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Financial Liberalisation and Integration in East Asia

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A number of studies on the European economic integration process have shown that an expansion of trade among a group of countries over time could lead to synchronisation of business cycles across the members of the group.¹ Synchronisation of business cycles would be more pronounced, if intra-industry trade accounts for most trade. This finding suggests that regional trade integration within similar industries could then develop conditions favourable for establishing a common currency area for the regional trading partners. A similar development has taken place in East Asia, where the ongoing trade liberalisation has contributed to a substantial increase in intra-regional trade, raising expectations that the recent movement toward free trade would generate market pressures for policy coordination for stable exchange rates of regional currencies and eventually for adopting a common currency for the region.

With the spread of the liberal ideology of the Washington Consensus, many countries in East Asia, in particular more advanced ones including Thailand, Indonesia, and Malaysia, have been reducing restrictions on capital account transactions and barriers to entry of foreign financial institutions into local markets and to trade in financial services since the early 1990s (Eichengreen and Mussa 1998). After the 1997-98 crisis, the speed and scope of penetration of foreign financial institutions, except for Malaysia, has increased in

¹ See, for example, Rose and Frankel (1998).

East Asia.² In removing restrictions on entry, these East Asian countries have been motivated by their desire to build efficient and stable financial systems befitting an open foreign trade and investment regime that are resilient enough to forestall future crises. According to the IMF (2000), the removal of entry restrictions have also been triggered by the need to help reduce the costs of restructuring and recapitalising banks following a major crisis (p.158). If indeed this was one of their objectives of liberalisation, it appears few of the crisis countries in East Asia have succeeded in this regard.

In view of the thrust of financial liberalisation that has been directed to market opening since the 1997-98 crisis, one would presume that greater capital mobility through capital account liberalisation and opening of financial services industries may have tightened financial linkages between individual countries, thereby promoting the creation of integrated regional financial markets in East Asia.

The purpose of this chapter is to analyse East Asia's experiences with financial liberalisation and innovation with a view to assessing the extent to which liberal financial policies have contributed to economic integration in East Asia. Section 1 discusses some of the reasons why financially integrated countries would be more disposed to joining a common currency area. Section 2 analyses the progress East Asian countries have made in liberalising and opening their financial markets. It will be shown that when financial markets are liberalised and open, countries with different structural characteristics or asynchronous business cycles would have more incentives to integrate with one another than countries with similar characteristics have. This leads to the conclusion that the ongoing capital account liberalisation is likely to develop closer ties between East Asian and global financial markets (globalisation), rather than between the markets of individual countries in the region. Section 3 then examines empirically whether East Asian countries have gravitated to regional or global integration. Our conclusion is that East Asian countries have developed stronger financial ties with advanced countries than with one another in the process of financial

² The IMF (2000) argues, however, that the degree of foreign participation in domestic financial markets has been lower than originally expected in Korea and Taiwan.

opening. Section 4 provides some of the reasons for East Asia's global financial linkages, one of them being penetration by western financial institutions of East Asian financial markets. Section 5 analyses causes of the dominance of western financial institutions in East Asia. This is followed in Section 6 by a discussion of future prospects for regional integration in East Asia. Concluding remarks are in a final section.

1 Financial Market Integration and Common Currency Area

Benefits of Financial Liberalisation

Trade liberalisation is likely to result in more closely correlated business cycles across countries, especially if the liberalisation promotes trade within similar industries. Therefore, countries that establish close economic ties through trade liberalisation are likely to be members of a common currency area in the sense that the similar business cycles make it easier for them to accommodate a common monetary policy regime.

There is general consensus that economic liberalisation in emerging market economies should begin with trade liberalisation, to be followed by deregulation of domestic financial markets, before lifting restrictions on capital account transactions and on entry of foreign financial institutions. This sequencing strategy suggests that countries would go through the process of financial market integration before adopting a common currency: that is, creation of a common currency area would take place at the last stage of full economic integration in any region or a group of countries.

However, there is no theory predicting that liberalisation of the trade regime would subsequently produce market pressure for liberalisation of financial markets and capital account transactions to follow. Indeed, East Asian countries started lowering tariffs and non-tariff barriers long before taking steps to liberalise and open their financial markets. Furthermore, the sequencing strategy does not explain whether financial deregulation and opening among a group of countries such as the ASEAN+3 will also pave the way for financial and monetary integration within the group. As will be shown below, countries that establish close financial linkages through financial market liberalisation would benefit from joining a common currency

area. However, these financially integrated countries do not necessarily satisfy the traditional criteria for potential candidates of a common currency area.

Financial market deregulation and opening facilitate migration of real capital in the long run and cross-border financing of current account imbalances in the short run, thereby reducing the costs of adjustment to shocks to demand and supply. Financial liberalisation also allows extensive sharing of the risks associated with macroeconomic shocks across countries, as it broadens the range of portfolio diversification by including foreign bonds and equities in individual portfolios. It follows then that the countries with close financial ties would benefit more from financial liberalisation by forming a common currency area among them, as monetary integration lowers costs of financial transactions and eliminates exchange rate risks. However, the financially integrated countries are likely to be heterogeneous in terms of their economic structures and exposed to asymmetrical shocks. One important implication of financial liberalisation and integration is that contrary to the traditional argument, heterogeneous countries are as well qualified as potential candidates for a common currency area as countries are.

Capital Mobility and External Financing

An increase in capital mobility (factor migration in general) between countries could relieve a country's external deficit as well as unemployment that reflect its internal imbalance. An adverse demand or supply shock to a given industry of a country may require shifts in labour and capital to other industries. After all adjustments have been made within the country including a fall in factor prices, some factors of production are likely to remain unemployed. In this case, capital account liberalisation facilitates migration of capital to other countries, thereby mitigating the burden of adjustment through changes in factor prices and employment. That is, real capital mobility can be a partial substitute for price-wage flexibility.³

³ Financial market liberalisation and opening facilitate real capital mobility as it increases the availability of external financing for trade in both used and new capital goods. Some of the firms in a country that sustains a demand or supply shock may move their production facilities such as machines and equipment to other countries. Alternatively, some of the investment planned by these firms may

However, in the short run, real capital mobility is low and as a result only in the long run could ease difficulties of adjustment to demand and supply shocks. In the absence of price and wage flexibility, an adverse supply shock such as an oil price increase may result in a deficit on the current account in addition to both an increase in unemployment and decrease in factor prices. Countries with an open financial regime have better access to both regional and global capital markets, so that it would be easier and less costly for them to borrow to finance their current account deficits. External borrowing could make the real adjustment smaller or unnecessary if the deficit is transitory and hence reversible.⁴

Risk Sharing Through International Portfolio Diversification

With financial market opening, domestic residents can diversify their portfolios in terms of assets issued by firms and financial institutions of other countries in addition to domestic ones. This possibility of enhancing portfolio diversification across a large array of assets means that a country suffering an adverse terms of trade shock could share some of the loss with other countries to the extent that it holds claims on their output. The amount of the loss that could be shared would increase, if this country holds diversified portfolios of bonds and equities of those countries with different structural characteristics, that is, with lower business cycle correlations of macroeconomic variables.

The presence of currency risk under free floating, however, increases the cost of international portfolio diversification in terms of foreign securities: free floating would inhibit countries from cross-holding of securities, thereby bottling up the cost of the shock in the country in which the shock originated.

be relocated in other countries in the form of foreign direct investment as a result of the adverse shock, a possibility that is rather limited in a controlled capital account regime.

⁴ If the deficit reflects changes in economic fundamentals instead, external borrowing would simply mask the imbalances that require real sector adjustments.

Does Homogeneity Really Matter for a Common Currency Area?

Financial liberalisation and integration may call in question some of the criteria for a successful common currency area focusing on similarity of business cycles. In contrast to the earlier literature, the benefits of financial liberalisation imply that countries with asymmetric shocks and dissimilar structural characteristics may find it easier to integrate financially with one another and can be potential candidates for a common currency area.

Mundell (1973) showed, contradicting his earlier argument, that reserve pooling and international portfolio diversification could mitigate asymmetric shocks, because a country suffering an adverse shock could minimise its loss by drawing down on its claims on or borrowing from other countries in the common currency area. Portfolio diversification for risk sharing could then be better served by establishing a common currency area that includes a large number of structurally heterogeneous countries.⁵

To elaborate further on this point, consider a group of economies in which business cycles are synchronised across countries. The traditional argument is that the member countries in such a group may readily yield their monetary independence to a supranational authority, because they are likely to pursue a similar monetary policy. However, once financial integration is taken into consideration, synchronisation of business cycles may no longer be a critical criterion for identifying potential common currency area candidates, as the following example illustrates.

Suppose the group of countries with symmetric shocks is hit by an adverse shock such as an oil price increase. Because of the similarity of their economic structures, all of the countries in the group will suffer from the shock with the consequence of a group-wide slowdown. This group-wide slump then leads to a decrease in intra-group trade, which in turn aggravates further the downturn in each country. That is, the slump in one country amplifies output contraction in other countries through the trade channel.⁶ Since all of the member countries suffer from the same shock, they cannot

⁵ For a recent analysis on risk sharing through international portfolio diversification, see McKinnon (2001).

