, it has been argued that speculation and arbitrage activity in a currency would be confined to the operations in domestic currency markets in the absence of offshore markets. The absence of restrictions on moving between currencies in the offshore markets would make it easier for speculators to borrow a depreciation-prone currency from offshore banks, and to hold assets in an appreciation-prone currency. Offshore markets would hence raise the volume of international (short-term) capital flows that could potentially be used to create speculative positions against national currencies, since offshore market operators would go short in currencies they expect to depreciate, and go long in currencies they expect to appreciate. Particularly when domestic authorities attempt to implement policies inconsistent with the exchange rate level they attempt to maintain, offshore markets could become an unwelcome source of instability by facilitating a sudden shift in the volume of externally held claims in the currency and undermine the authorities' ability to maintain a stable exchange rate. As discussed below, such considerations played a role in several Asian countries' attempts to limit the offshore trading of their currencies.

C. Mechanisms to Limit the Offshore Currency Trading

There are three alternative ways to limit offshore currency trading. The first approach is to convince the authorities of the jurisdiction hosting offshore intermediation to make the regulatory framework governing financial activity uniform with that of the national markets; this would have the effect of reducing the competitive advantage of offshore intermediation over domestic intermediation in a currency, and thus of reversing the offshore activity back to onshore markets. This approach has been historically unsuccessful, reflecting the political and technical difficulty of agreeing on an internationally uniform set of regulations and the reluctance of host governments to discourage such activities that tend to be beneficial for their country. It has been recognized that without concerted international action, any

monetary and financial policies and adapted domestic regulations to compete with these markets (Levich (2001)).

regulations imposed on a few centers would simply cause business to shift to other regulation-free centers.

The second approach is that domestic authorities eliminate the domestic distortions that give rise to the offshore market in the first place. As noted above, most industrial countries followed this approach, adjusting their domestic regulations to reduce incentives for the offshore market, recognizing that regulatory approaches to eliminate offshore trading would not work over a long period of time and would have major costs.

The third approach, which has been recently adopted by a number of emerging market economies in Asia, is to impose restrictive measures on international transactions denominated in domestic currencies, in order to minimize or eliminate the influence of the offshore currency market on domestic monetary policy and exchange rates. These measures generally take three forms (or their combination).

First, a more direct, and potentially most effective, means is to **restrict nonresident convertibility**. This would involve controlling nonresidents' access to working balances, held either by nonresident banks in the domestic banks of the country ("vostro accounts") or by resident banks offshore ("nostro accounts"), and restricting transfers of domestic currency funds in and out or between such accounts. These restrictions would limit the ability of nonresident banks to settle international payments necessary to undertake offshore transactions in the currency, thereby draining the liquidity out of the offshore market that could support the offshore intermediation of the currency. While attempting to limit speculation, such measures would have an adverse effect on international payments and transfers in domestic currency with an underlying trade or investment activity (such as hedging for the exchange rate risk associated with trade and investment), and thus are viewed as economically costly. Moreover, offshore markets may still emerge in the form of an NDF market, provided that there is sufficient hedging and speculative interest in trading the currency. The significance of such a market, however, depends, among other things, on the ability of offshore parties to find an onshore counterparty with an incentive to circumvent the restrictions, and the existence of players who are willing to take the risk associated with NDF activity.

Second, a relatively less direct way of limiting the offshore market is to impose direct or indirect controls on on- and off-balance sheet **transactions of financial institutions**, with the latter being the most common channel for intermediating financial flows. On the liability side of banks' balance sheets, nonresidents may be prohibited from holding domestic currency deposits with onshore financial institutions, taxes or limits may be imposed on the interest income earned by nonresidents on such accounts, or higher reserve requirements may be applied to liabilities with nonresidents, with the aim of limiting the demand for domestic currency by nonresidents. On the asset side, provision of domestic currency credit from resident financial institutions to nonresidents may be prohibited or limited. This would aim to limit the supply of domestic currency funds to reduce offshore market liquidity that could support speculative position taking, since speculation against a currency typically requires the establishment of a net short position in that currency (Box 3). The lending restrictions are

Box 3. Mechanics of Speculation on a Currency and Response by the Authorities

Most speculative position taking on a depreciation-prone currency (whether as part of a hedging activity or simply to speculate for profit) is done by short selling the currency at a predetermined rate, with the expectation of realizing a profit (or avoiding a loss) by unwinding the short position at maturity at the (cheaper) post-depreciation rate (see IMF (1997) and Lall (1997)). The most common form is to **sell a weak currency through relatively long-dated forward contracts** to a bank, whenever the speculator sees a deviation between the expected future value of the spot rate and the market forward rate. Banks act as the counterparty to such position taking in their role as market makers, and being risk averse and/or subject to prudential regulations, they try to offset the currency and maturity mismatches that the corresponding long position in domestic currency would create by writing offsetting real or synthetic forward contracts with other counterparties. In the case of the former, the bank can close its long position in domestic currency by entering into a forward contract with another party who is willing to take a long position in the domestic currency. However, the only party who would be willing to enter into short positions in the strong currency during an episode of market pressure on the domestic currency is the domestic central bank. If the commercial bank is unable to enter into an offsetting forward contract with the central bank, it moves to the spot market (to create a synthetic forward), by simultaneously selling the weak currency spot—to close the currency mismatch—and engaging in a swap transaction with the same maturity as the original forward contract (selling the strong currency against the weak currency spot and delivering the weak currency against the strong currency forward)—to close the maturity mismatch. These offsetting bank transactions to close their balance sheet mismatches put pressure on the currency, causing a collapse of the exchange rate if the central bank intervenes neither in the spot nor in the forward markets. An alternative form of speculative position taking is to go short by **borrowing the weak currency from a bank and selling it spot** for the strong currency, and placing the funds in a bank deposit with the same maturity as that of the loan. The speculator can unwind the position and make a profit if the spot sales of the currency succeeds in depreciating the domestic currency.

Countries employ a number of methods to raise the cost of such short positions to limit speculative attacks against their currencies. For example, short-term interest rates may be raised to higher levels, making it more costly for the speculators to obtain a net short position by borrowing the domestic currency and for banks who would eventually have to obtain domestic currency funds to finance speculators' positions (e.g., through money market operations or standing facilities). Higher interest costs, however, affect not only the speculators but also those market participants short in the currency for commercial reasons; this in turn impacts on economic activity as well as the financial condition of the banking system. To mitigate this cost, a central bank may split the market between speculators and non-speculators and charge effectively higher interest rates to those identified as speculators and normal market rates to non-speculators who demand the currency for transactions with underlying purposes. The central bank may control the supply of credit to the banking system and speculators in order to reduce the volume of short positions against the currency, where credit may be supplied either through spot markets, overnight markets, or foreign exchange swaps. One way to control the supply is to identify nonresident speculators who engage in foreign exchange swaps with domestic banks, then either to prohibit such swaps, or make them available at heavy discounts. The central bank may also prohibit domestic banks from providing nonresidents with on-balance sheet credit overnight or longer maturities. Such measures in turn result in very high overnight borrowing rates in the markets where speculators may attempt to access credit (e.g., the offshore markets for the currency) and thus generate a spread between onshore and offshore interest rates on domestic currency loans, along with a strong incentive to circumvent the controls.

typically accompanied by controls on banks' ability to engage in derivative transactions (e.g., forwards and swaps) so as to limit circumvention of the lending restrictions through synthetic loans. They may also discriminate between transactions with and without underlying purposes (such as trade and genuine investment) so as to target only speculative activities. Reflecting tight liquidity conditions, interest rates rise significantly in the offshore market, deviating from the domestic interest rates set to accommodate domestic conditions and creating a strong incentive to circumvent the controls. The authorities may also restrict nonresidents' issue or sale of domestic currency denominated securities through the financial system to limit their access to domestic currency funds.

Controlling financial institutions' domestic currency transactions with nonresidents, however, may not be sufficient to restrict the offshore currency trading. This is not only because the controls can be circumvented by these institutions, particularly in the absence of an effective enforcement of the controls and adequate reporting and documentation requirements, but also since nonfinancial entities can move in a variety of ways domestic currency funds that could end up in the offshore currency market. Thus as a third approach, several countries have also imposed measures to **limit domestic currency transactions of nonfinancial institutions** in order to prevent such leakages. Most frequently used controls include: extending to nonfinancial entities controls on credit facilities in domestic currency; controlling directly nonresidents' purchase, issue, or sale of domestic currency denominated assets; prohibiting nonfinancial residents from holding domestic currency accounts offshore; prohibiting the use of the currency to settle trade transactions or discharge financial obligations; and restricting the export or import of domestic currency banknotes.⁷

III. COUNTRY EXPERIENCES WITH LIMITING THE OFFSHORE USE OF CURRENCIES

Most emerging market countries maintain generally extensive restrictions on the offshore use of their currencies, in order to limit or eliminate the offshore market that could facilitate speculation against their currencies. The following sections focus on the experiences of five emerging market countries, including Indonesia, Korea, Malaysia, Singapore, and Thailand, all of which maintained or imposed such measures with the intention of limiting speculation.⁸

⁷ Measures to limit offshore currency use are closely related to, and may overlap with, capital controls, which are official measures that involve prohibition, cost, delay or other burden imposed on specific international capital transactions, and treat such transactions less favorably than functionally equivalent domestic transactions or nonresidents less favorably than residents. These include, for instance, controls on nonresidents' sale, issue, or purchase of domestic currency denominated securities and their holding domestic currency deposits in onshore financial institutions, residents' sale or issue of domestic currency denominated securities or their holding of domestic currency deposits abroad, domestic currency credit facilities between residents and nonresidents (including through derivatives), and controls on import or export of domestic currency.

⁸ While the explicit objective was not to limit offshore trading of the currency, Spain imposed selective controls on banks' domestic currency transactions in late 1992 in an attempt to limit speculation against its currency during the crisis in the Exchange Rate Mechanism (ERM) of the European Monetary System; the controls were lifted shortly after, when a further realignment of the peseta was negotiated within the ERM. Similarly, France maintained in the 1980s a number of restrictions on French franc-denominated transactions with nonresidents that effectively separated the euro-franc market from its onshore counterpart (see Boxes 4 and 5 for a brief review of the experiences).

Box 4. Spain's Experience with Restrictions on Domestic Currency-Denominated Transactions

Spain introduced capital controls on September 22, 1992, after all controls had been lifted in February 1992, following the emergence of speculative pressures on the Spanish peseta that reflected the general tensions within the ERM and the weakening of the credibility of Spain's exchange rate peg within its ERM bands (see Ariyoshi and others (2000)). The peseta had been devalued on September 17, 1992, but downward pressure on the currency continued and further immediate realignments were difficult owing to the high level of tensions within the ERM where decisions on exchange rate changes were subject to agreement with other members of the system; there was also limited room for a credible interest rate defense and the authorities were committed to remain with the ERM.

The measures consisted of several compulsory non-interest-bearing deposit requirements on domestic banks' peseta transactions, designed to interfere with speculative position-taking by making it costly for Spanish banks to take net short positions against the peseta. Banks were required to place with the central bank a one-year non-interest-bearing deposit of an amount in pesetas, equivalent to 100 percent of: (i) the increments from the September 22 same day, next day, and two-day value long foreign currency positions against pesetas; and (ii) the increments in loans and deposits to nonresidents denominated in pesetas. The measures also included a 100 percent reserve requirement on the increments in peseta-denominated liabilities of domestic banks (national and foreign) with their branches, subsidiaries, and parent companies. The controls were modified on October 5, 1992, seeking to target the financing of foreign exchange speculation more precisely and shield nonspeculative activity, after recognizing that the earlier measures had been unnecessarily wide and not sufficiently clear in its formulation. It has been argued that the wide-ranging and restrictive nature of the first set of measures had paralyzed most short-term operations given the broad range of activities they covered, including hedging associated with foreign trade (Garber and Taylor (1995)). The revised measure was designed to increase the cost to nonresidents of raising funds for speculation through the swap market or outright forward peseta sales by requiring domestic banks to place with the central bank a non-interest-bearing deposit of an amount in pesetas equivalent to 100 percent of: (i) the peseta sales against foreign currency to nonresidents with same-day value (to constrain peseta sales to cover overdrafts), (ii) the increment in net sales of peseta against foreign exchange to nonresidents with value "next day," and (iii) the increment in the forward sale of foreign exchange against pesetas to nonresidents.

The controls were initially effective in preventing speculation against the peseta; based on daily data on onshore-offshore interest rate differentials and the movements of the peseta within its ERM band. Between September 22 and mid-October, interbank interest rates declined, the offshore-onshore interest rate differentials subsequently widened, the peseta stabilized close to the more depreciated margin of the fluctuation band, and the reserve loss slowed to \$2 billion in October, compared with a decline of about \$12 billion in September. From mid-October 1992, the interest rate differential fell close to zero and rose only modestly when the peseta again came under pressure in November, reflecting market expectations of another realignment. The reserve loss accelerated to \$9 billion in November. On November 23, the peseta was devalued for the second time, all the controls imposed since September 1992 were removed, and the authorities raised interest rates.

It is difficult to determine whether the reduction in offshore-onshore interest differential from mid-October and the need for large interventions in November to defend the rate reflected limiting of the scope of the controls or growing circumvention. It has been argued that Spanish banks sent pesetas to their London subsidiaries to circumvent the deposit requirement (see Eichengreen, Tobin and Wyplosz (1995)). Also, it appears that nonbanks may have been used to channel domestic currency offshore in response to the imposition of a deposit requirement on bank lending operations (e.g., through the transfer of resident deposits to foreign branches of domestic banks, or leads and lags in the operations of exporters and importers). Narrowing the controls to cover only one method of financing from early October to avoid penalizing desirable transactions restored avenues for speculation.¹ Spain's experience suggests that to be effective, controls need to be comprehensive, but effective measures risk discouraging nonspeculative transactions, in particular, trade-related hedging transactions. While the controls may have provided the authorities a temporary breathing space until a second realignment was negotiated within the ERM, they did not provide lasting protection when there were strong incentives for circumvention.

¹ The authorities believe that the effectiveness of the measures remained largely intact until mid-November, when the higher expectation of devaluation provoked speculation against the peseta, which translated into a higher offshore demand for pesetas, re-widening of offshore-onshore differentials, sales on the foreign exchange market, and higher intervention (Linde (1993), and Linde and Alonso (1995)).

These experiences are discussed in more detail in the Appendix.⁹

Box 5. The French Restrictions on Domestic Currency-Denominated Transactions

France maintained a number of restrictions on French franc-denominated transactions in the 1980s with the aim of restricting the scope of speculation against the French franc by nonresidents.¹ To limit nonresidents' sales of French francs in exchange for foreign currencies, bank and nonbank French franc loans abroad other than in connection with export finance were forbidden. Banks were also prohibited from entering into forward foreign exchange contracts with foreign banks in which the latter would be selling francs forward. The French exchange controls in effect cut off the euro franc market from virtually all domestic supplies of funds, and created two separate credit markets, with two separate interest rate structures and different forward rates quoted on the onshore and offshore French franc forward markets. Offshore French franc deposit rates were much more closely linked to the eurodollar market and the forward exchange market, with the forward rate dominated by exchange rate expectations.

When nonresidents sought to borrow French francs (or sell francs forward) in anticipation of devaluation, they were willing to pay interest rates far in excess of those prevailing, but unobtainable, in the domestic market. Thus, whenever the franc came under pressure, the authorities traditionally relied on a squeeze in the euro franc market given the smaller pool of euro francs available to nonresidents, in order to make it more expensive for foreign speculators to borrow francs to sell the currency short. The euro franc rates could typically move from, for example, 15 percent for one-month deposit to 35 percent within a few weeks. The impact of the restrictions manifested itself most during early 1983, when euro franc rates on overnight deposits rose up to 5,000 percent per annum as speculators and hedgers sought to borrow the currency and invest in a stronger currency. However, the limited pool of euro francs available to nonresidents, together with the restrictions on residents' forward cover, made the euro franc swap and forward market shallow and illiquid. Thus the market became unable to easily absorb large borrowing or lending without the rates moving substantially. In addition to the very large premium of the offshore rates over the onshore rates, the market's thinness and trading risks also produced very large offshore market bid-ask spreads, reducing the efficiency of the offshore franc market.

¹These restrictions were accompanied by controls on residents to limit the scope of speculation also by residents: banks' net foreign currency positions were strictly restricted; residents were prohibited from holding liquid foreign currency assets and required to repatriate and dispose of any foreign currency receipts within a very short period of time; and advance payments for imports and forward exchange cover were severely restricted (see Giddy (1994) and Walmsley (1983)).

A. Motivations for Imposing Restrictions on Offshore Currency Trading

Singapore and Korea have maintained regulations to discourage the offshore trading of their currencies in the context of a long-standing policy, notwithstanding their gradual but cautious liberalization. In **Singapore**, the policy of discouraging the offshore trading of the Singapore dollar (known as "the non-internationalization of the Singapore dollar") in an otherwise liberal exchange control regime has attempted to prevent the development of an offshore market beyond the authorities' oversight and control. The Singaporean authorities have been concerned that a large pool of currency in the hands of nonresidents could create a major source of instability in the exchange rate that has traditionally anchored the authorities'

⁹ Other emerging market countries in Asia (e.g., China, India, the Philippines, and Taiwan province of China), Latin America (e.g., Brazil, Chile, and Colombia), and Europe (e.g., Hungary and Poland), which also maintain some restrictions on the offshore use of their currencies in varying degrees, are not covered in this paper.

monetary policy. In **Korea**, offshore transactions in won have been regulated in view of their potential role in facilitating speculation against the won.

Thailand, Malaysia, and Indonesia imposed restrictive measures on the offshore trading of their currencies in periods of significant downward pressure on their currencies, in an environment where most cross-border transactions in the respective currencies had been liberalized previously or the prevailing restrictions had not been enforced rigorously.¹⁰ An active offshore market thus had developed for these currencies. In **Thailand**, nonresidents were free to obtain baht credit from domestic banks and operate in well-developed spot and forward markets. In **Malaysia**, cross-border ringgit transactions had been treated fairly liberally until the Asian crisis, including for trade-related transactions, for financial transactions with nonresidents, and for trading ringgit-denominated securities abroad. Before a wide-ranging set of exchange and capital controls were introduced in September 1998, the main prevailing restriction was the swap limits on offer-side noncommercial related transactions with nonresidents, which was introduced in August 1997 to isolate the offshore market from its onshore counterpart. In **Indonesia**, the offshore use of the rupiah was partly regulated prior to the Asian crisis, including through the long-standing prohibition of rupiah (and foreign currency) lending to nonresidents and limits on exports and imports of rupiah banknotes. However, the existence of a number of unrestricted channels¹¹ and the ineffective enforcement of the existing regulations permitted the development of an active offshore market in rupiah. These restrictions were somewhat intensified by the introduction of limits on forward sales of foreign exchange by banks to nonresidents earlier in the crisis, followed by more extensive restrictions in January 2001.

As in Singapore and Korea, the main objective of the restrictions employed by these three countries was to limit or eliminate the offshore trading of their currencies. The authorities believed that offshore markets were a potential source of speculative pressure on their currencies and hence undermined their ability to maintain exchange rate stability and monetary policy conducive to growth and other domestic policy objectives. The measures sought to close off an avenue for speculation by restricting the access of nonresidents to domestic currency funds that could facilitate a buildup of speculative positions against the currencies.

The restrictions imposed by these three countries did not aim at defending a particular type of exchange rate regime, although the authorities viewed them as the only viable means to stem

¹⁰ Thailand imposed restrictions in May 1997, Malaysia initially in August 1997, then in September 1998; and Indonesia initially in August 1997, then subsequently in January 2001.

¹¹ These include: bank and nonbank residents' holding of rupiah accounts offshore, extension of rupiah financial credits by nonbank residents to nonresidents, the holding or free transfer of funds from rupiah accounts by nonresidents, the use of the rupiah for the settlement of trade transactions, and nonresidents' acquiring and selling rupiah assets in Indonesia.

further pressure on their currencies. All three countries had been maintaining a tight link vis-à-vis the U.S. dollar (Indonesia within a crawling band) when selective restrictions were imposed at the heart of the Asian crisis in 1997, but subsequently pursued managed or independent floating regimes while imposing more extensive controls (Malaysia and more recently Indonesia) or strengthening the enforcement of existing regulations (Thailand). In all three countries, official foreign reserves were declining sharply during the 1997 crisis, when the restrictions were first introduced, and room to use interest rates to defend the currencies was limited because of concerns about fragile domestic economies and financial systems. The controls were thus seen as providing some breathing space in which to undertake necessary policy adjustments and/or financial sector reforms.

B. Nature of the Restrictions

The design of the measures varied significantly among the five countries. In Singapore and Korea, the measures seem to have been designed more to prevent the emergence of a large offshore currency market that could facilitate speculative activities against the domestic currencies than to eliminate the market altogether. In Thailand, the measures attempted to separate the offshore market from the onshore market, and thus to reduce its influence on the domestic market. Indonesia and Malaysia similarly attempted initially to segment the offshore market from its onshore counterpart through the imposition of limits on non-underlying swap transactions with nonresidents; the subsequent tightening of the regulations, however, seems to be designed essentially to eliminate the offshore market.¹²

The measures to restrict offshore currency trading were direct (or administrative) rather than market-based measures in all five countries. The controls mainly took the form of outright prohibitions, approval or consultation requirements, quantitative limits, or prior reporting or notification requirements for transactions that could potentially lead to a buildup of domestic currency funds and assets offshore. Table 1 summarizes the regulations affecting the offshore use of currencies in the selected Asian countries based on the most recently available information.

The extent of the measures varied significantly among the five countries. The most comprehensive measures were imposed in **Malaysia**, restricting both bank and nonbank institutions, and covering practically all legal channels for a possible buildup of ringgit funds offshore after an initial (and in effect unsuccessful) attempt in August 1997 to separate the onshore and offshore markets through imposition of limits on banks' non-commercial related swap transactions with nonresidents: ringgit credit facilities between nonresidents and residents were prohibited (including via derivative transactions, with some exceptions); all ringgit funds held offshore were required to be repatriated; nonresident convertibility was

¹² The Indonesian authorities, however, argue that the aim of the new regulations is not to stop the offshore rupiah trade but to limit rupiah transactions offshore (see Circular to All Commercial Banks in Indonesia, Bank Indonesia, January 31, 2001).

Table 1. Summary of Regulations Affecting the Offshore Use of Currencies in Selected Asian Countries
(as of December 31, 2000, unless indicated otherwise)

Nature of the transaction	Indonesia	Korea	Malaysia	Philippines	Singapore	Thailand
Imports of domestic currency	Customs declaration req. above Rp 5 mil.; customs declaration and prior approval req. from BI above Rp 10 mil.	Notification req. to customs office to import above \$10,000	RM 1,000 per person limit for travelers in the form of notes and travelers checks; approval requirement for amounts above this limit and by other means	Prior authorization > p10,000 in banknotes, checks, coins, money orders, other bills of exchange drawn in pesos	Free	Free
Exports of domestic currency	Customs declaration req. above Rp 5 mil.; customs declaration and prior approval req. from BI above Rp 10 mil.	Permission req. from BOK to export above \$10,000	RM 1,000 per person limit for travelers in the form of notes and traveler's checks; prior approval for exports above this limit and by other means	Prior authorization > p10,000 in banknotes, checks, coins, money orders, other bills of exchange drawn in pesos	Free	B\$50,000 limit per traveler (B\$500,000 for Vietnam or bordering countries)
Use of domestic currency in settlement of trade transactions	Permitted as long as rupiah accounts of the trading partners are maintained with onshore banks	Prohibited, except for current transactions provided remittances are made in foreign exchange	Prohibited	Prohibited for payment of export receipts, except for exports to ASEAN and provided no central bank intervention for clearance	Free	Free
Nonresident holding of or transfers between/ from domestic currency accounts	Permitted to open rupiah accounts in onshore banks. Rupiah transfers from residents' or nonresidents' accounts to residents are permitted as long as rupiah accounts are maintained with onshore banks. Rupiah transfers from residents' or nonresidents' accounts to nonresidents are prohibited either when nonresident's rupiah account is in offshore banks (regardless of the underlying transaction), or in onshore but there is no underlying transaction.	Free	Prior approval for transfer of funds between nonresident ringgit accounts in Malaysia and for uses of funds other than permitted purposes. Conversion and repatriation of ringgit funds are subject to payment of levy on profits from portfolio investments retained in the country for less than one year.	Free to withdraw, but conversion into foreign currency allowed up to certain limits and subject to certain restrictions	Free	Approval for conversion for funds not originating from abroad, not transferred from other nonresidents accounts, or not borrowed from banks.

Table 1 (Continued)

Nature of the transaction	Indonesia ¹	Korea	Malaysia	Philippines	Singapore	Thailand
Resident domestic currency deposits abroad	Prohibition of resident banks to deposit rupiah funds in offshore banks; nonbank residents are not regulated.	Notification requirement to BOK	Prohibition of residents to hold ringgit accounts offshore	Free for both banks and nonbanks	Free	Prohibition of resident banks' placement and transfer of baht funds offshore, to hold claims on nonresident branches. Nonbank residents' holding deposits offshore prohibited.
Domestic currency lending from residents to nonresidents	Domestic banks are prohibited for financial or commercial purposes from lending to nonresidents, including their offshore offices. Resident entities are prohibited from granting commercial credit to nonresident entities.	Approval requirement for commercial and financial credits in won above W 1 billion a borrower.	Banks are allowed to extend ringgit credit facilities to foreign global custodian banks and stock-broking companies only up to an intraday limit of RM 200 million and overnight limit of RM 10 million for firm committed trade on KLSE. Prior approval for extension of credit facilities above RM 200,000 from resident banks to other non-residents. Permission requirement for other nonbank residents to lend ringgit to nonresidents above RM 10,000.	Prohibition (reinforced in December 1999) of banks to lend peso to nonresidents. Commercial credit from nonbank residents no longer requires approval if loans serviced by FX obtained out of the banking system; financial credit requires prior approval except those lent by expanded foreign currency deposit units.	Consultation requirement with MAS for financial institutions to extend \$S loans to nonresidents above \$S5 million except pre-approved economic activities in Singapore, and for the hedging of exchange and interest rate risks associated with these activities; nonbank residents unrestricted.	Prohibition of direct baht loans (i.e., any form of baht lending except through forwards, swaps, or options) by financial institutions to nonresidents, regardless of the existence of collateral or an underlying transaction reintroduced in October 1999 after the prohibition of direct lending with no underlying transaction was replaced by a B50 million limit in end-January 1998). Nonbank residents prohibited to extend financial credit to nonresidents in baht.
Banks' derivative transactions in domestic currency w/ nonresidents	US\$3 million limit (per person and per bank a day) on derivative transactions (forward sell, swap sell and option for sell forex call or buy forex put against rupiah) with non-residents, except for hedging of portfolio investment and trade related transactions	Controls on all derivative transactions by nonresidents involving the use of won-denominated financing.	Prior approval for non-residents to buy/sell forward RM against foreign currency, except purchasing outright forward RM to settle trade on the KLSE for <3 work days for firm committed trades. Foreign stockbroking companies and foreign global custodian banks can enter into swap contracts with resident banks for committed purchases on KLSE upto 3 work days.	Prior clearance for all forward transactions to purchase FX from nonresidents and for all forward transactions to sell FX to nonresidents (including offshore banking units) with no full delivery of principal (through NDFs).	MAS consultation requirement for all banks transacting with non-residents in Singapore dollar financial derivatives; no controls for OTC interest rate derivatives and collateralized repos.	An outstanding limit of B50 million on financial institutions' forward sale of FX and lending baht through swaps and forwards to non-residents with no underlying trade and investment activity in Thailand. Financial institutions not permitted to buy FX from nonresidents for same day and next day settlement for non-underlying transactions (for underlying transactions, there are approval, reporting or document requirements above certain limits).

Table 1 (Continued)

Nature of the transaction	Indonesia ¹	Korea	Malaysia	Philippines	Singapore	Thailand
Domestic currency lending to residents from nonresidents	Periodic reports and authorization requirements for some type of loans Nonresidents' rupiah transfer to residents permitted except when the resident account is in offshore banks.	Permission requirement of MOFE	Prohibited. All payments related to a guarantee must be made in foreign currency	Prior approval/registration for short-term trade related foreign loans contracted by nonbank residents; no prior approval for financial loans by resident private borrowers from offshore sources	Free	Free, provided repayment receives approval of Bank of Thailand.
Nonresidents issue/sale of domestic currency assets locally	Resident banks are prohibited to purchase rupiah securities issued by nonresidents. Nonresidents are prohibited from issuing money market securities in Indonesia.	Permission requirement for issue of won-denominated securities with maturity less than one year; declaration requirement to issue securities with maturity > 1 year	Prohibition to issue domestic currency assets (bonds and debt securities) locally; requirement to sell ringgit assets through authorized institutions.	Generally prior approval or license requirement to issue all peso-denominated instruments in international capital markets and bonds and debt securities	For bond and debt securities, prior consultation with MAS if proceeds not to be used for preapproved economic activities in Singapore. Proceeds must be converted and swapped into foreign currency for all uses outside Singapore	Prior approval requirements except for capital market securities. Banks are prohibited to purchase nonresident baht securities.
Nonresidents' purchase of domestic currency assets locally	Nonresidents are allowed to purchase without limit shares issued in the Indonesian capital market. Quantitative limit for derivative securities and collective investment securities.	Free, except for derivative instruments involving won lending to nonresidents, which is subject to controls	Requirement to undertake all purchases of RM assets via authorized institutions; nonresidents need prior approval to sell ringgit forward against foreign currency with resident banks (nonresidents can enter into outright forward contracts to buy ringgit, and foreign stockbroking companies and global custodian banks into swap contracts with resident banks, for committed purchases on KLSE upto 3 work days).	Registration with BSP or a designated custodian bank for capital and debt securities if repatriation of earnings needs FX purchased from the banking system	Restricted only for derivatives securities that would involve S\$ lending to nonresidents	Limits for capital market securities and derivative securities involving baht
Residents' issue/sale of domestic currency assets abroad	Limits, approval requirements, maturity restrictions for money market securities; the issuance of securities abroad is subject to regulation pertaining to receipt of offshore loans	Notification requirement for bond and other securities with maturity more than one year; permission requirement for bond and other securities with maturity of one year or less	Residents are not permitted to issue domestic currency assets offshore	Generally registration or prior approval requirements; no restrictions for money market or collective investment securities	Free	Approval requirements for capital, debt and derivatives securities; prohibition sale/issue of money market instruments in general

¹ As of end-January, 2001.

restricted;¹³ the use of ringgit for trade settlements and ringgit asset trading offshore were prohibited; and limits were imposed on export and import of ringgit banknotes. However, the measures exempted foreign direct investment and current international transactions so as to target only speculative activities. To prevent substantial outflow of capital following the restrictions, however, controls on outflows were also introduced on residents and nonresidents along with the pegging of the ringgit to the U.S. dollar. In **Korea**, while the regulations governing the offshore use of the won have been similarly wide-ranging, the regulations have been perhaps not as restrictive, taking in general the form of prior approval, reporting, or notification requirements (except for the use of the won in the settlement of trade, which is prohibited).¹⁴

In **Indonesia, Singapore, and Thailand**, the measures focused mainly on domestic currency transactions of resident financial institutions with nonresidents, though in Indonesia and Thailand the restrictions were much more comprehensive than in Singapore. Credit facilities in domestic currency extended by financial institutions to nonresidents were prohibited in Indonesia and Thailand¹⁵ and made subject to consultation with the monetary authority in Singapore. The lending restrictions did not distinguish between commercial and financial transactions in Indonesia, while in Singapore and Thailand only transactions unrelated to domestic economic activity or with no underlying purposes, respectively, were subjected to control. Lending restrictions were accompanied by controls on derivative transactions with nonresidents (including through swaps, forwards, and options) so as to limit speculative position-taking through synthetic loans. As in Malaysia, restrictions on nonresident convertibility were also used in Indonesia (only recently) and Thailand, in particular by prohibiting banks from holding domestic currency accounts in, and transfer domestic currency funds to, offshore banks and to hold claims in domestic currency on their offshore

¹³ By prohibiting residents from holding and transferring funds to offshore accounts and imposing approval requirements on transfers between nonresident rupiah accounts.