⁶ The effects of the supply shock in one country could be much more contagious to other countries when they are more homogeneous (Park and Song, 2001).

supplement their output and income losses by liquidating their claims on the other countries. Under these circumstances, there is also little room for capital to move between countries.

Most of the countries in the group may also experience deterioration in their current accounts. As a result, the deficit countries may find it difficult to borrow from the other countries in the group. For the group as a whole, the deficit financing to be secured from outside of the group would be larger and hence more costly. This example therefore implies that the impact of the shock would, other things being equal, be much less severe and hence more manageable, if the members of the group have different structural characteristics. That is, heterogeneity of the members of a common currency area could reduce the burden of adjustment to external shocks because it increases the scope of factor mobility and also eases financing of current account deficits from the countries unaffected by the shock. The risk sharing through asset diversification also suggests that countries with similar economic structures would not gain from joining a common currency area. This is because the adverse supply shock is likely to impinge on most of the firms in the group, and thus market values of securities issued by them will fall at the same time.

From the point of view of portfolio diversification in a liberalised and open financial environment, larger currency unions with more heterogeneous countries are likely to be more successful than smaller ones with homogeneous members: as far as financial integration is concerned, countries with asynchronous macroeconomic shocks would make better candidates for a common currency area. In searching for potential partners for a common currency area, therefore, emerging market economies would prefer tying themselves up with advanced countries whose bonds and equities are relatively more secure and carry high rates of return adjusted for default and liquidity risks, such as US Treasury bonds. That is, globalisation may be a better strategy than regionalisation including forming a common currency area for a large number of small countries: dollarisation, or euroisation, may make more sense to many emerging market economies than forming a currency union among them.

In a recent paper, Heathcote and Perri (2002) argue that the decline in the correlations of output, investment, employment, and consumption between the United States and the rest of the world comprising Europe, Japan, and Canada between the two post-

Bretton Wood periods they observe (1972-86 and 1986-2000) could in part be explained by a decrease in the correlation of exogenous shocks, but also by financial globalisation. The emergence of global financial markets increases opportunities for inter-temporal specialisation in production that, in turn, contributes to lowering the correlation of factor supplies as the globalisation increases the scope of international portfolio diversification.

In terms of an infinite horizon model, Heathcote and Perri (2002) demonstrate that a decline in the correlation of shocks leads to greater international portfolio diversification, which then further reduces international correlations of macroeconomic variables. Calibrating the model, the authors also show that a combination of the decline in the shock correlation and the resulting endogenous growth in international trade in financial assets, jointly accounts for most of the observed decline in the correlation of international business cycles during the post-Bretton Wood period between the United States and the rest of the industrial countries.

One of the implications of the analysis of Heathcote and Perri (2002) is that capital account liberalisation – an exogenous development – could reduce the business cycle correlation of output, investment, and employment in East Asia, if it has not already. Another implication is that growing similarity of business cycles among the East Asian countries through trade expansion may encourage global diversification of portfolios including assets issued by corporations and financial institutions of advanced countries and hence integration of East Asian financial markets into global financial markets.

How significant are then the benefits associated with financial market opening such as the international risk sharing quantitatively? There are few empirical studies that shed light on this question. The well-known home bias in asset holding suggests that the benefit would not be as large as the theory would predict. Despite the ongoing financial liberalisation stretching over more than two decades, the increase in international diversification in assets, in particular bonds, across countries has been relatively small. McKinnon (2002) points to the principal-agent problem as the main cause of limited global portfolio diversification.

In a recent study, however, Park and Bea (2002) present empirical evidence that since the early 1990s most East Asian countries embarked on deregulation of capital account transactions and entry

of foreign financial institutions. East Asian capital markets have been integrating into global financial markets rather than forging clear linkages with one another. This development has become more pronounced after the 1997-98 financial crisis.

2 Financial Liberalisation and Integration in East Asia

Liberalisation

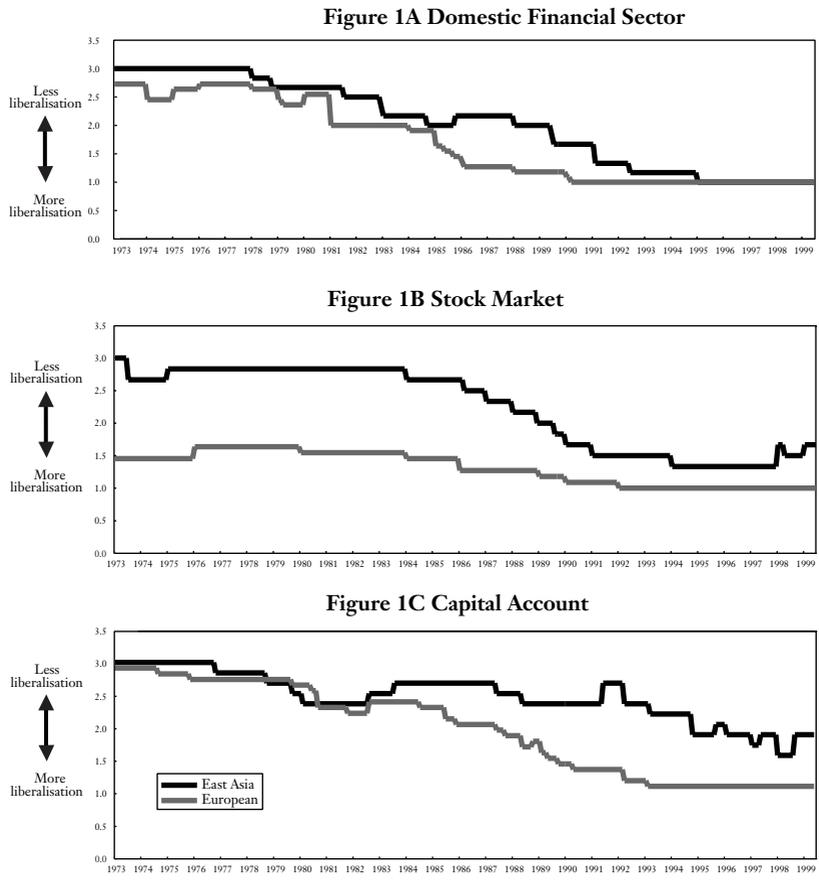
Financial liberalisation often refers to: (i) domestic financial market deregulation such as decontrol of the interest rate; (ii) removal of restrictions on capital account transactions that will increase mobility of capital between countries; and (iii) opening of the financial services industry to foreign competition. In a recent paper, Kaminsky and Schmukler (2002) devise a monthly index for overall financial liberalisation, which jointly evaluates the liberalisation of the capital account, the stock market, and the domestic financial sector. The index takes values between 1 and 3: fully liberalised (1), partially liberalised (2), and repressed (3). To measure the extent of financial liberalisation, the authors track the evolution of the regulatory regime covering all three sectors over the 1973-99 period. The East Asian countries covered in their study include: Hong Kong, Indonesia, Malaysia, the Philippines, Korea, Taiwan, and Thailand.

As shown in Figures 1A-1C, the indices for the East Asian countries show that they made considerable progress in deregulating their domestic financial sectors and the stock market, but only partially in liberalising capital account transactions. By 1995, compared to the nine sample European countries, the seven East Asian economies achieved on average the same level of domestic financial sector liberalisation. As for the stock market, the sample East Asian countries were slow in market deregulation, reaching the European level of liberalisation in the mid-1980s, and the same is true for capital account deregulation.

Financial Integration

From the perspective of this study, the usefulness of the indices of the degree of overall financial liberalisation and capital account liberalisation is rather limited in that these measures by themselves

Figure 1 Indices of Financial Liberalisation by Sector



Notes:
 Liberalisation index: 3 = high restrictions, 2 = partial liberalisation, and 1 = full liberalisation.
 European countries include: Denmark, Finland, France, Germany, Ireland, Italy, Portugal, Spain, Sweden.
 East Asian emerging market economies include: Hong Kong, Indonesia, Korea, Malaysia, the Philippines, Taiwan, and Thailand.
Source: Kaminsky and Schmukler (2002).

do not indicate whether capital account deregulation has been associated with financial integration at the regional level in East Asia or at the global level. One of the conclusions of the preceding section is that financial liberalisation in East Asian countries would steer in the direction of developing closer financial linkages between East

Asian and global financial markets rather than similar linkages among financial markets of individual countries in the region. This and the following two sections are devoted to an empirical examination of this hypothesis.

Before turning to this issue, conceptual clarification of regional versus global financial integration in the East Asian context may be in order. Suppose that financial markets of individual East Asian countries are being integrated into global financial markets as a result of financial liberalisation. Does this development not bring about the concomitant financial integration in the region? In our view it does not, in the sense that financial market liberalisation in individual countries may not support the development of regionally integrated financial markets where financial instruments denominated in regional currencies are traded; in fact, it is likely to encourage and expand financial transactions between these countries through global financial markets located in New York and London. In a graphic sense, New York and London are the financial hub whereas individual financial markets of East Asia are spokes.