¹⁴ Note, however, that the restrictiveness of the regulations on paper may differ significantly from that of their actual implementation.

¹⁵ In Thailand, the 1997 measures attempted to create a two-tier market by requiring banks to suspend all transactions with nonresidents that could facilitate a buildup of baht positions offshore (baht credit facilities through direct loans, overdrafts, swaps, outright forward transactions in baht, and spot sales of foreign currency for baht). In end-January 1998, the spot sale restriction was lifted and the prohibition of extension of all credit facilities was replaced with a B 50 million limit per counterparty. The 1997 measures also prohibited nonresidents from transferring baht proceeds from the sale of stocks to other nonresident accounts and repatriating the funds in baht, and required the use of onshore rate to convert baht proceeds from the sale of stocks and payments to be made in foreign currency for banks' purchase before maturity of baht-denominated instruments; these measures were lifted in end-January 1998.

branches. In both countries, banks were also prohibited from purchasing nonresident securities. However, in neither country were further controls imposed on outflows of residents or nonresidents.

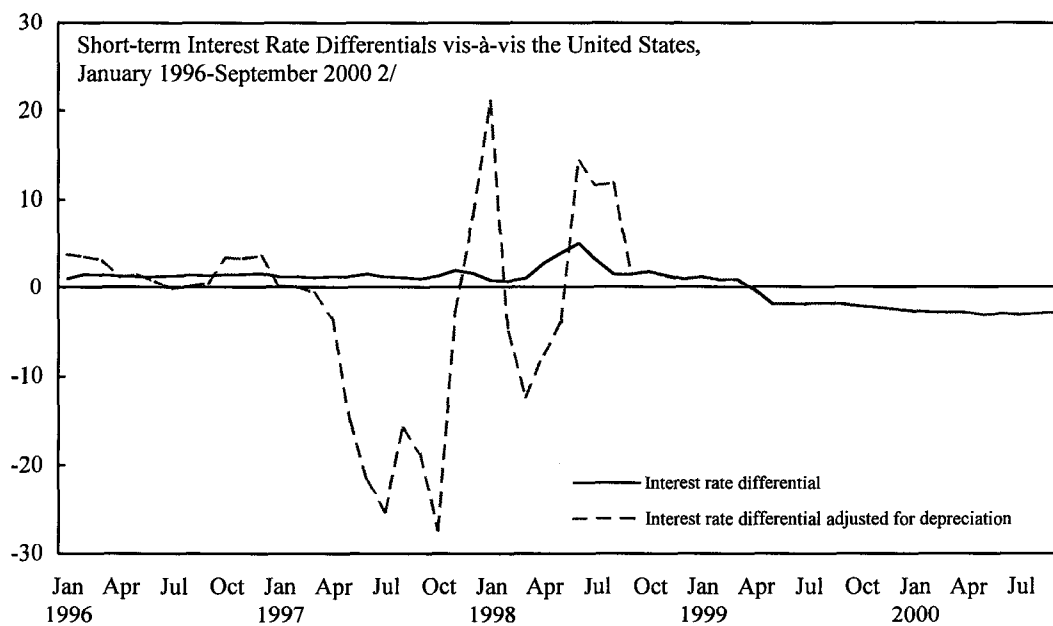
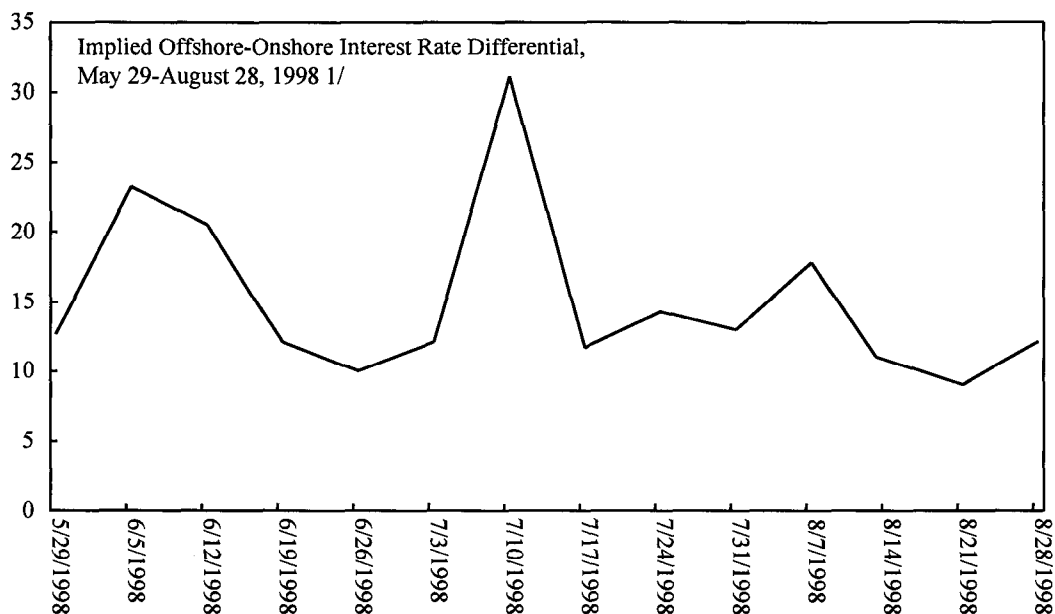
C. Effectiveness of the Restrictions

The effectiveness of the measures introduced or maintained by the sample countries has been assessed on the basis of the following two criteria. First, did the measures introduced at the time of heavy market pressures on the domestic currency help reduce speculation against the currency and stabilize the onshore currency market by either segmenting it from its offshore counterpart or eliminating the offshore currency market, thereby permitting the authorities to avoid significant changes in monetary policy? Second, when they were long-standing, did the measures prevent the emergence of a significant offshore market for the currencies concerned and provide protection against downward pressure on the currencies during periods of market tensions? Assessed based on these criteria, the effectiveness of the measures in curtailing speculative pressures against the currencies was mixed.

Among the countries which reimposed the measures in the context of a currency crisis, the September 1998 measures seem to have been beneficial in **Malaysia** in buying the authorities time in which to implement fundamental policy reforms and in allowing monetary policy to support these efforts (Figure 1). The elimination of most potential sources of access to ringgit by nonresidents effectively ended the offshore ringgit market and contributed to the containment of portfolio outflows. In conjunction with sound macroeconomic policies and acceleration of financial and corporate sector reforms, as well as with the controls on capital outflows, these restrictions helped stabilize the onshore foreign exchange market and maintain domestic interest rates at low levels. There have been no subsequent speculative pressures on the ringgit, no reports of significant efforts to circumvent the regulations, or of the emergence of a parallel or a significant NDF market for the ringgit, reflecting a combination of factors discussed below.

In **Thailand**, the effectiveness of the measures seems to have varied over time. Large differentials initially emerged between onshore and offshore interest rates following the imposition of the controls in May 1997 (Figure 2A), trading in the swap market virtually stopped, and speculative attacks temporarily ceased. The measures imposed a severe squeeze on offshore players who had acquired short baht positions in expectation of devaluation, and had to close their positions at a loss. However, leaks began to develop around the controls, pressure on the baht resumed, and the authorities floated the currency in July 1997. The interest rate spread fell until late 1997 even though the pressure on the baht continued, and the measures failed to reduce the volatility of the baht exchange rate (Figure 3). The controls were partly relaxed in end-January 1998, but as a safeguard against potential speculation, those on credit facilities to nonresidents and offshore baht accounts have been maintained. The controls have provided some degree of segmentation between the two markets since then, as evident from the occasional widening of the offshore-onshore spread; however, pressure on the baht occurred occasionally and prompted the authorities in mid- to late 2000 to reinforce the controls through a tightening of the reporting requirements and the

Figure 1. Malaysia: Interest Rate Differentials
(In percent)

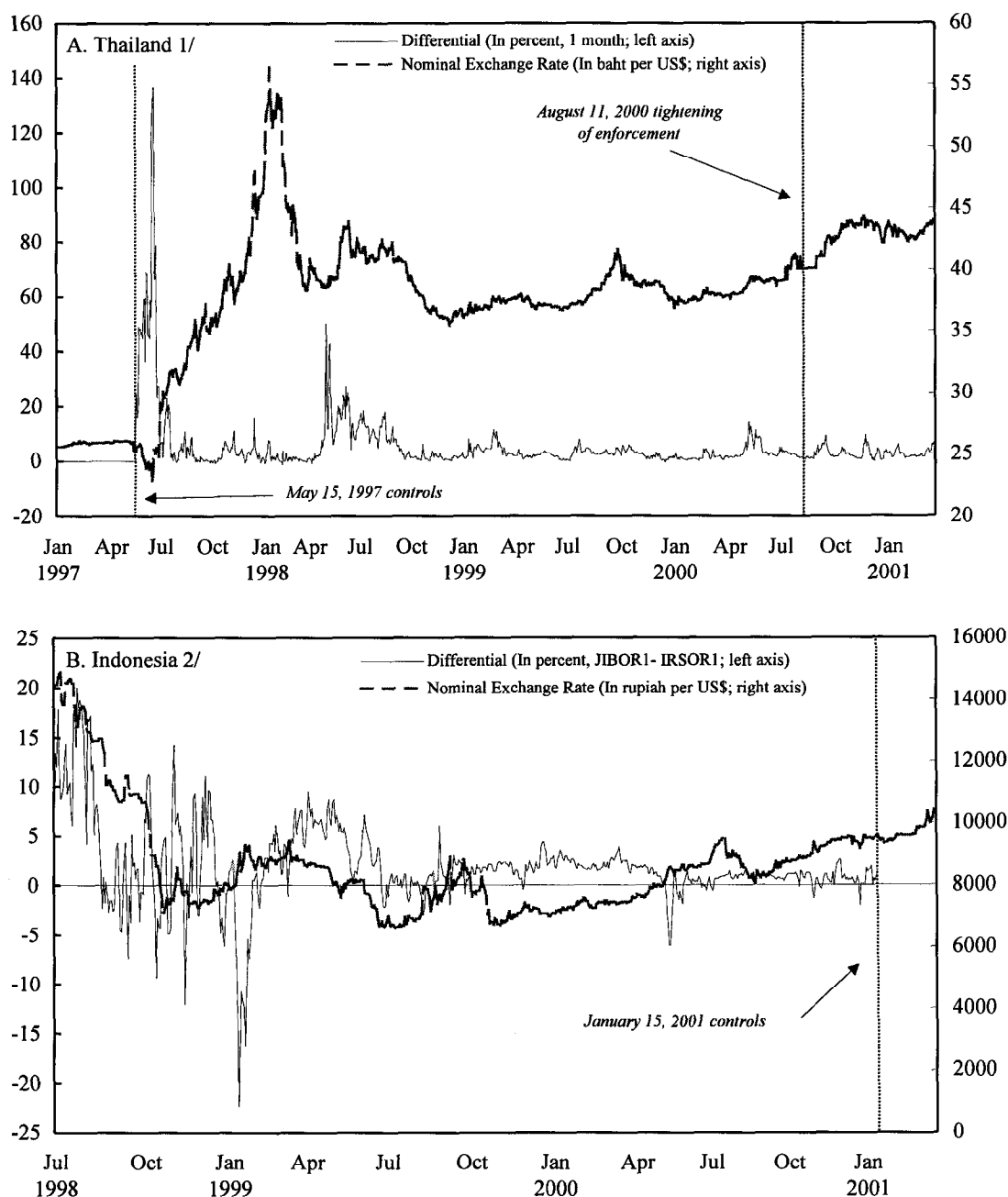


Sources: CEIC, IFS and staff calculations.

1/ Calculated using data on offshore and onshore swap premium for the Malaysian ringgit.

2/ Calculated using three-month Treasury bill rates. The adjustment for depreciation is made by subtracting ex post three month forward exchange rate depreciation from the nominal interest rate differential.

Figure 2. Thailand and Indonesia: Nominal Exchange Rates and Offshore-Onshore Interest Rate Differentials

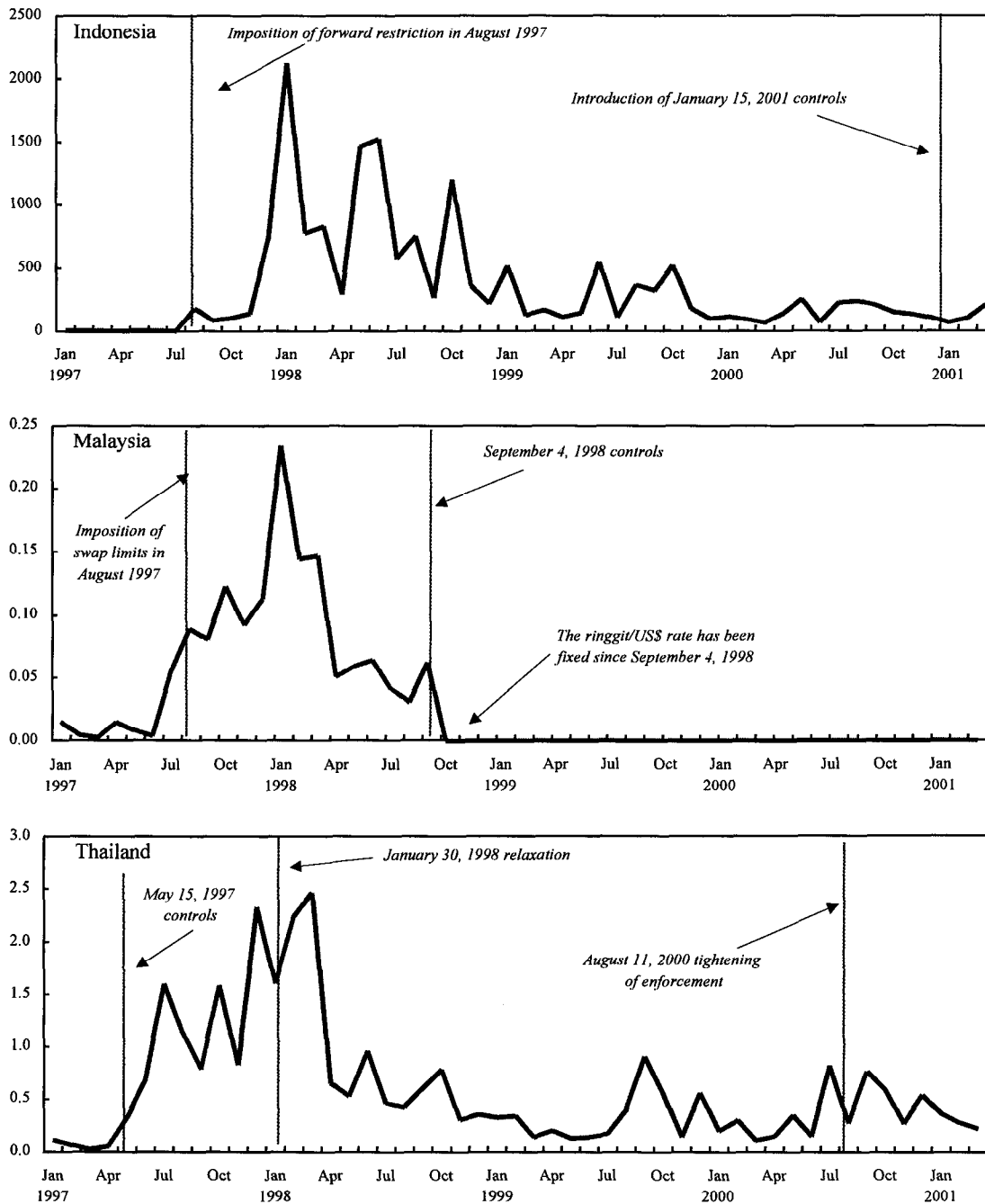


Sources: CEIC for Thailand and Bank Indonesia for Indonesia.

1/ Implied interest rates for baht onshore and offshore are obtained by using the swap premium against the U.S. dollar, spot rate of baht/US\$ and the U.S. interest rate.

2/ Since the new regulations were adopted in January 15, 2001, IRSOR (offshore) rates have not been quoted in Reuters.

Figure 3. Asia: Exchange Rate Volatility
(Monthly average of daily standard deviations of domestic currency/U.S. dollar rate)



Source: APD's Financial Market Developments (FMD) Database and authors' calculations.

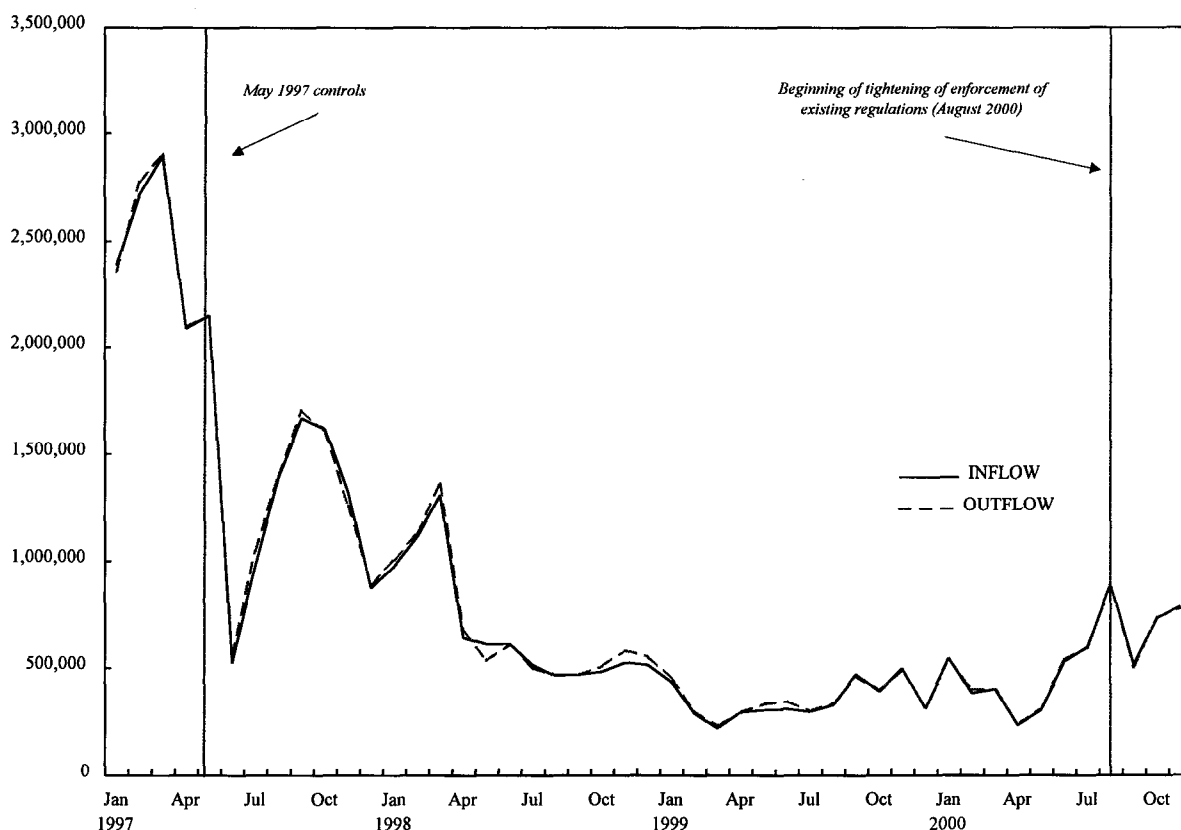
introduction of some penalties for violation. Anecdotal evidence suggests that these efforts were initially effective, as reflected in the widening of the interest differential, a sharp decline in offshore baht liquidity,¹⁶ and the fact that money market rates remained at low levels while the baht strengthened somewhat.

In **Indonesia**, the restrictions prevailing until January 2001 had not been very effective in easing downward pressures against the currency. Evidence from interest rate differentials between the onshore and offshore markets had suggested that prior to the recent measures, the controls might have created some wedge between the two markets in certain periods, though their impact had in general been temporary in periods of market tensions (Figure 2B). While it may be too early to draw firm conclusions, the recent tightening of the regulations (through documentation and reporting requirements, explicit sanctions for violation, the reduction in banks' forward limits with nonresidents, and the introduction of restrictions on financial institutions' rupiah transactions with offshore parties, including through onshore and offshore accounts) seems to have curtailed the already low activity in the offshore rupiah market. Market reports indicate that following the tightening, the currency appreciated by about 2 percent, the offshore rupiah market came to a virtual standstill, and the turnover in the onshore market fell sharply from its already low levels as market participants suspended their transactions given the uncertainty about the precise coverage of the rules. However, the rupiah depreciated on February 1, 2001, to below its value when the new regulations were introduced, as onshore banks and local companies bought dollars actively on rising political tensions, and the downward trend has broadly continued since then (Figure 5). Moreover, major international banks in Singapore began offering NDF dollar/rupiah contracts in February 2001—about a month after the introduction of the controls. However, the trading volume was reportedly small, probably reflecting market concerns that the authorities could penalize the onshore branches of offshore banks engaging in NDF deals.

Several factors may have played a role in the relative effectiveness of the measures. First, the **comprehensiveness of the regulations** to cover most potential channels for access to domestic currency funds by offshore parties and their **effective enforcement** by the authorities and implementation by commercial banks have been instrumental in effectively eliminating or limiting the offshore currency market and in stabilizing its onshore counterpart. This has been the experience of Malaysia. While the Malaysian authorities have not imposed explicit penalties for violation, their close monitoring of commercial bank activities and exercise of moral suasion at times helped the effective enforcement of the regulations; offshore banks also possibly refrained from engaging in creative transactions (such as NDFs) to circumvent the controls so as not to risk their local franchises. In Thailand, the initial effectiveness of the 1997 measures also reflected in part the strict application of the controls by the authorities and commercial banks. However, the effectiveness of the measures were undermined by their relatively limited coverage (focusing mostly on bank

¹⁶ The latter was associated with a decline in inflows to and outflows from nonresident baht accounts in Thailand (Figure 4).

Figure 4. Thailand: Inflows and Outflows of Nonresident Baht Accounts
(In millions of baht)

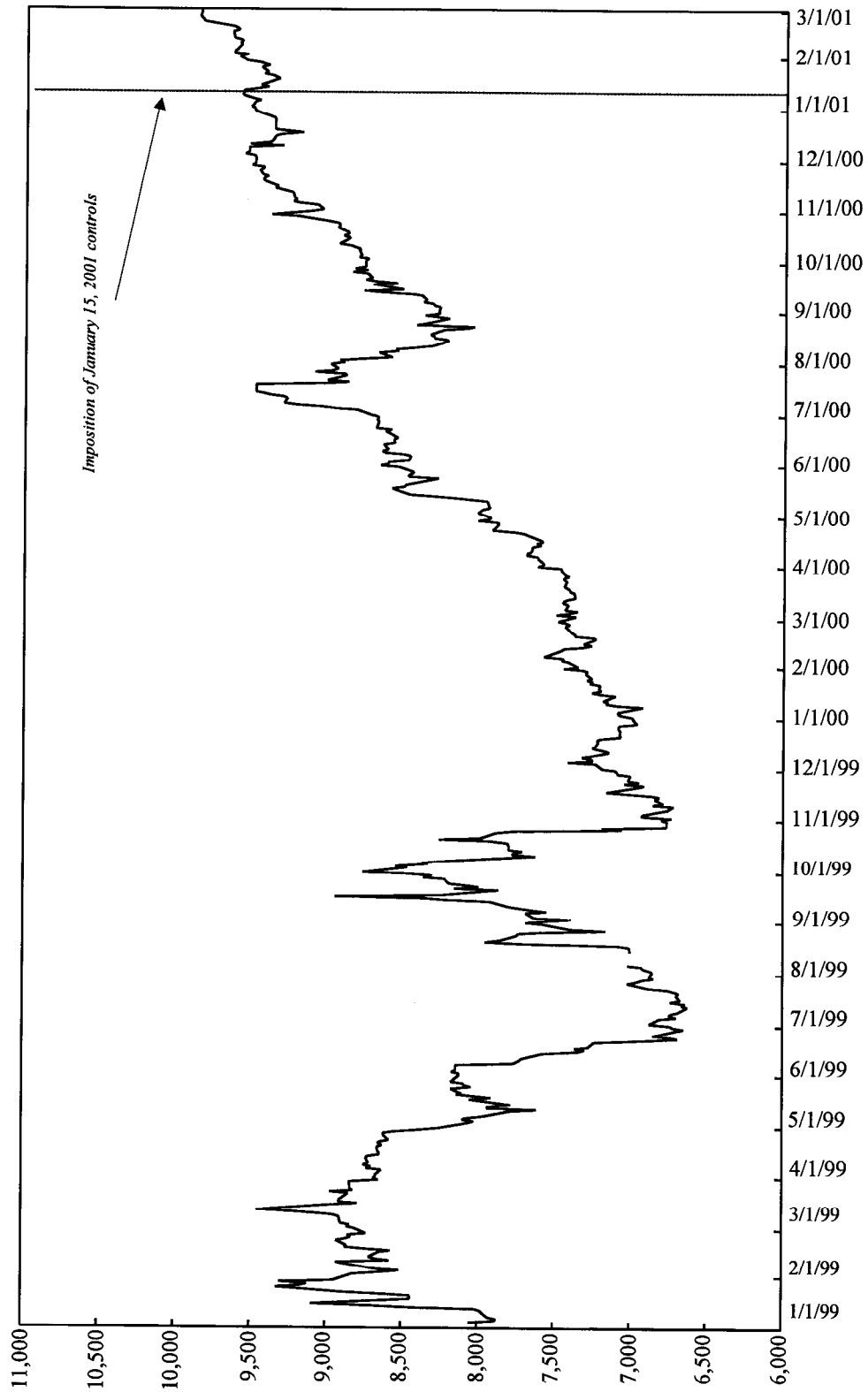


Source: Thai authorities.

transactions), as well as by certain ambiguities in the definition and coverage of the regulations, in an environment where large interest rate spreads in the offshore baht market and persistent expectations of baht depreciation created incentives for circumvention. In Indonesia, the broad ineffectiveness of the measures prior to January 2001 has to some extent reflected the existence of a number of unrestricted channels and the lack of effective enforcement in the absence of documentation requirements, explicit sanctions for violation, and ambiguities in coverage that provided room for a flexible interpretation of the regulation.

Second, **restricting nonresident convertibility** (through controls on residents' domestic currency accounts offshore or nonresidents' domestic currency accounts onshore) may also have been an effective way of reducing the offshore market, essentially by draining the liquidity that would support offshore intermediation in domestic currency. Such restrictions have been applied in Malaysia, Thailand, and recently in Indonesia. As noted earlier, in Indonesia, the prohibition of resident banks to place and transfer rupiah funds offshore (together with the imposition of extensive documentation and reporting requirements and

Figure 5. Indonesia: Nominal Exchange Rate
(In rupiah per U.S. dollar)



Source: APD's Financial Market Developments (FMD) Database.

sanctions for violation and uncertainties about the precise coverage of the measures) dried up the rupiah liquidity offshore and led to a virtual freezing of the (deliverable) offshore rupiah market, although, as noted above, an NDF market for rupiah has recently emerged. In Malaysia, the prohibition of residents to hold ringgit accounts offshore and the freezing of nonresidents' ringgit accounts in resident banks, which prevented ringgit funds from being transferred from one account to the other and from being used to settle transactions or lend to other nonresidents, constrained nonresidents' access to ringgit funds and effectively eliminated offshore ringgit trading. In Thailand, similar restrictions on financial institutions' baht transactions with offshore parties, including through placement of funds offshore or transfers from onshore baht deposits, seem to have reduced baht liquidity in the offshore market.

Third, the effectiveness of the measures in limiting downward pressure on the currencies may have been further enhanced by the strengthening of **controls over residents' and nonresidents' outward investments**, as in Malaysia. The impact of the measures on limiting the pressure on the rupiah was undermined in Indonesia by local corporations and banks seeking dollars to service their foreign currency loans and to hedge their foreign currency exposures, and in Thailand by the unwinding of forward and swap obligations of the central bank and portfolio and other capital outflows during the Asian crisis.

Most importantly, however, the effectiveness of the controls has depended to a great extent on **market incentives**, which are correlated with the size of the return relative to the cost of circumventing the controls. The relatively favorable economic fundamentals of Malaysia at the outset, the acceleration of bank and corporate sector reforms, and the efforts to improve the transparency of the controls have played a role in reducing the incentive to speculate against the ringgit. Incentives for circumvention have also been reduced by the ex-post undervaluation of the ringgit relative to the other regional currencies.¹⁷ In the case of Thailand and Indonesia, political uncertainty and continued weaknesses in the banking and corporate sectors contributed to expectations of further depreciation of the currencies, providing incentives to circumvent the restrictions. The relatively stronger fundamentals of Thailand at the time of the reinforcement of the regulations in 2000 probably enhanced their effectiveness.