In order to determine the direction of financial integration in East Asia (regional vs. global), we present three types of evidence:

1. Capital flows within East Asia and between East Asia and other regions, to examine the extent to which East Asian portfolios have been globally diversified (this section);
2. Decomposition of error variances of stock returns and interest rates in both East Asia and Europe, to gauge the relative significance of global capital markets in influencing stock prices and interest rates in East Asia (Section 3); and
3. The degree of commercial presence of foreign financial institutions in East Asia, as a measure of globalisation of East Asian financial markets (Section 4).

Intra-Regional Capital Movements in East Asia

For a measure of regional integration in East Asia, one would need information on intra-regional capital flows in East Asia relative to inter-regional flows between East Asia and the rest of the world. Reliable data on intra- or inter-regional capital flows are not available. As East Asia is defined to include the ASEAN members, Taiwan, Hong Kong, China, Korea, and Japan, it has always been a net saver to the rest of the world. This balance of payment

characteristic, together with underdevelopment of financial markets, which we discuss in Section 5, suggests that the level of financial transactions, including bank lending and trade in regional securities, between different countries in East Asia is likely to have been relatively small, in particular when Japanese bank lending to and direct investment in other East Asian countries are excluded.

Furthermore, since the outbreak of the 1997-98 crisis, Japanese bank lending and FDI to other East Asian countries have fallen dramatically (see Table 2 and 3; all tables are at the end of this chapter). Korea's and Taiwan's FDIs in other East Asian countries also decreased sharply (see Table 4 and 5). Singapore's FDI data are rather sketchy, but its FDI in Malaysia and Indonesia declined during the post-crisis period from 1997 to 1999 (see Table 6). As a result, it would be reasonable to assume that intra-regional financial flows in East Asia have been smaller than inter-regional flows between East Asia on the one hand and North America and Europe on the other. This feature of inter-regional capital movements has become more visible with the increase in current account surpluses of Indonesia, Malaysia, Korea, and Thailand (see Table 1) and provides a piece of indirect evidence that East Asian countries have forged tighter financial links with North America and Europe than with their neighbouring economies in the process of financial liberalisation.

Throughout the 1980s and until the mid-1990s the ASEAN members and Korea were net borrowers, as they were running deficits on their current accounts. China, Taiwan, and Japan were, on the other hand, accumulating huge amounts of current account surpluses, which made East Asia as a whole a net lender financing the bulk of current account deficits of the US and the rest of the world. External financing for East Asia's deficit countries therefore ultimately came from the three East Asian surplus countries (on a net basis). However, the East Asian deficit countries borrowed in part from regional but mostly from global financial markets to finance their current account imbalances. This pattern of external financing established East Asian linkages with global financial markets well before the region went on to liberalise and open its financial markets.

Since the 1997 crisis, all four East Asian crisis countries have generated large surpluses on their current accounts and are likely to continue to do so for the next several years (see Table 1). Together with China, Taiwan and Japan, East Asia as a whole has become a larger net saver of the global economy than before. Current account

surpluses have been added to foreign reserve holdings of these countries. In managing their reserve portfolios, the East Asian countries have traditionally preferred liquid and safe foreign securities such as US Treasury bills in addition to holding major international currencies.

However, some of these countries have in recent years sought to diversify their reserve portfolios by adding short-term European government bonds and even private bonds and equities. And the growing surplus position in recent years has increased opportunities for diversification of foreign reserves in East Asia through the international financial hub in New York and London. This increase is likely to have contributed to East Asia's tighter financial links with developed countries. It is also reasonable to assume that East Asian savers have been placing an increasing share of their savings in bonds and equities issued by western corporations and financial institutions in diversifying their portfolios.

3 Decomposition of Error Variances

The Model and the Data

Given the extent to which the East Asian countries have managed to liberalise their capital account transactions in recent years, one might expect that financial markets of these economies may have become more closely linked with one another than in the past. However, the available empirical evidence does not support this expectation. Regionally integrated financial markets are yet to emerge and prospects for further financial liberalisation in East Asia are not promising (Park and Song 2001).⁷

⁷ A World Bank study (1997) uses three different measures to determine the extent to which countries are financially integrated. In constructing an overall index of integration the World Bank study uses the access to international financial markets, the ability to attract private external financing, and the level of diversification of financing in terms of the composition of financial flows. The same study shows that changes in the degree of financial integration between 1992-94 were high in Indonesia, Korea, Malaysia, Philippines, and Thailand, but it does not examine whether these countries were more integrated financially with one another than before.

The Model

In a given region, financial liberalisation and market opening would, other things being equal, lead to an increase in cross-border banking and securities transactions between the countries of the region as well as those between the region and the rest of the world. According to our discussion in Section 1, with deepening financial liberalisation, financial prices in East Asia would react more sharply to shocks originating in the global rather than regional markets. In order to examine whether the financial data of East Asia and Europe bear out this prediction, this section analyses the extent to which financial prices such as the interest rate and stock return are influenced by shocks that are global, regional, or country specific in the two regions.

For this purpose, changes in the interest rate and stock return of each country in East Asia and Europe are decomposed into three components: a world-common, a region-common, and a country-specific component. The world-common component is a factor that affects changes in the financial variables of all countries in both regions; a region-common factor influences only the countries belonging to either region; and the effect of the country-specific factor is restricted to a country in question. The decomposition is carried out in terms of a structural Vector Autoregression (VAR) model, which is described in Appendix 1 at the end of this chapter.

More specially, in this empirical test, the error variances of the stock market return (the US dollarised total market return index) and the interest rate of each of the 7 sample East Asian and 13 European countries for one through four-week ahead forecasts are explained by domestic, regional, and global factors. Regional factors are represented by the shocks originating in the Japanese market for East Asia and in the EMU market for Europe (a value weighted return index for the EMU). Global factors are the shocks from the US market. In order to examine whether there has been any change in the relative importance of both regional and global factors, the sample period is divided into two sub-periods before and after the 1997-98 crisis in East Asia.

The Data

Empirical estimation of the model uses weekly stock market price

index data of seven East Asian and 13 European countries plus Japan and the US from DataStream International for the period from 1/3/90 to 8/21/02. In this estimation, a weekly interval is chosen, because daily price data suffer from market frictions such as bid-ask bounce and non-synchronous trading hours between the East Asian countries and the US. All price series are adjusted for dividends and expressed in the US dollar. Weekly compounded stock returns are then estimated by taking the log of price ratios.

As for the interest rates, this study uses daily interest rates of all sample countries plus Japan and the US from DataStream International (see Appendix 2). A daily interval is chosen to minimise the effects of changes in the exchange rate on the interest rate.

Estimation Results

Stock Returns

Table 7 presents a decomposition of the error variance of the dollarised stock market index return of each East Asian country for one-week through four-week ahead forecasts. The first column is the forecast period. The second through fourth columns represent proportions of the forecast error variance of an East Asian country explained by the performance of the market returns of the US (global factor), Japan (regional factor), and the East Asian country itself (local factor) respectively before the 1997-98 crisis (1/3/90-4/30/97) and the fifth through seventh after the crisis (1/6/99-8/21/02). The explanatory power of each shock is measured in percentage so that the horizontal sum of each row is 100.

The results show that, in all seven markets, forecast error variances of the market index returns are largely explained by local markets' own performance in both periods. However, the dominance of the local market performance declined during the post-crisis period in East Asia except for Malaysia. In both periods, the shocks originating in the US market played a more significant role than that in Japan in explaining variations of all East Asian market returns over a four-week horizon.

On average, 89.5 percent of forecast error variances of the East Asian market index returns are attributable to the innovations in the local markets, 7.8 percent to the US market, and 2.6 percent to the Japanese market, respectively, during the pre-crisis period. Since the

outbreak of the 1997-98 crisis, the relative importance of the three factors has changed considerably. During the post-crisis period (1/6/99-8/21/02), the proportion of the local factor fell by more than 8 percentage points to 81 percent, giving rise to the gains of both the global and regional factors. In all East Asian sample countries except for Malaysia, the relative share of the US factor rose during the post-crisis period. The East Asian average of the share of the US factor almost doubled to 14.2 percent, whereas the same figure for the Japanese factor went up by about 2 percentage points to 4.5 percent.

Except for Indonesia and Malaysia, all other sample East Asian countries saw a large increase in the share of the US factor during the post-crisis period. In the case of Korea, the proportion jumped to 18.6 percent from 2.0 percent before the crisis. For Hong Kong, the increase was more pronounced to 30.9 percent from less than 12 percent. In contrast, however, the Japanese influence declined in Malaysia, the Philippines, and Singapore, although the region's average has risen as a result of the large increase in Hong Kong and Korea. These results suggest that changes in the US market exert a stronger influence on the East Asian stock markets than the Japanese one, supporting in part our argument that financial market opening has led to growing integration of East Asian financial markets into global financial markets.

It would be reasonable to assume that unlike in East Asia, in Europe the regional factor figures more importantly in influencing stock prices than the global factor (represented by the shock originating in the US market) in view of the long and carefully managed process of economic integration that culminated in the creation of a common currency area in Europe. This assumption is borne out by the data (in Table 8). The results of the variance decomposition of stock returns for Europe reflect the consequences of the successful financial integration in the region. Except for Ireland, Sweden, and the UK, regional shocks measured by a value weighted return index for the EMU markets as a whole dominate error variances of the dollarised stock returns of the sample European countries.

Interest Rates

The variance decomposition analysis is carried out for the interest rates of the sample East Asian and European countries. The results of

this estimation are presented in Table 9. Unlike in the case of the stock market, the influences of foreign market shocks on the interest rates are very low in all East Asian countries except for Hong Kong before or after the crisis. In fact, the local factor accounts on average for more than 95 percent of forecast error variances in East Asia during both sub-periods.

For the region as a whole, the importance of the US factor rose to 3.9 percent after the crisis from 2.3 percent before, but the increase is negligible to have any implications for financial integration in East Asia. The insignificance of the external factors in influencing interest rates in East Asia is not surprising. As will be discussed in a later section, bond markets of individual East Asian countries are fragmented, narrow in terms of maturity and variety and closed to foreign investors compared to their equity markets. Furthermore, the short-term interest rates are intermediate targets of monetary policy, which are frequently adjusted for the attainment of domestic policy objectives in these countries. The Japanese interest rate, which is used to represent changes in the regional factor, has been very low and showed little fluctuations during much of the post-crisis period in East Asia. These developments may account for the relative insulation of East Asian markets for financial assets other than equities from external shocks.

The Maastricht Treaty of 1991, which was an important step toward the formation of the European Monetary Union, may have affected the nature of financial integration in Europe. To account for this change, this study examines the relative importance of the global and regional factor in influencing European interest rates in two sub-periods, before (1/1/85–12/31/90) and after (1/1/94–8/30/02) the Maastricht Treaty. Because of the unavailability of reliable data, a similar test cannot be done for the stock markets.

As shown in Table 10, compared to East Asian countries, in Europe both the global and regional factors are more important in explaining error variances of the interest rates, although the domestic factor still dominates. Table 10 also shows that the relative influence of global and regional factors has risen in the 1990s, but the increase is not large enough to indicate any significant changes in the financial market structure of Europe.

4 Financial Liberalisation and Penetration of Foreign Financial Institutions of East Asian Financial Markets

According to the definition of the General Agreement on Trade in Services (GATS), financial services include commercial banking, investment banking, securities brokerage, insurance, and insurance-related services. The financial services industry is in general made up of activities in various fields of finance including commercial banking, investment banking (notably underwriting and trading), insurance, derivatives, merger and acquisition, financial leasing, management consulting, asset management, accounting and auditing, financial data processing, and even law and telecommunication. Listing the full range of financial services is almost an impossible task as new financial services are being created and provided. It will be shown that few of the East Asian financial institutions appear to have comparative advantage in supplying these variegated and sophisticated services.

Banking Institutions

As shown in the IMF survey of international capital markets (2000), there has been a dramatic increase in foreign ownership of banks in most emerging market economies during the second half of the 1990s. Due largely to severe restrictions on entry, foreign banks penetration was traditionally low in East Asia. However, this has changed since the 1997-98 crisis (see Table 11). Notwithstanding the initial low degree of penetration, foreign bank control over assets of local banks jumped to 4.3 percent in 1999 from less than one percent in Korea in 1994. In Thailand, it rose by more than ten times to 11.5 percent during the same period. On average, the foreign control in Korea, Malaysia and Thailand shot up to 6 percent in 1999 from 1.6 percent five years earlier.

A similar development can be found in the lending behaviour of BIS reporting foreign banks in East Asia. Lending in both local and foreign currencies of BIS reporting foreign banks in the nine East Asian countries are shown in Figures 2 to 4. As shown in Figure 2, between 1991 and 2001, foreign banks' credit as a share of total bank credit more than doubled in Malaysia: it rose to more than 40 percent after the 1997 crisis from an average of less than 20 percent over the 1990-96 period. In the Philippines the share

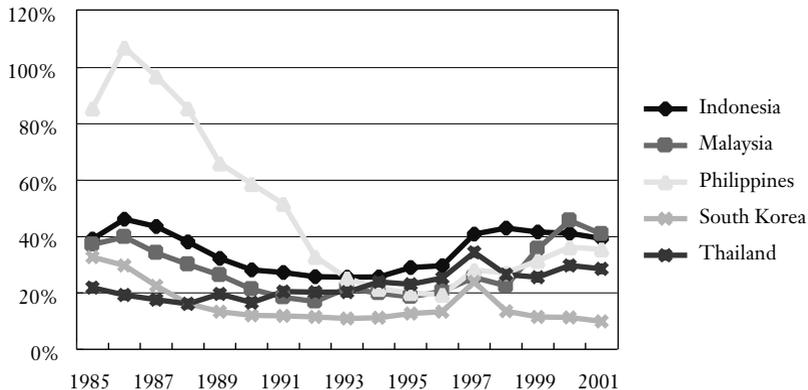
jumped to 35.5 percent in 2001 after a sustained decline during the first half of the 1990s. In Thailand, the increase in foreign banks' share has been rather gradual.

Figure 3 depicts a substantial gain of foreign banks' loan market share, which reached almost 30 percent in Malaysia in 2001. Only in Taiwan and Korea, foreign banks have not been able to increase their loan market shares. Much of the increase in the market share of foreign banks in the South-East Asian countries has come from the large increase in their local currency lending, as shown in Figure 4. Except for Malaysia, in all of the East Asian countries the absolute amounts of international claims of the foreign banks have declined, thereby lifting the ratios of local currency to international claims.

Provision of Capital Market Services

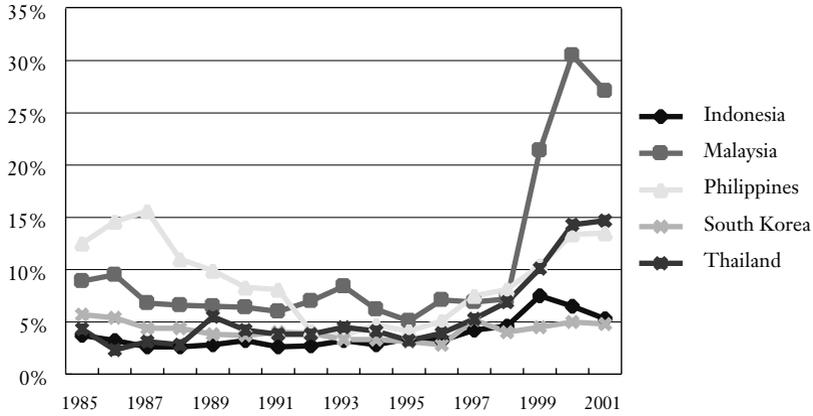
While foreign bank penetration in East Asia is still lagging behind that in other emerging market economies, western investment banks, in particular American and European ones, have established a monopoly position in providing two major services in the capital markets in East Asia: (i) underwriting in the primary market and (ii) trading and consulting in the secondary market. While there are many areas of financial services other than securities underwriting and trading, it is hard to quantify the value of financial services

Figure 2 Foreign Bank Credit / Total Bank Credit
(in percentages)



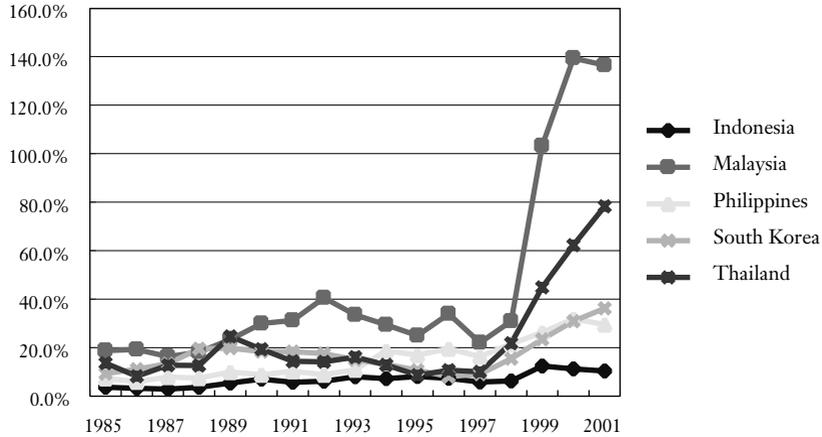
Source: BIS (2002).

Figure 3 Foreign Banks Local Claims / Domestic Bank Credit
(in percentages)



Source: BIS (2002).

Figure 4 Foreign Banks Local Claims / International Claims
(in percentages)



Source: BIS (2002).

provided by financial institutions and in many cases relevant data are difficult to find. For these reasons, the data related to the investment banking are presented to show the dominance of American and European capital market financial institutions in providing capital market services in East Asia.