The effectiveness of the long-standing restrictions on the offshore trading of currencies in **Korea and Singapore** may be assessed by the extent of the protection the measures may have provided during the Asian crisis. In Korea, the restrictions seem to have provided limited protection against downward pressures on the currency, despite their comprehensiveness, as there were many other channels through which market pressures

¹⁷ Other currencies in the region started to appreciate following the return of confidence as the ringgit was fixed vis-à-vis the U.S. dollar.

could occur.¹⁸ The won depreciated sharply initially (more than in the other crisis countries), and the authorities abandoned the won's target band, raising interest rates significantly (Figure 6). The timely implementation of the supporting economic policies and financial sector reforms (including the measures to address financial and corporate sector weaknesses) and an agreement with external creditors to keep credit lines to Korea contributed to the return of market confidence and external stability. Unlike the Korean won, the speculative pressure on the Singapore dollar was not as significant during the Asian crisis, despite the limited coverage of the prevailing measures. While effective implementation and strict enforcement of the prevailing restrictions by the authorities and a disciplined banking system that has respected the spirit of the regulations may have certainly played a role, the economic and political stability of the country, policy credibility of the authorities, and a strong emphasis on protecting the soundness of the financial sector were perhaps more instrumental in limiting the incentives to take speculative positions against the currency.

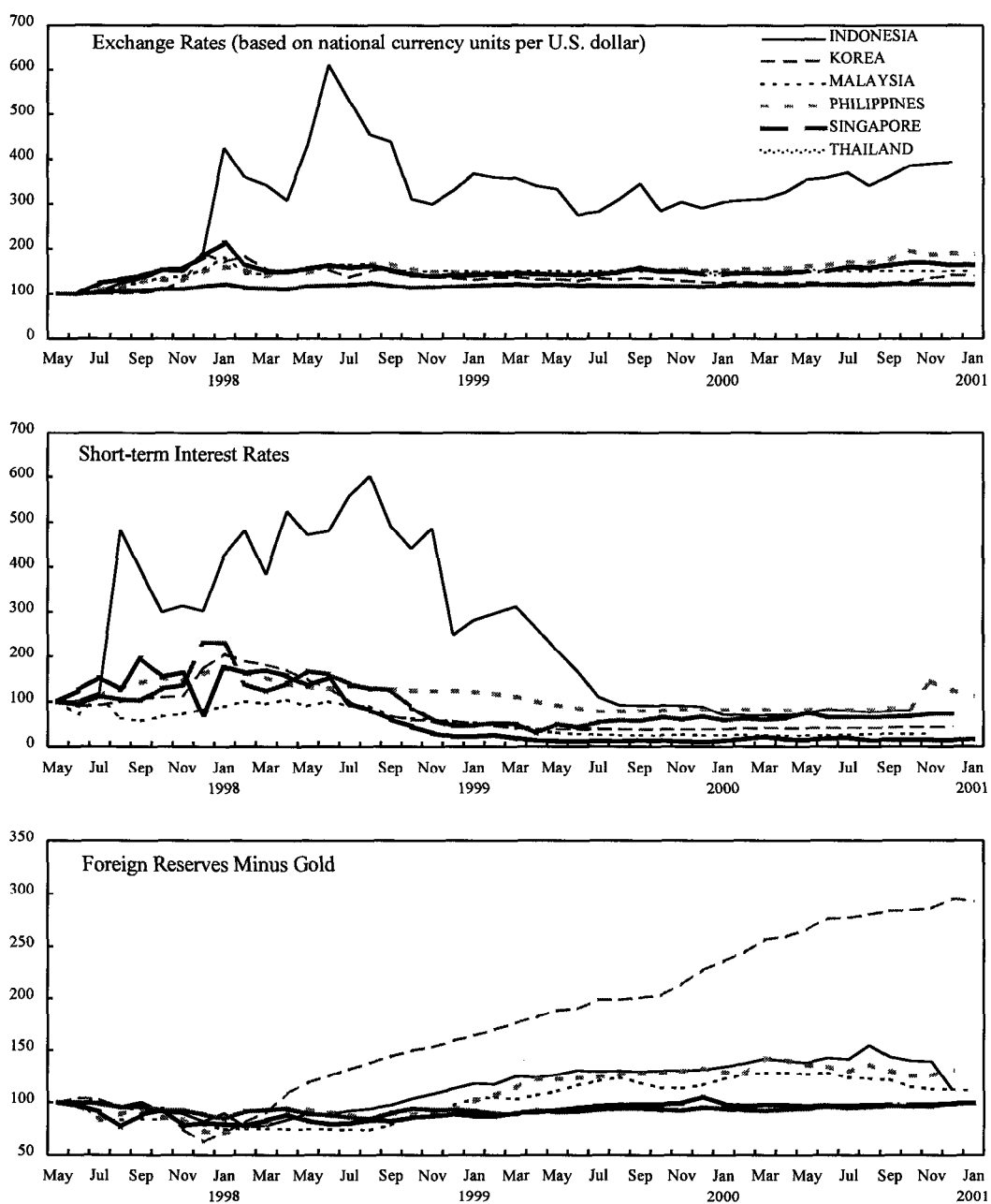
In sum, the effectiveness of the measures to limit offshore trading of currencies depends on a number of factors. These include not only the comprehensiveness and effective enforcement of the offshore trading restrictions, but also the presence of other controls on capital flows, the macroeconomic fundamentals of the country, and the macroeconomic policies and reforms accompanying the measures; the last factors are critical in influencing market incentives to take speculative positions on the currencies. This, of course, makes it very difficult to assess the apparent "effectiveness" of the offshore currency restrictions alone.

D. Costs Associated with the Restrictions

The measures to limit the offshore trading of currencies have been associated with a number of costs. In **Malaysia**, the reimposition of such controls had a very negative initial impact on market confidence, causing the country to be excluded from major investment indices and to be downgraded by rating agencies until the outflow controls were relaxed in 1999. Access of Malaysian corporations and banks to international capital markets also became more expensive, as reflected in the jump in Malaysia's sovereign bond spread (Figure 7). The activity in spot, forward, futures and options markets fell significantly, hindering the risk management capability of market participants, particularly for long maturities. The administrative burden to the authorities, investors, and commercial banks has also increased, reflecting several rounds of clarification of the coverage of the controls and the necessary reporting and documentation requirements. Although foreign direct investment was excluded from the coverage of the restrictions, the initial uncertainty about the coverage of the

¹⁸ These include, for example, the withdrawal of credit lines by foreign banks and attempt by residents to cover unhedged foreign currency borrowings. There is also some evidence that foreign currency deposits of residents at deposit money banks in Korea rose sharply during the sharp depreciation of the currency in the second half of 1997 (from \$4.5 billion at end-1997 to \$9.5 billion in 1998), and fell subsequently from the fall of 1998 (to \$6.8 billion in 1999), when the won then started to appreciate.

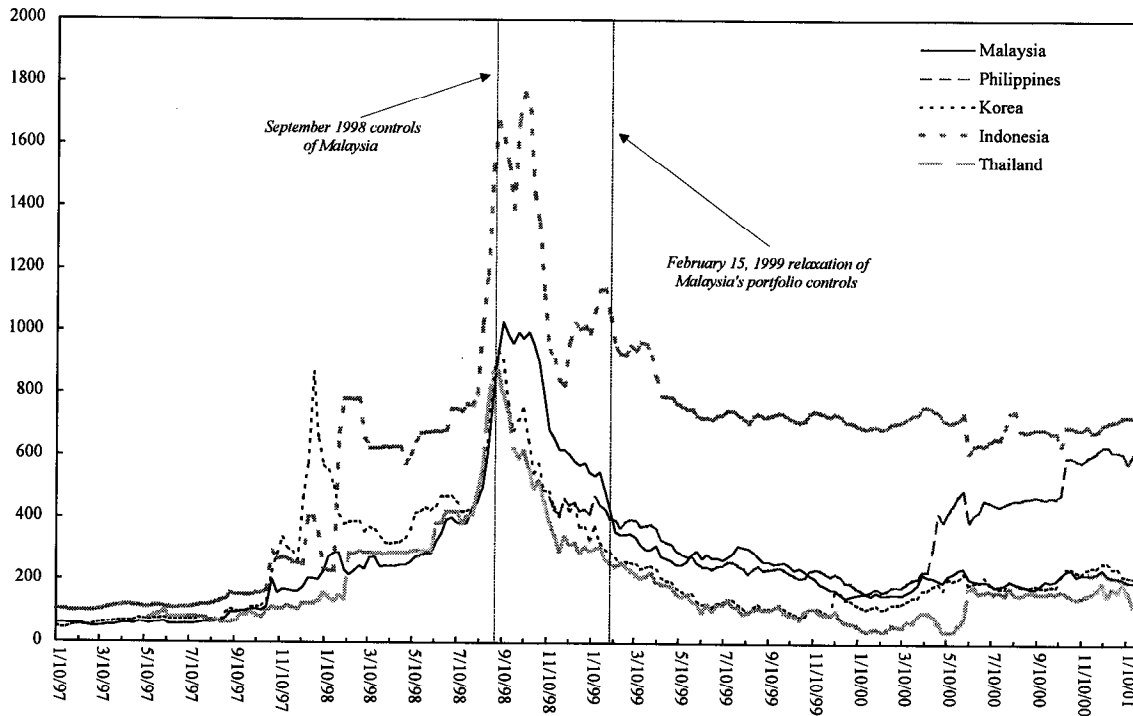
Figure 6. Asia: Exchange Rates, Short-Term Interest Rates, and Foreign Reserves Minus Gold
(Index, May 1997=100) 1/



Source: IFS.

1/ The legend for all chart panels is the same as that presented in the exchange rate panel.

Figure 7. Asia: Eurobond Spreads
(In basis points)

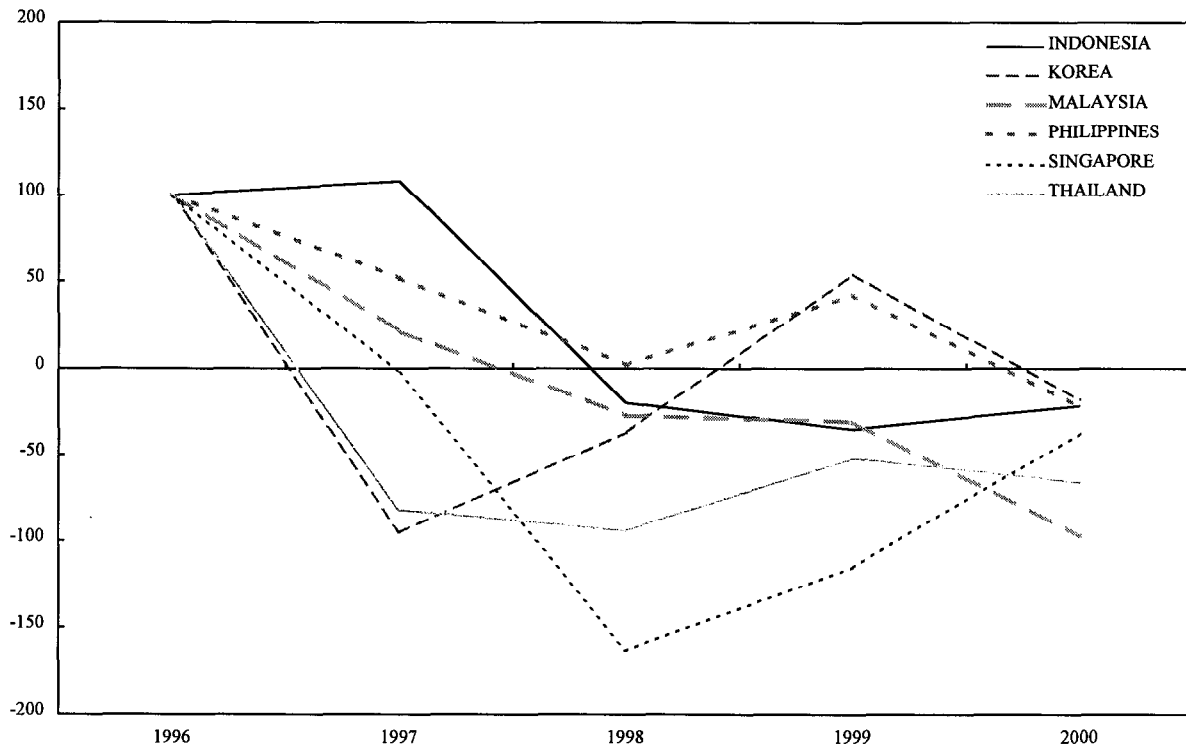


Source: Bloomberg.

regulations and the impact of the measures caused foreign direct investors to take a cautious attitude toward new investment in Malaysia; this has in particular reflected delays and administrative costs associated with documentation and approval requirements and more limited hedging opportunities. Net private inflows have continued to fall compared with the pre-crisis levels, although other factors, such as the overall uncertainty and volatility in the global financial markets, as well as repayment of short-term interbank borrowing by banks and nonbank private sector, perhaps have also contributed to this decline (Figure 8).

When first introduced, the **Thai** controls had a similar negative impact on market confidence and the turnover in the foreign exchange market. The most recent reinforcement of the existing regulations led to market confusion about the intent of the controls and temporary bottlenecks in the clearing system. It also increased administrative costs along with increased reporting and documentary requirements. In **Indonesia**, the most recently imposed restrictions had very similar effects. The announcement of the restrictions had a very negative impact on the already low market confidence, caused significant market confusion about the coverage of the regulations, sharply reduced the already low level of turnover and liquidity in the onshore foreign exchange market, temporarily disrupted the payment system, and froze the offshore rupiah market that had a beneficial role for the Indonesian

Figure 8. Asia: Net Private Capital Flows 1/
(Index, 1996=100)



Source: WEO.

1/ 2000 data are provisional.