Western financial institutions, in particular American ones, have been by far the largest providers of financial services in global investment banking. This was confirmed by Euromoney's 1996 poll of polls, which selects the top 20 investment banks on the basis of 70 Euromoney polls and league tables produced in 1995: 18 out of the 20 selected investment banks were either American or European, the other two were Japanese. Six years later, this dominance remained; only one Japanese investment bank made it to the list. In fact, American and European institutions held dominance in providing the entire range of financial services. US-based financial institutions led in every category of services, followed by British-based ones. Not one single financial institution was based in Asia with the exception of Japan, and even then, the Japanese institutions were ranked dead last. According to the Euromoney polls in 2002, American investment banks have solidified their dominance further; Japanese investment banks have been largely driven out of the market for capital market services since 1995.

From the perspective of East Asia, a more pertinent issue to examine in regard to the role of western investment banks is their dominance in East Asian international financing. The amount of international financing for East Asian countries before the crisis grew rapidly (Table 13-1), but it was not local financial institutions but rather American and European financial institutions which managed to control the vast share of the market for underwriting and distribution of the new issues. Table 1 classifies the capital market instruments issued in the five Asian countries during the 1991-2001 period by nationality of the lead managers or book runners who sponsored the new issues. It can be seen that out of US\$31.96 billion that was financed through capital markets for the 1998-2001 period by the six countries, 74 percent was undertaken by American and European investment banks, and 6 percent by Japanese institutions. The cumulative figures for the 1991-1997 period show that western institutions managed 69 percent of the capital market financing, compared to 31 percent managed by East Asian investment banks.

As shown in Table 15, the distribution of lead managers by their

parent country and each type of instrument issued in the six Asian countries during 1991-2001 period is also lopsided: American and European institutions accounted for more than 70 percent of all capital market financing, while Japanese institutions for only 9 percent. Table 16 lists the top 20 lead managers or book runners in the management of debt and equity issues. The total amount underwritten shows a similar pattern of western dominance, the American and European institutions representing 90 percent and the East Asian institutions only 10 percent. Table 17 divides the list of top 20 lead managers into the two sub-periods, before (1991-97) and after (1998-2001) the crisis; there was little change in the dominance of western lead managers.

Financial institutions and corporates worldwide are making increasing use of financial derivatives. Exchange-traded derivatives are currently estimated to be in the magnitude of several trillion dollars, compared with several hundred billion dollars in the late 1980s. Trading volume of over-the-counter derivatives is even larger than exchange-traded derivatives. Financial institutions and corporates in East Asian countries are also increasingly relying on the use of derivative products to meet their diverse needs for hedging instruments.

It is, however, American and European institutions that dominate in the roles of brokers and dealers of derivative transactions. This is so even in the transaction of East Asian derivatives including Asian interest rate swaps, and currency swaps, currency options, not to mention the derivative products traded in more developed markets. According to *Risk Magazine* (November 1996), most of the first-tiered derivative broker and dealer were either American or European institutions when evaluated on the basis of pricing ability, market-making reliability, liquidity, innovation and speed of transactions before the 1997-98 crisis.

In fact, it was reported that no local financial institution was ranked as active brokers or dealers of Asian derivatives. Moreover, the role of providing tailor-made derivative products according to customer's needs, which requires highly developed financial expertise and sophisticated financial technology and becomes an increasingly important area of financial service industry, is entirely played by American and European institutions. The East Asian financial crisis and the non-performing loan problems of Japanese banks have curtailed so much the lending and provision of capital market services

by East Asian financial institutions, that western financial institutions could enter the East Asian market without encountering much competition in recent years.

5 Causes of Foreign Dominance in Capital Market Services in East Asia

Overview

The discussion in the preceding section raises important questions as to how western financial institutions have been able to establish such a dominant commercial presence in East Asian finance and what effects this dominance would have on efficiency and stability of East Asian financial systems. More than anything else, the dismal state of East Asian finance in the aftermath of the 1997-98 crisis has combined with market deregulation to increase opportunities for western financial institutions to carve out a large share of the East Asian financial services industry. Saddled with large amounts of non-performing loans, many banks and non-bank financial institutions have been forced to curtail their lending operations and supply of other financial services. At the end of 2000, in Indonesia more than 70 percent of the assets of financial institutions was held by state-owned institutions; in Korea this was roughly 50 percent. Prospects of these countries for privatising the state-owned financial institutions are not promising because viable buyers, foreign or domestic, have yet to be found. Institutional reform for the improvement of risk management and corporate governance of financial institutions has been carried on intermittently and by and large at the snail's pace. Financial markets have displayed considerable instability and remain susceptible to swings in investor sentiment. To complicate the difficulty of East Asian finance, there appears to be no end in sight for the resolution of the Japanese banking crisis.

As shown in the preceding section, however, even before the crisis, western financial institutions had already controlled a commanding market share in the provision of a number of financial services, in particular capital market related ones. From a longer-term perspective, therefore, underdevelopment of financial markets and institutions, in particular capital markets, in an environment of rapid financial globalisation, has given a large competitive edge to

foreign institutions in serving East Asian local customers. Finally, many East Asian countries have been running large surpluses on their capital accounts. In providing services for investing these surpluses in foreign securities, western financial institutions have been able to win over their East Asian counterparts as they have more experience and expertise in placing funds in global financial markets.

Financial Globalisation

To western market participants, the growing presence of western financial institutions in East Asia may be a natural consequence of financial globalisation. An overwhelming share of East Asia's international financial transactions is denominated in terms of key currencies, mostly the US dollar, and conducted through the international financial hub of New York and London. Except for Japanese banks, most of the banks in other East Asian countries have a limited access to international capital markets, relatively limited experience in international corporate banking, and a small region wide branch network in East Asia. By and large, their customer bases are confined to domestic borrowers and lenders. Bond markets still remain relatively small in size and narrow in terms of maturity and issues. And the markets for financial derivatives have only recently begun to emerge. There are few domestic investment banks, securities firms, and mutual funds that are efficient enough to compete with their counterparts from the developed countries in international financial markets.

In the absence of these securities market institutions, therefore, it comes as no surprise that American and European investment banks have been able to dominate underwriting securities in international capital markets, organising large syndicated loans, and negotiating multinational mergers and acquisitions and the provision of other financial services in East Asia, and more so since East Asian countries took steps to open their financial markets in the early 1990s.⁸

The financial services industry is an industry that is very intensive

⁸ Even in banking, Japanese banks, which were active in lending to other East Asian countries and accounted for the bulk of syndicated loans to these countries before the crisis, have withdrawn drastically their lending to Asian countries: East Asia accounted for less than 6% of their total external lending in 2001 (see Table 2).

in information, communication, and computation. The ongoing IT revolution has formed the basis of numerous innovations in financial technology; the costs of supplying financial services have in turn declined dramatically, thereby creating economies of scale and scope in the financial services industry. In order to take advantage of scale and scope economics, financial institutions including banks and securities institutions throughout the world have come under increasing competitive pressure to capture a large market share, leading them to diversify their activities geographically and also to move into new service areas.

Financial market deregulation and opening in both developed and developing countries that began in the 1980s has also increased substantially the share of capital market financing relative to bank lending in global financial markets. Beginning in the early 1990s, emerging market economies in East Asia have increasingly sought to raise funds from capital markets rather than relying on syndicated loans or interbank short-term loans. This change in the financing structure has led to a large increase in the demand for capital market services. Trade and financial liberalisation in East Asian emerging market economies has also increased the demand for new financial services and products such as instruments for hedging exposure to currency and commercial risks and derivative products – options, swaps, and futures – for portfolio diversification and better risk management.

However, after long periods of financial repression, which had inhibited development of capital markets, East Asian economies did not have any comparative advantage in supplying capital market and other new financial services when their financial markets were opened. As a result, financial institutions in East Asia have been losing out in competition vis-à-vis their competitors from the West, despite the fact that they enjoy information and home bias advantage in local finance. Even in commercial banking where the home bias is of significant advantage, East Asian countries have seen their banking market share chipped away, albeit slowly, largely because East Asian banks have not been able to move out of traditional deposit taking and lending business into capital market, insurance, and other new services. That is, East Asian banks have been slow and inefficient in adapting to universalisation of banking services. In recent years, western financial institutions have increasingly filled up the vacuum of services created by this slow adjustment.

Under these circumstances, it is not surprising that large corporations with an investment grade rating in East Asia have migrated to the international financial hub where they could tap into wider investor bases and also obtain funds at lower costs and better terms. East Asian savers have also moved to New York and London markets, as part of their international diversification strategy to add to their portfolios the stocks and banks of advanced countries, where financial markets are more open and legal systems protect shareholder rights better than in their own countries.

Several measures of internationalisation of stock market activities (the relative market capitalisation of firms listed abroad, the ratio of value traded abroad to GDP, and the ratio of value traded abroad to value traded domestically) all show the growing trend of migration of issuance and trading of equities in emerging market economies, as (Claessens, Klingebiel, and Schmukler (2002) argue. According to them, the migration of stocks from emerging market economies to international financial centres depends on the overall development of the economy, the degree of shareholder protection, and trading costs. Improvement in economic fundamentals of emerging market economies has been the major driving force behind the migration.

Services offered by stock markets in New York and London are easily accessible from anywhere in the world. Large liquidity further increases the value of transactions at these markets. Global harmonisation of accounting, auditing, disclosure, and corporate governance is likely to accelerate financial globalisation. As Claessens, Klingebiel, and Schmukler (2002) argue, in an age of financial globalisation the functions and forms of stock exchanges in many emerging economies may need to be reconsidered.

Underdevelopment of Capital Markets

There is little doubt that underdevelopment of the financial sector, in particular that of capital markets, has been largely responsible for the dominance of western financial institutions in providing capital market services in East Asia. What are then the causes of the financial underdevelopment in East Asia? They are well known and mostly pertain to financial restriction and to the bank or financial intermediary-oriented financial system that have delayed and interfered with the building of the legal, regulatory, and information infrastructure that could support the development of efficient capital markets.

Post-war financial development, prior to the 1997-98 crisis in East Asia, had been characterised by regulation of interest rates at below-market levels, restricted entry of new financial institutions, segmentation of financial markets, insularity of domestic finance from the world financial markets, and system safety at the expense of competition. The increasing complexity and technological sophistication of financial industries required a high-quality information and telecommunication infrastructure and placed new demands on the labour force. However, the intermediary orientation of the financial system coupled with the financial repression had discouraged the requisite institution building, thereby holding up the development of competitive markets for bonds, equities and financial derivatives before the onset of financial liberalisation in the early 1990s. Since the 1997-98 crisis, most of the East Asian countries have taken measures to strengthen and improve the efficiency of their capital markets, including the government bond markets, realising that resilient and efficient capital markets are key to the prevention of future crises and that they should rely less on the banking sector than before.

Legal and Regulatory Inefficiency

La Porta, Lopez-de-Silanes, and Vishny (1999) argue that the legal environment for investor protection and contract enforcement is the most critical determinant of the level and quality of financial services and that it is critical to the development of both financial intermediary and markets. One implication of this legal approach to finance is that the development of equity markets will be facilitated if the legal system provides a strong protection of shareholder rights such as the right to vote on key corporate matters, to select corporate directors, or to sue the directors and the firm. Efficient corporate bond markets would thrive if they are supported by a legal system that ensures public confidence by protecting investors from fraud, insider trading, and market manipulation and by bringing civil and criminal enforcement actions against violators of securities laws.

In a banking-oriented system, regulation is directed to discouraging and limiting excessive risk taking on the part of individual banks to prevent a systemic banking crisis. Regulations such as capital adequacy requirements and limits on loan concentration are all designed for the banking system safety and foreign currency exposure. In contrast, in a market-oriented system

the regulatory system places its emphasis on enforcing compliance with the securities laws with regard to licensing of issues, ensuring due diligence process, and other rules concerning accounting, auditing, and disclosure to protect the interests of public investors. Effective enforcement rules and regulation is crucial to nurturing investors' confidence in the capital markets.

Although reform efforts have been made for improvement, the regulatory systems in many East Asian countries have not been successful in keeping abreast of rapid innovations in the financial industry, developing the necessary skills to assess the complexity and potential risks associated with new financial services, and in strengthening the regulation of securities markets. The lack of shareholder and creditor rights in most East Asian capital markets has made external reporting a low priority, which has in part been responsible for relatively low standards of accounting and disclosure systems.

Paucity of Institutional Investors

The nature of the shareholder population in East Asian countries also has constrained the development of capital markets as a source of corporate financing of the financial services industry. In financial markets of developed economies, a large proportion of listed companies tend to be owned by a diverse shareholder population, in which institutional investors such as pension funds, mutual funds and insurance companies predominate. Such a diverse shareholder population facilitates the development of well-functioning capital markets and related financial services, such as securities trading, consulting, merger and acquisition, and asset management.

In contrast, a large proportion of East Asian companies is owner-managed, or at least feature a congruence of interests of shareholders and management in the form of 'proprietor capitalism'. In Malaysia, Hong Kong, Thailand, and Indonesia, a family group – often Chinese – who staff many of the senior positions and also own a large proportion, if not the majority, of shares, usually controls many companies. In countries such as Korea and Japan, listed corporate groups tend to be large conglomerates, often far too big to be controlled by a single family. However, although the founding family may no longer have a controlling stake, this does not mean that a floating population of institutional investors, as in the West, holds

the shares. Rather, the bulk of a company's shares tend to be held for the long term by friendly institutions with which strong business ties exist, such as banks, life insurance firms and other industrial companies. This ownership concentration has been one of the obstacles to the development of the requisite institutional infrastructure for capital market and related services.

Absence of Government Bond and Financial Derivative Markets and Other Market Supporting Institutions

The government bond market provides a reliable benchmark yield curve of risk-free interest rates, on which pricing of corporate bonds is based. In part because most of the East Asian governments have been able to maintain balanced government budgets, borrowing requirements have been relatively small, limiting the growth of government bond markets. Financial derivative markets such as forward, interest rate swaps, options, and bond future markets are important complements to capital market development as they facilitate risk management and also enhance market liquidity. These markets are in the early stage of their development in East Asia.

The bank dominance of East Asian financial systems has also delayed the development of such institutions as credit rating agencies, clearing and settlement systems, and investment banking firms that constitute the important elements of supporting institutions for mature capital markets. The absence of reliable credit rating agencies has meant that firms and financial institutions have not been able to obtain credit ratings. In the absence of efficient investment banking, there have been few financial institutions capable of assuming full responsibility for selling entire issues of new stocks and bonds. Firms and financial institutions wishing to raise funds through bonds thus bear all the risks of potential price fluctuations.

Integration Into Global Financial Markets

External financing for the East Asia's deficit countries it was arranged and managed in part by Japanese banks, but mostly by western financial institutions. That is, East Asian savers and investors were intermediated by western financial institutions at financial markets in New York and London.

Since the 1997 crisis, together with China, Taiwan, and Japan, East Asia as a whole has become a larger net saver in the global economy than before (Table 1). In investing their surpluses, East Asian countries have sought the services of western financial institutions, simply because institutions with a global reach and network are more efficient in allocating East Asian savings. The growing surplus position in recent years has expanded East Asia's lending to the rest of the world through the international financial hub in New York and London.

However, in diversifying their portfolios, East Asian savers seem to have been placing at least some of their savings in bonds and equities issued by other East Asian corporations and financial institutions. But again, it is reasonable to assume that the brokerage services for investing in foreign securities have been mostly provided by western financial institutions. This may be corroborated by the fact that equity markets have been expanding rapidly in terms of market capitalisation and the variety of stocks listed in most of the East Asian exchanges, and have attracted a growing number of investors from outside of the region since the early 1990s.

Hong Kong and Singapore have been two important regional financial centres in East Asia, but they do not appear to have played an important role in advancing financial integration in East Asia with the onset of financial liberalisation in the region. Moreover, it should be noted that they were serving East Asian borrowers and lenders well before financial market opening got underway in the region. These two centres are essentially outposts of major international capital markets headquartered in advanced countries. The crisis in 1997, which almost brought Hong Kong to the brink of collapse, has undermined their importance of these two centres as the a regional financial centres, as East Asian corporations and banks have increasingly migrated to the New York and London markets for their financial service needs. In this process, Hong Kong and Singapore may have gravitated more toward linking financially East Asian economies with advanced economies than integrating them with one another.

Foreign financial institutions now receive a national treatment, which provides a level playing field when they enter financial markets of East Asian countries. Many western banks have established a wide network of branches and subsidiaries throughout East Asia, and so have western securities firms, investment banks, insurance

companies, and other non-bank financial institutions. There are numerous emerging market funds operating out of New York to invest in East Asian securities. There is little doubt that the hold of western financial institutions in East Asia has increased since the early 1990s. This pervasive presence of western financial institutions is likely to expand and strengthen East Asia's financial ties with advanced countries, given the continuing financial liberalisation in the region.

Over time, local investment banks and other financial institutions may become more competitive and new markets for financial derivatives may emerge to the extent that, compared to western institutions, they enjoy advantage in collecting and assessing local information. However, such an advantage will diminish with advances in information and communication technology, while the gap in financial technology and expertise between East Asian and western financial institutions will remain. As a result, borrowers and lenders from East Asia will have more incentives to go to the New York and London markets than before, thereby speeding up integration of East Asian financial markets into global financial centres.

6 Prospects for Regional Financial Integration in East Asia

Implications of Financial Liberalisation for Regional Integration

There has been a substantial increase in intra-regional trade in East Asia. Emergence of China as a major trading partner and its entry into the WTO are likely to accelerate trade integration in the region. The APEC agreement on trade liberalisation and a recent proliferation of bilateral free trade negotiations will gather forces for a further expansion of trade in East Asia. This expansion is in turn expected to lead to market pressures on East Asian policymakers for closer coordination of economic policies, including exchange rate policy.