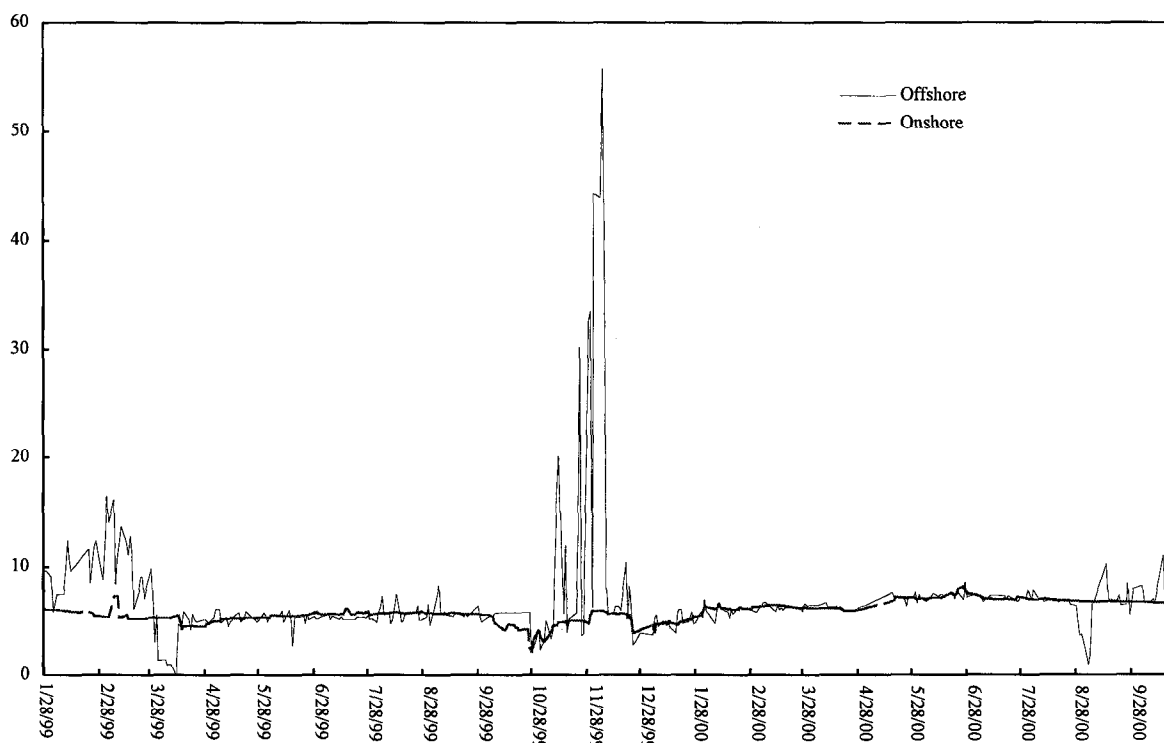
corporations. In particular, the measures hinder nonspeculative (trade and investment related) transactions, such as hedging operations, since the prohibition of financial institutions' rupiah transactions with nonresidents (including transfers to offshore accounts) made no explicit exemption for underlying transactions,¹⁹ and the restrictions on offshore forward transactions eliminated the ability of local companies to hedge their dollar borrowings given the limited capacity of most domestic banks to offer large hedging transactions. Moreover, the requirement for extensive reports and supporting documents impose significant administrative burden on the commercial banks.

As in the case of crisis countries discussed above, the long-standing measures maintained by **Korea and Singapore** on the offshore trading of their currencies may also have had some adverse effects on the development of their financial markets. In particular, they may have

¹⁹ The Circular subsequently issued on January 31, 2001, excluded transactions related to economic activities in Indonesia only when rupiah transfers from residents to nonresidents are made to a nonresident account in an onshore bank.

contributed to low liquidity, trading activity and depth of the spot, swap, and forward foreign exchange markets in domestic currencies and constrained product development. The limited depth of these markets in turn affects the ability of the market participants to manage their financial risks, which in turn limits the depth and breadth of financial markets in general. There is evidence that the regulations may have pushed some onshore activity in domestic currency to offshore centers. An offshore market for the Singapore dollar is known to exist in Hong Kong, New York, and London, and there is a growing NDF market for the Korean won, mainly in Singapore. These markets could provide potential channels for exchange rate pressure if exchange rate expectations were to change. In fact, following the permission of resident banks in Korea to participate in the offshore NDF market in April 1999, the significant positive yield differentials between the offshore and onshore markets were reduced significantly, reflecting the increased potential for arbitrage activity between the two markets (Figure 9).

Figure 9. Korea: Implied Yield for Non-Deliverable Korean Won in Onshore and Offshore Markets
(In percent)



Source: Bloomberg.

1/ The implied yield of the non-deliverable Korean won is calculated by using the current spot exchange rate, forward rate, and the settlement currency (U.S. dollar) interest rate based on covered interest parity.

IV. CONCLUDING REMARKS

Following the financial crises in 1997–98, a number of emerging market economies in Asia have adopted measures to restrict the offshore trading of their currencies. This paper has reviewed the factors behind the emergence of as well as the reasons and mechanisms to limit such trading. It has examined selected country experiences with the use of various measures to limit offshore trading of their currencies, focusing mainly on the benefits and costs associated with their use. While the experience of each country is unique on its own, it is possible to identify a number of apparent regularities.

The main objective of these measures was to reduce or eliminate the potentially destabilizing influence of offshore currency trading on onshore markets and thus to allow the authorities to implement monetary policy that is conducive to domestic policy objectives without undermining the stability of their exchange rates.

The design of the measures varied significantly, ranging from very narrowly targeted measures (e.g., to limit domestic currency lending by resident financial institutions to nonresidents) to more comprehensive ones (e.g., those that covered both bank and nonbank residents, including the restriction of nonresident convertibility). However, in all cases, they were designed to eliminate or reduce nonresidents' access to domestic currency funds that could facilitate a buildup of speculative short positions against domestic currencies. If effective, the measures are expected to stabilize the domestic foreign exchange markets by either eliminating or segregating the offshore domestic currency market from its onshore counterpart. In all cases, the measures were direct rather than market-based.

The effectiveness of measures in limiting the offshore currency trading has been mixed among countries. While some countries quickly contained speculative pressures, others suffered further speculative attacks and subsequently devalued their currencies after an initial short period of success. The effectiveness of the measures appears to depend mainly on two factors: market incentives to speculate, and the cost of circumventing the restrictions, with the latter increasing in relation to the degree of comprehensiveness of the measures.

Country experiences suggest that the more comprehensive the regulations are and the stronger the enforcement capacity of the authorities is, the more effective the regulations are likely to be in eliminating or limiting offshore currency speculation. Restricting nonresident convertibility—through controls on residents' domestic currency accounts offshore or nonresidents' domestic currency accounts onshore—also seems to be an effective way of reducing the offshore market activity. Furthermore, the effectiveness of the measures in limiting downward pressure on the currencies is further enhanced by the strengthening of controls over capital outflows by residents and nonresidents.

Nevertheless, the effectiveness of such measures has been in general undermined by market incentives to circumvent the regulations. Such incentives emerged especially when the regulations were not accompanied by sound macroeconomic policies and structural reforms and when there was political uncertainty. Controls appear to be more effective in countries

with stronger macroeconomic fundamentals, since the rate of return from circumventing regulations is lower.

Country experiences also suggest that even when measures to limit the offshore domestic currency trading are effective in stabilizing the currencies, they could be associated with various costs. In particular, such measures could:

- have a very negative impact on market confidence, and thus could make it more difficult and expensive to access international capital markets;
- hinder nonspeculative economic and financial transactions, such as foreign direct investment and hedging operations, thus reducing the scope for banks, corporations, and traders to invest and hedge against various financial risks;
- adversely affect the development of foreign exchange markets, with lower liquidity of the markets raising exchange rate volatility, while the reduced depth of swap and forward markets affecting the ability of market participants to manage their financial risks;
- impose an administrative burden on the authorities, as they attempt to cover all potential avenues for circumvention, on investors through the approval, documentation, or reporting requirements, and on domestic banks which are typically given the responsibility to implement the regulations;
- shift domestic currency business to offshore markets, contrary to the intention of the restrictions, which may potentially undermine the effectiveness of the controls if market expectations were to change, and finally;
- limit the country's access to more developed and diversified financial products and instruments in the offshore markets that may serve to reduce the transaction cost of trade and investment in the domestic country.

In sum, the measures to limit the offshore domestic currency trading could be effective in curbing currency speculation if the measures were comprehensive, strictly enforced, and accompanied by sound macroeconomic policies and structural reforms. Like other capital controls, such measures could provide the authorities with some breathing space in which to implement policy adjustments and reforms, though they alone could not be effective. However, the effectiveness of the measures is likely to diminish over time, as market participants would find ways to circumvent the measures. The longer the measures are enforced and the stronger they are, the higher their associated costs are likely to be, offsetting their benefits. Over the longer run, a more effective way to promote exchange rate stability is to address macroeconomic imbalances and structural weaknesses, including excessive regulations that cause distortions and create incentives for currency speculation.

COUNTRY EXPERIENCES WITH MEASURES TO LIMIT THE OFFSHORE TRADING OF CURRENCIES

Indonesia²⁰

Cross-border transactions in the Indonesian rupiah have been subject to a number of controls. Until January 2001, the main regulations included: (1) the prohibition of resident commercial banks to extend nonresidents financial or commercial credits in either rupiah or foreign exchange; (2) the prohibition of nonbank residents to grant commercial credit to nonresidents either in rupiah and foreign exchange; (3) prior approval requirements for exporting and importing rupiah banknotes above a certain limit; (4) the prohibition of nonresidents to issue locally rupiah-denominated money market securities; and (5) certain controls on residents' issue of rupiah assets abroad (e.g., equity, long term money market securities and derivatives). Another control was a US\$5 million limit (per bank and per customer in a given day) on all domestic banks' forward sales of foreign currency against rupiah to nonresidents, except for trade and investment-related transactions. This regulation was enacted during the Asian crisis in 1997 so as to limit speculative pressures against the rupiah.

Despite these restrictions, a large and liquid rupiah market existed in Singapore prior to the crisis of 1997–98, with a turnover of about \$10 billion a day (similar to that of the onshore foreign exchange market). The existence of this market reflected a number of structural factors that encouraged residents to keep rupiah deposits in offshore banks,²¹ as well as the relatively liberal treatment of cross-border transactions in rupiah, together with the problems with enforcement of the existing restrictions. These regulations covered only a subset of total transactions in rupiah with nonresidents, while a number of other unrestricted channels allowed the potential accumulation of rupiah funds offshore. These channels included: residents' holding of rupiah accounts offshore, extension of rupiah financial credits by nonbank residents to nonresidents, the holding of or transfer of funds from rupiah accounts by nonresidents, the use of the rupiah for the settlement of trade transactions, and nonresidents' acquiring and selling rupiah assets in Indonesia. No specific supporting documentation was required for the above regulations, nor were explicit sanctions imposed for violation of the regulations. Moreover, the ambiguity in the coverage of the forward regulation that exempted "trade and investment-related" transactions provided room for a flexible interpretation of the regulation. Evidence from interest rate differentials between the onshore and offshore market suggested that while in certain periods the controls might have

²⁰ See Annual Report for Exchange Arrangements and Exchange Restrictions (AREAER) (various issues), discussions with country authorities, and news reports.

²¹ Some of these included: the existence of no tax on rupiah deposits held in Singapore, compared with the 15 percent withholding tax on residents' rupiah deposits held in onshore banks, and the absence of any documentary and regulatory requirements for offshore transactions.

created some wedge between the two markets, their impact had in general been temporary in periods of market tensions.

The offshore rupiah market has, nevertheless, proved to be beneficial to Indonesian corporations, which were unable to obtain comparable services from the weak domestic banking system undertaking restructuring and recapitalization programs and having difficulties in acquiring credit lines given the high sovereign credit risk of and limited investor interest in Indonesia. Major Indonesian exporters had affiliates in Singapore, which they used as vehicles for their export and import transactions. In addition, much of Indonesia's foreign exchange flows have been facilitated through the banks in Singapore. These banks offer more efficient services to domestic corporations, with typical spreads of 10–20 basis points, compared with the 20–30 basis points onshore. Prior to the 1997–98 crisis, the offshore rupiah market had a large number of players, with the activity geared toward trade- and investment-related, as well as interest arbitrage, gap, and speculative activities. Following the crisis and the associated capital flight, the lifting of the rupiah's preannounced crawling band, and the imposition of restrictions on non-trade and investment-related forward transactions with nonresidents in August 1997, the volume of transactions fell sharply, as it did in the onshore market, and trade-related transactions started dominating foreign exchange activities.

The authorities started to evaluate the appropriateness of the existing regulations governing rupiah transactions with nonresidents from July 2000, because of concerns about the volatility of the rupiah experienced since 1999 and its potential adverse effect on economic and structural programs. This volatility has mainly reflected political and economic uncertainty, continued weakness in the financial condition of the banks, a slow pace of implementation of the financial sector programs, and the fear of capital controls, which taken together have acted to increase Indonesia's sovereign credit risk and to limit investor interest in Indonesia. Moreover, these factors have also limited supply of foreign exchange since credit lines to local banks and corporations have been sharply reduced and exporters have been reluctant to repatriate and convert their dollars into rupiah. On the other hand, the demand for foreign exchange has been fairly robust, from corporations to finance import and export operations to fulfill their debt obligations, and to hedge their foreign exchange exposures. Demand has also been strong from the state banks to unwind their large open positions in foreign currency. While the impact of these factors were acknowledged, the authorities also believed that the foreign exchange transactions undertaken by nonresidents without underlying transactions have been contributing to rupiah volatility. Moreover, they recognized that pool of rupiah deposits offshore could create potential opportunities to take positions against the rupiah, and that the sentiment for the rupiah in this market could affect its onshore value.

As pressures on the rupiah continued, the authorities moved to revise the existing foreign exchange regulations on January 15, 2001, with a view to stemming speculation against the rupiah. The measures were targeted at restricting the offshore trading of the rupiah by reducing the amount of rupiah funds in the hands of nonresidents that could potentially be used to take positions against the currency. The measures included a reduction in the existing

limit on forward transactions with nonresidents, a more precise specification of the supporting documents needed to prove the underlying purpose of the transactions; and explicit heavy penalties for any violations. Moreover, resident banks were prohibited from placing funds in rupiah offshore and transferring rupiah funds to banks offshore (regardless of the existence of an underlying transaction), from purchasing nonresident-issued rupiah securities, and from conducting interoffice transactions in rupiah (i.e., a resident bank holding claims on its offshore office). While the restrictions mainly focus on resident bank rupiah transactions with nonresidents, the measures imposed on nonresident convertibility make the Indonesian measures quite restrictive and bring Indonesian regulations broadly in line with those existing in Malaysia and Thailand.

It is too early to assess the medium-term implications of these measures. Provided that they are enforced effectively, these measures would severely constrain the offshore activity in rupiah, as well as the activity in the domestic foreign exchange market, if in fact the real source of rupiah pressure is the speculative activity of nonresidents, and that no significant incentives for circumvention exist. At the same time, they would further constrain the ability of market participants to manage commercial and financial risks by further reducing market liquidity and eligible instruments. They would also severely inhibit nonspeculative transactions related to trade and investment between residents and nonresidents (given that no exception has been made for underlying trade or investment transactions for banks' rupiah transfers offshore). However, while the new regulations are quite extensive, several unrestricted channels remain, including the freedom of nonbank residents' to hold rupiah accounts in offshore banks, nonbank residents' extending rupiah financial credit to nonresidents, and nonresidents' ability to purchase rupiah assets or sell/buy rupiah on the spot market in Indonesia. Continuing political uncertainty and problems in the financial and corporate sectors could provide potential channels for circumventing the new regulations.

The initial market reaction to the announcement of the controls was fairly negative. The new regulations, particularly the regulation that bans rupiah transfers to offshore banks, led to serious confusion about the coverage of the regulations and disruption in the offshore rupiah market, as well as in the local markets. The offshore rupiah trading came to a virtual standstill after the announcement (offshore banks stopped providing quotations for foreign exchange transactions involving rupiah settlements (swaps, forwards, and spot transactions)), the local payment system was disrupted, with banks not being able to close their positions (since a bank receiving an incoming payment remittance from a foreign bank could not process it until the funds have actually been credited to the bank's correspondent account), and the volumes traded in the foreign exchange market fell sharply from their already low levels. Given the introduction of punitive sanctions for violations, the new regulations also required labor intensive checks by banks for the settlement of each transaction taking place.²²

²² The authorities subsequently provided some clarifications regarding the exemptions to the new regulations to address market confusion. In addition, they provided some exemptions to regulations governing rupiah transactions of banks in a Circular issued to commercial banks on January 31, 2001, exempting transfers to and from nonresident accounts only when the
(continued...)

However, while it appreciated initially, the rupiah depreciated on February 1, 2001, to below its value when the new regulations were introduced, as onshore banks and local companies bought dollars actively on rising political tensions; the downward trend has broadly continued since then. Moreover, on February 19, about a month after the introduction of the controls, major international banks in Singapore began offering NDF dollar/rupiah contracts. However, the trading volume was reportedly small, probably reflecting market fears that the Indonesian authorities could penalize the onshore branches of the offshore banks engaging in such activity.²³ The measures also started to hurt nonspeculative transactions, such as hedging operations, since the prohibition of transfers to offshore accounts made no explicit exemption for underlying transactions, and the restrictions on offshore forward transactions eliminated the ability of local companies to hedge their dollar borrowings, given the limited capacity of most domestic banks to offer large hedging transactions.²⁴

Korea²⁵

The Korean authorities have followed a gradual and cautious approach to the liberalization of the capital account that allowed maintaining regulations governing the offshore use of the won. Nonresident transactions in won have been regulated heavily, particularly for lending won by domestic banks to nonresidents, on concerns about their potential role in facilitating speculation. Won credit from residents to nonresidents exceeding a certain limit has been controlled through approval requirements. Further, all derivative transactions by nonresidents involving the use of won-denominated financing have been controlled so as to limit the ability of nonresidents to borrow and short the won. Settlement of trade transactions in won has been also prohibited, though nonresidents can carry out won-denominated current transactions if remittance is made in foreign currencies. Export and import of won banknotes have been subject to permission and notification requirements above a certain limit. Nonresidents' sale or issue of won securities and holding of short-term domestic currency accounts in Korea, as well as residents' issue and purchase of short-term won-denominated

receiving account is in an onshore banks and when transactions are related to economic activities in Indonesia.

²³ In the event, Bank Indonesia reportedly fined a Jakarta-based foreign bank on March 15, 2001, for breaching the new foreign exchange trading rules during February 2001 (Reuters news reports, March 15, 2001).

²⁴ See "Bank Indonesia Forex Ruling Hurts Local Hedging Market," The Jakarta Post (March 1, 2001).

²⁵ See AREAER (2000), IMF (1998), Jeung and Lee (2000), Johnston and others (1998), Kochhar and others (2000), and "The Second Stage of Foreign Exchange Liberalization," the Korean Ministry of Finance and Economy (January 2001).

securities abroad, have all been subject to prior reporting, permission, or notification requirements.

The authorities passed legislation during the Asian crisis of 1997–98 to fully liberalize the capital account in two stages in order to upgrade Korea's foreign exchange system to international standards, to facilitate flow of capital, and to promote private overseas business activities. In the first stage, which took place in late 1998 and April 1999, the range of authorized financial instruments and transactions has been expanded, including derivatives transactions. Nonresidents' Korean won-denominated deposits and trust accounts with maturity greater than one year have been permitted, and the bona fide (real underlying demand) principle in undertaking forward contracts with nonfinancial foreign customers that had aimed at preventing speculative forward transactions was eliminated in April 1999, allowing domestic banks to participate in the overseas NDF market. The regulations on the offshore use of the won were further liberalized in January 2001 (e.g., those on nonresidents' short-term domestic deposits and residents' overseas deposits and OTC securities transactions between residents and nonresidents), but other measures, particularly those involving won lending to nonresidents, were maintained to limit the possibility of large-scale speculation against the won.

These long-standing regulations, however, seem to have provided limited protection against downward pressures on the won during the Asian crisis, as there were many other channels through which market pressures could occur.²⁶ The won came under significant pressure in November 1997, following the attacks against several South East Asian currencies. Contrary to the situation in Indonesia, Malaysia and Thailand, no new controls were introduced, or existing regulations tightened to defend the won. The market pressures prompted the authorities to abandon the exchange rate band in mid-December, and caused the won to depreciate by about 70 percent vis-à-vis the U.S. dollar from December 5–24 and by an average of 28 percent in real terms in 1998. The depreciation of the won against the U.S. dollar (about 50 percent) exceeded those of the other countries in 1997. The Korean stock market also plunged in 1998 and usable reserves fell sharply. The authorities raised the domestic interest rates sharply to stabilize the foreign exchange market, accompanied by an agreement with external creditors to maintain credit lines to Korea. At the same time, they accelerated a program of capital account liberalization and structural reforms to address the weaknesses in the financial and corporate sectors. These measures contributed to the improvement in market confidence, stimulating a pickup in portfolio inflows from the first quarter of 1998 and a sharp turnaround in the exchange rate (the won appreciated by 41 percent vis-à-vis the U.S. dollar in 1998 and continued to rise in 1999 and 2000).

²⁶ These include the withdrawal of credit lines by foreign banks and attempt by residents to cover unhedged foreign currency borrowings. There is also evidence that foreign currency deposits of residents at deposit money banks in Korea rose sharply during the sharp depreciation of the currency in the second half of 1997 (from \$4.5 billion at end-1997 to \$9.5 billion in 1998), and fell subsequently from the fall of 1998 (to \$6.8 billion in 1999), when the won then started to appreciate.

While having a limited effect during the crisis, the restrictions may have adversely affected the functioning and depth of the foreign exchange market.²⁷ These include: extensive reporting and approval requirements on financial institutions; the restrictions against nonresidents' ability to borrow domestic currency and engage in swap or forward transactions involving won financing; and the authorities' attitude toward speculative activities. Other factors may also have contributed to the low depth of the foreign exchange market, including an underdeveloped money market that made it difficult to price forwards and swaps, banks' overall financial condition, and limited risk hedging by corporations, given their practice of natural hedging.

There is a small offshore NDF market for the won, where mostly foreign bank branches hedge their won exposures, possibly reflecting the absence of a well-developed accessible forward market onshore. The NDF market is reportedly growing, which could potentially provide channels to facilitate speculative activity during a crisis if market expectations were to change, and hence could affect domestic exchange and interest rate developments. Following the permission of resident banks to participate in the offshore NDF market, the significant positive yield differentials between the offshore and onshore markets were reduced significantly, reflecting the increased arbitrage potential between the two markets.

Malaysia²⁸

Cross-border transactions in Malaysian ringgit had been relatively liberal until late 1998, with the authorities' permission of using ringgit in trade payments and receipts and in financial transactions with nonresidents, along with tolerance of offshore OTC trading in equities and bonds listed on Malaysian exchanges. An active offshore market in ringgit had developed as a result, mainly in Singapore. The majority of cross-currency hedging of ringgit had taken place in the offshore market, reflecting in part the limited availability of domestic hedging instruments under the tightly managed exchange rate regime that the authorities had been following prior to the crisis. Malaysian banks could provide forward cover against ringgit to nonresidents, facilitating arbitrage between the domestic and offshore markets. The

²⁷ Korea's foreign exchange market is fairly thin and the market turnover is low compared to the country's economic scale and to a broad range of other countries (daily turnover to GDP ratio in Korea is 1.1 percent, compared with an average 2.2 percent in emerging market countries and 17 percent in non-G7 industrial countries). Moreover, the final demand is predominantly trade related, and the use of swaps, forwards, and other hedging instruments remains particularly low (30 percent of domestic foreign exchange market turnover in 1998 and 37 percent in 1999), in spite of a significant increase in the use of derivatives in 1999. The share of cross-border forward trades in total forward transactions is also relatively low (39.6 percent, compared with the 55.6 percent in the 43 countries surveyed by the BIS).

²⁸ For further details, see Ariyoshi and others (2000), Kochhar and others (1999), Lee and others (2000), Liu (2000), and AREAER (various issues).

authorities had also liberalized most portfolio outflows, except for corporations with domestic borrowing, and had adopted a liberal approach toward portfolio inflows.

The ringgit came under significant pressure along with other regional currencies at the onset of the Asian financial crisis in mid-1997, despite the relatively stronger economic fundamentals of Malaysia (high domestic savings, low inflation, a large fiscal surplus, low external debt—including short-term, and a relatively strong financial system). The pressures followed a general reassessment by market participants of regional lending risks, motivated by the structural weaknesses in the financial systems, and the potential vulnerabilities seen in the Malaysian system from rapid credit expansion and deterioration in loan quality of the financial institutions. Much of the pressure occurred through the unrestricted currency trading in the offshore ringgit market, the size of which is reported to be some multiple of the underlying stock of ringgit offshore as reflected in the external accounts of nonresidents with resident banks. As agents took short positions in ringgit in expectation of depreciation, offshore ringgit interest rates increased, causing a significant outflow of capital. To separate the domestic and offshore markets and reduce the upward pressure on domestic interest rates, the authorities in August 1997 imposed limits on banks' ringgit offer-side swap transactions with nonresidents, except for hedging requirements for trade-related transactions and genuine portfolio and foreign direct investment (FDI) flows.²⁹ The limits led to wide spreads between domestic and offshore interest rates, creating incentives for an outflow of ringgit funds offshore through various legal channels, including transfers of nonresident deposits in Malaysia to offshore banks and residents' portfolio outflows.³⁰

Against the background of persistent pressures on the ringgit, the authorities introduced on September 1, 1998, a comprehensive set of controls on cross-border ringgit transactions, specifically aimed at limiting the offshore use of the ringgit, and thus to stabilize the onshore ringgit market by eliminating its offshore counterpart. Monetary policy could then be devoted to stabilizing the economy and supporting the implementation of financial sector reforms. The controls exempted payments and transfers related to current account transactions and FDI, but banks were asked to obtain appropriate documentary evidence to support such transactions. To prevent a massive capital outflow, the controls on cross-border ringgit transactions were accompanied by those on outward investment of residents and portfolio investment of nonresidents. (A one-year waiting period rule on the repatriation of

²⁹ A ringgit offer-side swap transaction comprises all forms of forward sales of foreign currencies against the ringgit, including outright forwards and options or spot transactions that are rolled over to synthesize a forward transaction. Prohibition of commercial banks from engaging in non-trade related offer-side swap or forward transactions with nonresidents aims to curtail speculative activities of offshore agents seeking short positions in the ringgit in expectation of ringgit depreciation.

³⁰ The offshore ringgit market was offering deposit interest rates exceeding 20–40 percent in August 1998, compared with the domestic rates (about 11 percent).

ringgit funds from the sale of Malaysian assets was introduced, but subsequently replaced by a graduated exit levy in February 1999 and a flat levy in September 1999 on profits from portfolio investment. In February 2001, the levy on profits for portfolio investments retained in Malaysia for more than one year was abolished.)

The new regulations eliminated practically all legal channels for a possible buildup of ringgit funds offshore that could be used to take short positions against the ringgit: offshore ringgit holdings (including ringgit deposits in overseas banks) were required to be repatriated; residents were not permitted to hold ringgit accounts with offshore banks; offshore trading of ringgit assets was prohibited; limits were imposed on import and export of ringgit banknotes and large denominations of ringgit notes were demonetized to limit the outflow of ringgit funds; the use of ringgit in trade payments was prohibited; and transfers between nonresidents' external ringgit accounts and uses of funds for other than permitted purposes required prior approval (unrestricted previously). Ringgit credit facilities from residents to nonresident banks and stock-broking companies and from nonresidents to residents, and offer-side swap and forward transactions between domestic and nonresident banks were prohibited (subject to limit previously). Banks could not engage in reverse repo transactions collateralized by ringgit instruments with nonresident banks. The controls on lending to and derivative transactions with nonresidents were slightly eased in 1999.³¹

Available evidence to date indicates that the elimination of most potential sources of access to ringgit by nonresidents effectively ceased the offshore ringgit market. The freezing of nonresidents' ringgit accounts in resident banks, which prevented ringgit funds from being transferred from one account to the other and from being used to settle transactions or lend to other nonresidents, effectively eliminated offshore ringgit trading and constrained nonresidents' access to ringgit funds. Together with the restrictions on nonresidents' repatriation of portfolio capital and residents' outward investments, this contributed to the containment of capital outflows in 1998 and 1999. Some limited outflow of portfolio capital occurred following the relaxation of the portfolio controls in early 1999 and after the expiration of the 12-month rule in late 1999. The onshore market has been stable; since the introduction of the controls, there have been no signs of speculative pressures on the ringgit, nor have there been any signs of an emergence of a significant parallel or NDF market for the ringgit. No significant circumvention efforts have been reported. While no explicit penalties were established for circumvention, the authorities closely monitored the activities of commercial banks and at times exercised moral suasion to ensure enforcement. Offshore banks likely refrained from engaging in creative transactions designed to circumvent controls so as not to risk their local franchises.

³¹ Domestic banks and finance companies were permitted to extend overdraft facility to a foreign stock-broking company (or global custodian banks under certain conditions), and to enter into short-term swaps and outright forward sale contracts with nonresidents for the purchase of shares in Kuala Lumpur Stock Exchange, subject to certain maturity restrictions.

The comprehensiveness and effective enforcement of the restrictions on cross-border transactions in ringgit that covered essentially all potential loopholes in the system have helped to eliminate the offshore market and stabilized the onshore market. Other factors were perhaps also important, however. The authorities' pursuit of policies to correct macroeconomic imbalances and accelerate bank and corporate restructuring programs gave credibility to the overall policy and, together with their efforts to improve the transparency of the measures, increased the acceptability of the measures domestically and internationally. Moreover, the general return of confidence in the region contributed to the appreciation of other regional currencies, thereby leading to an ex-post undervaluation of the ringgit, which was pegged vis-à-vis the U.S. dollar at the time the controls were imposed. All of these factors helped reduce incentives for circumventing the controls. Without the supporting policies, neither the controls nor the peg would be credible. If the other currencies in the region were to continue to weaken, the competitive advantage of the ringgit would not materialize and the expectations of further depreciation would not subside.

While the restrictions were beneficial in buying the authorities time to implement the needed policy reforms, they are also believed to have been associated with a number of costs, notwithstanding their apparent effectiveness and the strong recovery observed to date.

- First, the reimposition of controls had a very negative initial impact on foreign investor confidence, increased the cost of funding from foreign sources (as evident in the widening of Malaysia's relative risk premium after the controls), and led to a downgrading of Malaysia's sovereign risk ratings and an exclusion from key investment indices; the ratings were upgraded and Malaysia was put back into the indices in part following the relaxation of controls on portfolio investment.
- Second, strict and effective enforcement of the controls imposed substantial administrative costs on the authorities, as well as on traders and investors (which had to supply documentation to execute their bona fide transactions), and commercial banks (which were delegated the responsibility to implement the measures and had to report frequently to Bank Negara Malaysia while going through a restructuring process in the meantime).
- Third, while exempted from the restrictions, FDI remained relatively weak (although it increased somewhat in 1999), reflecting in part concerns about the higher risk of investing in Malaysia, delays and administrative costs associated with documentary and approval requirements, and more limited hedging opportunities. Net capital inflows also remained low.
- Finally, activity in the spot, forward, futures and options markets fell significantly (from about RM 160 billion in July 1997 to RM 60 billion in August 1998, and remained below RM 20 billion since early 1999), reflecting the limitations imposed on lending to and forward and swap transactions with nonresidents, as well as the fixing of the exchange rate. This possibly hampered risk management, since it

became more difficult to find counterparties to hedge longer-term currency risks. The objective to give foreign investors more flexibility in managing their portfolios and risks played a role in the limited relaxation of the controls on cross-border ringgit transactions in 1999.