In contrast, however, financial liberalisation and innovation in East Asia do not appear to have strengthened financial linkages among financial markets of individual East Asian countries. Instead, the financial market opening has led to global diversification of asset portfolios and strengthening of financial ties with major international

financial markets in East Asia. Trade liberalisation has unleashed market forces gravitating East Asian economies to regional integration; financial liberalisation has led to global financial integration. The difficulty of harmonising and coordinating institutional reform has slowed down further financial integration in East Asia.

While individual East Asian countries have made considerable progress in deregulating and opening their financial markets, collectively they have achieved little in harmonising the legal systems for bankruptcy procedures and protection of minority stockholders, regulatory systems for financial stability and soundness, and tax treatments of cross-border financial transactions. Equally slow has been the setting of common standards of banking, accounting, auditing, disclosure, and corporate governance at the regional level. In the meantime, East Asian countries have come under pressure to adopt codes and standards for financial sector regulations, accounting and corporate governance set by advanced countries. Whatever its rationale, the effort of the advanced countries to graft the western systems and standards on East Asia may have contributed to East Asia's integration into global financial markets.

In the long run, financial liberalisation would facilitate the mobility of real capital between countries in East Asia, as evidenced by a large increase in intra-regional foreign direct investment prior to the 1997 crisis, in particular Japanese investment, in China and ASEAN states. At the same time, however, the growing dominance of western financial institutions, together with the benefits of globalisation of finance, would diversify and deepen the region's ties with global financial markets. Combining these two developments, it is difficult to predict whether the collective efforts at financial cooperation through the Chiang Mai Initiative could be sustained in East Asia.

In fact, financial market opening in East Asia in itself may not produce incentives to establish regional financial arrangements such as the Asian Monetary Fund and to replicate the European monetary integration. As far as finance is concerned, most of the East Asian countries may benefit more from joining the US dollar bloc than an East Asian currency union. Realisation of this possibility may in part explain why the ASEAN+3 have not been able to make much progress in their negotiations for increasing the number of bilateral swap contracts, casting clouds over the prospects for further expansion and consolidation of the Chiang Mai Initiative.

As in trade, however, causality may run from currency union to financial integration: that is, a political decision to consolidate the Chiang Mai Initiative or to form a common currency area could anchor exchange rate expectations so that it could deepen financial integration as it creates incentives to establish regional capital markets, thereby forging closer financial linkages among East Asian countries. However, these cooperative efforts are not likely to weaken East Asia's financial linkages with global financial markets. In deciding whether to expand the Chiang Mai Initiative or to form a regional common currency area, East Asian countries may therefore have to examine closely whether their cooperative efforts would lead to the development of stable and efficient regional financial markets that could survive competition with other global financial markets.

Benefits and Costs of Establishing Regional Financial Markets

Since the 1997-98 crisis, there have been repeated calls for promoting regional financial markets in East Asia, where bonds and equities denominated in local as well as key international currencies are issued and traded, as part of the strategy to deepen financial integration in the region. This movement has raised two fundamental questions related to benefits and costs of building regional financial institutions and markets. Will the proposed regional capital markets help improve allocation of resources in East Asia? Will they reduce the likelihood of recurrence of financial crises in the future?

As noted earlier, the lack of professional expertise in securities business, the poor financial infrastructure including legal and regulatory systems, inadequate standards of accounting, auditing and disclosure systems, and non-transparent corporate governance all have plagued the development of efficient capital markets in East Asia. The cost of developing these legal, regulatory and informational infrastructures could be very high and hence may not justify the development of capital markets in small economies which are not likely to obtain scale economies and hence efficiency. The increasing migration of stocks to the main international financial centres increases the fixed overhead cost of maintaining market regulation, clearing, and settlements systems; it also reduces an order flow for local brokerage houses and business for local investment banks, accounting firms and credit rating agencies.

This cost consideration has generated interest in establishing an East Asian regional stock exchange and an East Asian regional bond market. These markets may overcome inefficiency of individual capital markets and enable some of the East Asian countries to borrow in their own currencies. At this stage, however, there is no guarantee that a regional bond market based in East Asia will be large and efficient enough to survive competition with global bond markets. Furthermore, a viable East Asian bond market will require support of a regional financial infrastructure that includes regional credit agencies, clearing and settlement systems, cross-border securities borrowing and lending mechanisms, credit enhancement and guarantee agencies, and regional trading mechanisms (ADBI, 2001). Tax treatments for securities transactions will also have to be harmonised at the regional level.

Starting from scratch it will take many years, if not many decades, for the East Asian countries with diverse legal and regulatory systems and at different stages of financial development to construct the requisite financial infrastructures for efficient regional capital markets. And many countries in East Asia will be hesitant in issuing bonds in their own currencies for fear that trading in these bonds could entail the currency mismatch problem.

In East Asia, Tokyo is a logical candidate for the location of a regional bond market, and the Japanese yen could serve as a key currency, given Japan's status as the second largest economy in the world. However, Tokyo has not been able to build the infrastructure that could support such a regional market and the prospects for internationalisation of the yen as an international transactions and reserve currency do not appear to be promising (ADBI, 2001).

There is also the question of whether the proposed East Asian bond market could be more efficient in diversifying sources of corporate financing and opening new investment opportunities than global bond markets. The presumption is that participants in this market would have better access to a large amount of more accurate information about prospects of economic and financial conditions of firms and financial institutions in the region than participants in global bond markets. However, this advantage may not be as significant as it may appear in view of the increased accessibility to not only macroeconomic but also sectoral and corporate information throughout East Asia as a result of the improvement in corporate governance, disclosure, and information technology.

While the advantage in gathering and assessing regional market information has become less important than before, the cost of raising funds through regional capital markets is likely to be higher in East Asia compared to global capital markets, as evidenced by recent developments in the Japanese Samurai (foreign and yen denominated) and Shogun (foreign currency denominated) bond markets. Although it is expected that foreign borrowers would take advantage of the low interest rates and continuing deflation in Japan, the issuance of Samurai bonds has not reached the pre-crisis peak level (¥37.9 trillion) in 1996, while no Shogun bonds have been issued since 1994. One of the most important reasons for these inactivities is simply the higher cost of borrowing through these markets than the Euro-yen, Euro bond, or Yankee bond markets. Rhee (2001) shows that the difference in all-in-cost to a sovereign borrower of ¥20 billion between the Samurai and Euroyen bonds is about 7 basis points (¥14 million). The lead time required from mandate to launch takes a few days in the Euro-yen issue, whereas it takes two to three months in the Samurai bond issue.

Inefficiency of the clearing and settlement process is another reason for the high cost of borrowing through the Samurai bond market. The Euro-yen bond market can clear through international clearing houses such as EURO-CLEAR and CEDEL, whereas the Samurai bond market is not eligible for such a global clearing. Furthermore, a regional clearing network in East Asia is yet to be created to link the Tokyo's clearing system with the region's financial centres such as Hong Kong and Singapore. As Rhee (2001) points out, one of the key issues related to the development of a regional bond market in East Asia may be the creation of a single central securities depository in East Asia for safekeeping, clearance, and settlements for all securities traded in the region.

There is also no reason to believe that the East Asian bond market will be better placed to safeguard the countries in the region from the recurrence of financial crisis in the future, unless it can be shown that this market will be less susceptible to speculation, herding and other market failures than international financial markets. Finally, efficiency considerations may in the end require integration of the East Asian regional bond market with global bond markets. Given the size and efficiency disadvantages, it is difficult to argue that such a regional bond market could weather through the competitive pressure of global bond markets.

As noted earlier, for smaller emerging market economies in East Asia, the cost of developing legal, regulatory, and other supporting infrastructure for efficient capital markets would be prohibitively expensive. Claessens, Klingebiel, and Schmakler (2002) show that the process of developing capital markets itself could increase access for domestic firms to international financial centres, where the investor base is large, market liquidity is abundant, and the cost of capital is relatively lower. With the continuing deregulation of capital account transactions, a growing number of large and efficient firms will migrate to international financial centres for their capital market services. This migration will result in a smaller availability of liquidity to the firms remaining in local markets and hence reducing incentives further to develop local bond and equity markets: a vicious circle could set in.

With the improvement in access to information, harmonisation of legal and regulatory systems and standards, and advances in financial technology that allow remote access to capital market services offered by international financial centres, future prospects for developing robust capital markets in East Asian countries are not promising. One of the implications of globalisation of finance is that East Asian countries will find it difficult to convert their bank-oriented financial systems into market-oriented ones. Another implication is that these bank-oriented systems will be increasingly specialised in catering to the credit needs of small and medium-sized firms and households. This is because a growing number of firms will leave the banking sector as they gain access to local capital markets. Some of these first comers will then migrate to international capital markets as they grow and meet requirements for cross-listing on and capital raising from international exchanges.