Singapore³²

Singapore has traditionally maintained an explicit policy of discouraging the offshore trading of the Singapore dollar (S\$), reflecting concerns that a large offshore market in S\$ could destabilize capital flows and make it harder to control the exchange rate.³³ The policy of discouraging the currency's offshore use in an otherwise liberal exchange control regime aimed at constraining the development of an offshore market beyond the oversight and influence of the Monetary Authority of Singapore (MAS). The authorities were concerned that a large pool of S\$ in the hands of nonresidents could be a major source of exchange rate instability and undermine price stability that has traditionally relied on exchange rate stability as the intermediate target of monetary policy.

Reflecting these concerns, the authorities discouraged the offshore trading of the S\$ mainly by controlling the asset side of banks' balance sheets, in particular by limiting S\$ lending to nonresidents. In part to isolate the offshore financial intermediation from its domestic counterpart, the MAS required banks to maintain separate units and accounts for their domestic and offshore transactions.³⁴ The so-called policy of "non-internationalization of the S\$" was formalized in November 1983, by introducing a regulation that required banks to consult the MAS before extending S\$ credit facilities to nonresidents exceeding a certain limit, as well as to residents who would use such funds outside Singapore. Singapore dollar credit facilities were defined to cover a wide range of financial instruments (direct loans; foreign exchange, currency, and interest rate swaps; facilities incorporating options; and forward rate arrangements in S\$) to prevent the circumvention of the lending restriction through financial derivatives. Banks were asked to consult the MAS before transacting with

³² The discussion is based on: Bryant (1986), Cardelli et al (2000), Chan and Ngiam (1996), Loong (1998), Ostry (1999), "The Currency Game" in *Far Eastern Economic Review* (November 30, 1995), as well as discussions with MAS officials.

³³ This policy has been referred to as the "non-internationalization" of the S\$, where internationalization has been defined in a variety of ways, including, "the degree of freedom that financial institutions have to engage in S\$ transactions with nonresidents," or "the use of S\$ outside Singapore for activities unrelated to Singapore's real economy."

³⁴ Asian Currency Units (ACUs)—the offshore units that focus on operating in the Asian dollar market—handle claims denominated in non-S\$ currencies and are prohibited to transact in S\$, while Domestic Banking Units (DBUs) deal with deposits and loans denominated in S\$ and foreign currencies, subject to strict regulatory requirements.

nonresidents in S\$ financial derivatives and deal with such derivatives only for hedging and not for speculation.

MAS policy to discourage the offshore trading of the S\$ has been pragmatic and evolutionary, with the authorities amending the regulations as they gained experience with new rules, thereby encouraging the deepening and broadening of the capital markets. The 1983 regulation was amended in July 1992 to explicitly exempt or ban certain transactions involving S\$ financing, since the original regulation was viewed to be too general, restrictive, and complex administratively, and thus introduced uncertainty into business operations between banks and their customers. In August 1998, a new regulation was introduced, liberalizing partially the existing restrictions to foster the development of capital markets. Under this regulation, financial institutions are no longer required to consult the MAS in granting S\$ loans to residents for any purpose, locally or overseas (in part to support regionalization); nonresidents may borrow S\$ to finance overseas projects, subject to MAS approval, provided the proceeds are converted or swapped into foreign exchange for use abroad; and banks are no longer asked to consult the MAS when extending S\$ credit to nonbank nonresidents up to S\$5 million in the aggregate if the S\$ proceeds are to be used for economic activities in Singapore or for hedging the exchange and interest rate risks arising from these economic activities. However, in addition to the S\$ lending restrictions to nonresidents, the MAS maintains consultation requirements on nonresident purchases of derivatives and their sale or issue locally of S\$-denominated bonds and shares, unless S\$ proceeds are to be used for economic activities in Singapore. These regulations were significantly liberalized in 1999–2001.³⁵

The experience of Singapore during the Asian crisis may suggest that the long-standing regulations on the offshore use of the S\$ may have provided some protection against speculative attacks on the currency. During the crisis, the S\$ came under pressure along with the other currencies in the region, but the magnitude of the currency's depreciation was much smaller (16.5 percent against the U.S. dollar in 1997) compared with the other currencies, which depreciated in a range of 35–50 percent during the same period. The foreign reserves did not come under significant pressure, while short-term interest rates rose temporarily. The S\$ appreciated from early 1998, stabilizing at a more depreciated level. MAS's strong enforcement capacity, as well as a disciplined banking system that respects the spirit of the regulations, may have played a role in the effectiveness of these restrictions in reducing the

³⁵ Permission was granted to financial institutions to arrange equity listings for nonresidents without consultation with the MAS and for all rated and non-rated sovereigns and foreign corporations to issue S\$ bonds listed on the Singapore Exchange. Controls on S\$ OTC interest rate derivatives were also eliminated. The authorities also allowed onshore banks to lend S\$ to nonresidents for asset investments within Singapore, to transact in S\$ currency options with other banks and financial institutions in Singapore that are regulated under the MAS, and to extend any amount of S\$ credit facilities to nonresidents through repo agreements of S\$ denominated securities.

resources available to support a significant speculative activity. Banks have also been reluctant to breach the regulations, in part reflecting their desire to maintain business in Singapore. Banks reportedly consult the MAS even in granting financial credits below the S\$5 million limit.

MAS regulations, however, do not cover all potential avenues for speculation, and this may be an indication that factors other than an effective enforcement of the regulations may have been more important in limiting the amount of speculative attacks against the S\$.³⁶ After all, the S\$ did not come under significant pressure following the partial relaxations of the MAS restrictions in 1998–99. Favorable fundamentals of the Singapore economy, its political stability and macroeconomic policy credibility, the authorities' prudent and pragmatic approach to financial system reforms, and their emphasis on protecting the soundness and resilience of the financial system may have limited potential incentives to take speculative positions against the S\$. Concerning the financial system, the authorities moved more recently from a system of extensive regulation to risk-focused supervision with greater emphasis to upgrading disclosure standards to inform and protect investors.

As in Malaysia, the restrictions on the offshore use of the S\$ may have had some adverse implications for the depth and breadth of Singapore's financial markets.³⁷ Although Singapore is one of the largest foreign exchange trade centers that constitutes a significant offshore trading center for several regional currencies, the S\$-US\$ transactions (including spots, forwards, and swaps) make up only 10 percent of the total foreign exchange transactions (a relatively small share). The existing regulations deter traders from taking short positions in S\$ securities and limit local financial institutions from more actively lending in S\$ financial instruments. Markets for hedging products, such as futures, forwards and swaps, have thus remained not fully developed and liquid, especially further out the maturity spectrum. The limited range of available S\$ instruments and limited trading activity have in turn affected the depth of Singapore's financial markets (a concern expressed by Singapore officials in February 1980 and April 2000), and that played a role in the gradual relaxation of the restrictions.

³⁶ Nonresidents may freely hold S\$ deposits in DBUs and transfer from or between such accounts. Given the importance of Singapore as a financial and trading center and a host country for many multinational companies, the amount of S\$ deposits accumulated by nonresidents could be substantial. There are also no restrictions on the use of S\$ for settling trade, on export or import of S\$ banknotes, on the sale or issue of S\$-denominated assets by residents abroad, or on resident holdings of S\$ deposits offshore. Another possible loophole was identified as the purchase of foreign assets financed by borrowing Brunei dollars (B\$) which have been kept at par with the S\$ in accordance with the currency note interchangeability arrangement between the two countries. In July 1991, the MAS required banks to move their B\$ deposits and loans from ACUs to DBUs to allow effective monitoring of movements in both currencies.

³⁷ There is also evidence of an offshore S\$ market in London, Hong Kong, and New York.

Thailand³⁸

Cross-border transactions in baht were quite liberal prior to the Asian crisis of 1997–98, and hence an active offshore baht market existed. Controls applied only to a few transactions, including exporting baht banknotes and residents' issuing or selling bond and debt securities and money market instruments abroad. Lending to nonresidents was also unrestricted, subject to open foreign exchange position limits.

The baht came under speculative pressure from late 1996, as growing domestic and external imbalances and the emergence of banking sector problems raised questions about the sustainability of the basket peg regime, which had been maintained since early 1980s with a close link to the U.S. dollar. The speculative attacks were facilitated by the active offshore market, where speculation against the baht took the form of direct position taking in the forward market that caused downward pressure on the forward exchange rate. The use of explicit baht credits also created a short position on the baht and downward pressure on the spot rate when loans were converted into foreign currency. The authorities supported the baht by allowing the interest rates to rise significantly and through intervention in the spot, swap, and forward markets, with the latter two increasing the central bank's forward commitments substantially. The larger part of the forward obligations had been contracted with nonresidents in the offshore market.

Faced with persistent speculative attacks on the baht, the authorities imposed a number of selective exchange and capital controls in mid-May 1997, against the background of a sharp decline in official reserves and the potential adverse impact of an interest rate defense on economic activity and weak banking system. Unless supported by underlying trade or investment activities in Thailand, financial institutions were asked to suspend their transactions with nonresidents that could facilitate a buildup of baht positions in the offshore market (including baht credit facilities through loans, overdrafts, offer-side swaps, and outright forward transactions in baht). Furthermore, nonresidents were prohibited from selling financial institutions the baht on the spot market; and any purchase before maturity by financial institutions of baht-denominated bills of exchange and other debt instruments required payment in U.S. dollars. In addition, foreign equity investors were prohibited from transferring baht proceeds from the sale of stocks to other nonresident baht accounts and repatriating funds in baht (while they were free to repatriate funds in foreign exchange), and were required to use the onshore rate to convert baht proceeds from sales of stocks.

The measures explicitly aimed at separating the onshore and offshore markets and creating a two-tier foreign exchange market, by denying nonresidents without bona fide commercial or investment transactions access to baht credit, and at inflicting punitive costs on speculators who had taken large short baht positions in expectation of baht depreciation. The controls did not apply to current transactions, FDI flows, and various portfolio investments, while banks

³⁸ See Ariyoshi and others (2000), Lall (1997), IMF (1997), and AREAER (various issues).

were asked to submit daily reports of all foreign exchange transactions with nonresidents to the central bank and to maintain documentary evidence supporting such transactions. The controls were less comprehensive compared to Malaysian controls, however: import of baht banknotes and use of baht for trade settlements were left unrestricted; no controls were imposed on baht credit from nonresidents to residents; no requirement was introduced to bring offshore baht onshore; and no new controls were imposed on capital outflows by residents and nonresidents.

The controls were initially effective and helped to cease speculative attacks. Banks' refusal to provide baht credit imposed a severe squeeze on offshore players who had acquired short baht positions during the speculative attacks and had to close their forward positions. The resulting sharp increase in offshore swap rates relative to onshore rates induced the players to unwind their forward positions through the spot market, putting an upward pressure on the spot exchange rate. The exchange rate in the offshore market has generally appreciated more than in the onshore market until about end-June 1997, reflecting the relatively scarce supply of baht on the offshore market. The controls inflicted punitive costs on investors who had taken positions against the baht in expectation of its depreciation by forcing them to unwind their forward positions at the more appreciated spot exchange rate. The initial effectiveness of the controls reflected the strict application of the controls by the central bank and domestic banks, and the absence of extensive sales by domestic holders of baht assets.

The effectiveness of the measures was temporary in ceasing speculative pressure on the baht. Leakage began to develop, as the large return differentials in the still active offshore market provided arbitrage opportunities, and, together with the persistent expectations of baht depreciation with continuing problems in the financial sector and the macro economy, created incentives for circumvention. Though there is no solid evidence on the channels used to circumvent the controls, market reports indicate that speculators acquired sufficient baht liquidity to meet their forward commitments. The measures were undermined by the limited comprehensiveness of the controls that did not cover all potential avenues for speculation. As a result, pressure on the baht resumed, and the authorities floated the baht within two months after imposing the controls. The offshore-onshore interest spread started to converge from end-August 1997 to late 1997, while the baht remained under pressure. Contributing to the pressure were political uncertainty, the difficulty for banks and corporations to roll over their short-term debt, the unwinding of large forward and swap obligations of the central bank, and the existence of portfolio and other capital outflows as investors reduced their exposure to Thailand and the region. The pressure continued until a comprehensive stabilization package with the needed structural reforms was seen being firmly implemented, including the strengthening of the weak banking system.

While providing only a short relief during the crisis, the controls had some costs. Although it is difficult to disentangle their impact, together with the weak economic fundamentals the controls undermined investor confidence and discouraged foreign capital inflows, resulting in a decline in net capital inflows (from more than 5 percent of GDP in 1996 to an average of net outflows of 12 percent of GDP in 1997–98). Once the economic environment showed signs of improvement and the authorities relaxed the controls in 1998 (see below), the baht

appreciated, stock market prices rose, and the sovereign yield differentials narrowed. The controls also reduced sharply the turnover in the spot, swap, and forward foreign exchange market from about \$4.5 billion in April 1997 to about \$2 billion in June 1997, hindering the ability of investors to hedge their risks.

On January 31, 1998, the authorities lifted some of the controls introduced during the crisis. Financial institutions were permitted to engage in spot transactions involving baht with non-residents (unifying the two-tier market), and all restrictions pertaining to transfer of baht from the sale by nonresidents of domestic securities were lifted. To safeguard against potential instability and speculation in the foreign exchange market, however, restrictions on credit facilities to nonresidents have been maintained, except that the prohibition of baht credit facilities (including through swaps forwards, and options) was replaced by a maximum outstanding limit of B 50 million from all domestic institutions combined to a nonresident counterparty when there are no underlying trade or investment activities in Thailand; the term nonresident counterparty was clarified later (in October 1999) to include the head office, branches, representative offices and all affiliated companies of a particular non-resident. After this relaxation, interest rate differentials were almost eliminated, and the pressure on the baht eased at the same time. The spread widened in mid-1998 and occasionally during 1999-2000 during temporary periods of pressure on the baht, suggesting that the existing limits on baht credit helped somewhat to segment the two markets.

In summer 2000, the renewed pressure on the baht prompted the authorities to reinforce the existing regulations through closer monitoring of the existing rules. Following the weakening of the baht against the U.S. dollar on concerns about the political uncertainty and the slow progress in corporate and bank restructuring, the authorities took a number of measures to enhance compliance with baht lending limits to nonresidents. In particular, the Bank of Thailand (BOT) raised the penalty for financial institutions not complying with the regulations (August 2000), specified the types of permissible options transactions, and tightened the implementation of documentation requirements on banks' clients to prove the underlying nature of their transactions (October 2000) and reporting requirements on banks in providing the details of the purchase, sale, deposit or withdrawal of foreign exchange and the sources of baht from nonresident accounts used to purchase foreign exchange (October 2000). In November 2000, the BOT reminded banks of the existing prohibition of outright forward baht sales with delivery date less than two days for non-underlying transactions.

Market reports indicated that the recent measures were broadly effective. The spread between the implied interest rates in the offshore and onshore markets widened following these measures (up to about 10 percent from about 1 percent in early August 2000), liquidity in the offshore baht market was reduced as reflected in the inflows and outflows of nonresident baht accounts in Thailand, and money market rates remained at low levels while the baht strengthened somewhat. However, the regulations have caused market confusion, prompting the authorities to issue a number of clarifications and guidelines to explicitly specify the coverage of the regulations. The tighter documentation and reporting requirements also increased the administrative burden on financial institutions, investors, and traders. Moreover, clearing problems emerged, causing a temporary gridlock in the payment system.

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