7 Concluding Remarks

One could argue that East Asia's integration into global financial markets is a natural as well as a desirable development, since the ultimate objective of economic liberalisation is, after all, the creation of globally integrated markets for goods and services, including financial services. Why should then globalisation of finance raise any consternation in East Asia, or for that matter, anywhere else? It does because globalisation has raised a number of concerns to East Asian

policymakers that have not been adequately addressed in the discussion of reform of the international financial system.

One concern is that financial liberalisation may not necessarily help improve efficiency and competitiveness of the financial service industry in East Asia through the process of learning and acquiring new and more sophisticated financial technologies, certainly not in the foreseeable future. Because the gap in financial technology and expertise between East Asian emerging market economies and advanced developed countries is so large and building legal, regulatory, and other financial infrastructures is costly and takes so much time, that the East Asian countries may never be able to catch up with their western competitors, and in fact may fall in a trap of low technology banking while the provision of other more sophisticated financial services is dominated by foreign financial institutions.

This specialisation may not pose any serious problems to the East Asian countries, if efficiency and stability of the global financial system could be enhanced so as to reduce the incidence of financial crisis and help emerging market economies withstand better both internal and external shocks by instituting an effective system of liquidity provision and prudential regulation of financial institutions and markets at the global level.

Despite the long and protracted discussion of reform of the international financial system, in the eyes of many East Asian policymakers not much has been accomplished in addressing the interests of emerging market economies.⁹ There is no reliable global or regional lender of last resort, which could provide liquidity support to emerging market economies in case they suffer from a short-run balance of payments problem. It is also highly unlikely that the global community could agree on establishing a global regulatory authority. From the perspectives of East Asian emerging market economies, advanced countries with developed financial markets have not devoted much effort to expanding and strengthening cross-border financial supervision and regulation.

The absence of effective cross-border prudential supervision of foreign financial institutions operating out of East Asian financial markets has created a number of problems. As the IMF (2000) report points out, there is no effective mechanism of monitoring large

⁹ On limited progress on international financial reform, see Griffith-Jones and Ocampo (2002).

foreign financial institutions providing a large number of different financial services to local customers in emerging market economies including those in East Asia. Many of the sophisticated derivative products developed by these foreign institutions could easily be used to evade taxes and regulations.

Most important of all, to East Asian policymakers, it is difficult to predict how branches or subsidiaries of foreign financial institutions and their parent institutions would behave in times of financial difficulties and crises in emerging market economies. Would they panic and move out all at once at the first sign of crisis as they did in the fall of 1997? Most of the East Asian countries have not been able to borrow from international capital markets in their own currencies although they have been removing many restrictions on capital movements, and they are not likely anytime soon. This means that they will be continuously exposed to the currency and term mismatch problems that triggered the crisis in 1997. A macroeconomic policy framework focusing on free floating and inflation targeting has not been tested for its effectiveness in sustaining financial stability with robust growth in emerging market economies.

These concerns and competitive disadvantages in producing financial services together with the region's desire to build its own mechanism of defense against future financial crises led to the discussion of establishing regional financial arrangements in East Asia, culminating in the Chiang Mai Initiative in May, 2000. As long as these issues remain unresolved, they will continue to rally East Asian countries in their ongoing movement toward financial integration.

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Appendix 1 A Vector Autoregression (VAR) Model

Let $R_{j,t}$, $R_{US,t}$, and $R_{JP,t}$ be the daily stock returns or interest rates at time t of the market portfolio of an East Asian or European country j , US, and Japan, respectively. Then, for each East Asian or European market, the following trivariate VAR model is constructed:

$$Y(t) = D(T) + \sum_{s=1}^m B(s)Y(t-s) + u(t), \quad t = 1, \dots, T \quad (1)$$

where $Y(t)$ is a 3x1 vector consisting of $R(t)$. $D(t)$ is a 3x1 vector of constants, $B(s)$ a 3x3 coefficient matrix, and $u(t)$ a 3x1 vector of serially uncorrelated random residuals with a zero mean and finite variance.

The VAR specification defines $u(t)$ as an innovation in $Y(t)$ in that it is the component of $Y(t)$ that cannot be predicted from past values of the variables in the system. The moving average representation (MAR) is obtained by a successive substitution on the right hand side of equation (1) as

$$Y(t) = F(t) + \sum_{s=0}^{\infty} A(s)u(t-s) \quad (2)$$

where $F(t)$ is the corresponding 3x1 vector of constants and $A(s)$ is a 3x3 matrix of coefficients. The MAR represents $Y(t)$ as a linear combination of current and past one-step-ahead forecast errors.

While the estimated coefficients $B(s)$ of the VAR provide little insights into the dynamic interactions among the variables, equation 2 (MAR) presents the information equivalent to that contained in the original estimates, but in a form relatively easy to understand. That is,

$$\sum_{s=0}^{\infty} A(s)u(t-s) = \sum_{s=0}^{\infty} A(s)(HH^{-1})u(t-s) = \sum_{s=0}^{\infty} C(s)e(t-s), \quad (3)$$

where $C(s)=A(s)H$, $e(t)=H^{-1}u(t)$ and the matrix H are such that HH' is a factorisation of the covariance matrix $u(t)$ by the Choleski decomposition method. With daily data, the k -week ahead forecast error of $Y(t+k)$ at time t is

$$C(k-1)e(t+1)+C(k-2)e(t-2)+\dots+C(0)e(t+k)=\sum_{s=0}^{k-1} C(s)e(t+k-s). \quad (4)$$

The variance of the k -week ahead forecast error is

$$\sum_{j=1}^n \sum_{s=0}^{k-1} [C^{i,j}(s)]^2. \text{ Then, } \sum_{s=0}^{k-1} [C^{i,j}(s)]^2 / \sum_{j=1}^n \sum_{s=0}^{k-1} [C^{i,j}(s)]^2 \text{ is}$$

a component of the error variance in the k -week ahead forecast of Y^i , which is accounted for by the innovation in Y^i .

Equation 1 is estimated with two lags and a constant term for the deterministic part $D(t)$. In view of the cross-equation nature of the hypothesis, it is also estimated with alternative lags of one, three, and four. The results are qualitatively similar, however. In order to find a measure of the overall relative importance of weekly returns (or daily interest rates) of the US and Japan in generating the stock market return or the interest rate of each sample country belonging to both the East Asian and European group, the variance of k -week ahead forecast error of the market return (or the interest rate) is computed with the MAR and decomposed into innovations in the US, Japan (an EMU market index for Europe), and the local market returns (or the interest rates). In order to isolate the shocks, they are orthogonalised. The orthogonalised innovations are uncorrelated both across time and the equation.

Appendix 2 Definition of Interest Rates

Europe

Austria	discount 'dead' – middle rate
Belgium	euro-franc 3 month (LDN: FT) – middle rate
Denmark	euro-krone 3 month (LDN: FT) – middle rate
France	money market 3 month 'dead' – middle rate
Germany	euro-mark 3 month (LDN: FT) – middle rate
Ireland	interbank 3 month – offered rate
Italy	euro-lire 3 month (LDN: FT) – middle rate
Netherlands	Neth. corp. yield (ECON) 'dead' – middle rate
Norway	interbank T/N (nominal) – middle rate
Sweden	bond yield corporate (ECON) – middle rate
Switzerland	euro-franc 3 month (LDN: FT) – middle rate
UK	discount market overnight – middle rate

East Asia

Hong Kong	deposit call – 3 month – middle rate
Indonesia	call money (pipu) – deposit 3 month – middle rate
Japan	call overnight – 3 month – middle rate
Korea	corp. bond AA no guarantee 3 year – middle rate
Malaysia	interbank 3 month – middle rate
Philippines	Manilla treasury bill 91 D – middle rate
Singapore	deposit call 3 month – middle rate
Thailand	interbank on call – middle rate

United States	federal funds – middle rate
---------------	-----------------------------

Table 1 Five Asian Economies*: External Financing
(in billions of dollars)

	1978	1979	1980	1981	1982	1983	1984	1985	1986
Current account balance	-6	-7.9	-8.9	-15.5	-17.6	-18.4	-8.7	-5.3	1
External financing, net	3.4	10.6	11.3	18.1	23.4	21.2	12.8	10.2	-3.9
<i>Private flows, net</i>	1.7	7.3	7.7	11.8	14.5	14.8	8.7	6.4	-5.5
Equity investment, net	0.2	0.4	0.5	1.1	0.6	0.9	1	1	1.2
Direct investment, net									
Portfolio investment, net									
Private creditors, net	1.5	6.9	7.2	10.7	13.8	13.9	7.7	5.5	-6.6
Commercial banks, net	1.5	6.1	5.5	9.9	11.8	8.3	6.1	1.9	-6.8
Non-banks, net	0.1	0.8	1.7	0.8	2	5.5	1.6	3.6	0.2
<i>Official flows, net</i>	1.7	3.3	3.7	6.3	9	6.4	4.1	3.7	1.6
IFIs	1.4	1.3	1.9	3.2	2.1	4	1.7	1.3	0.9
Bilateral creditors	0.3	2	1.8	3	6.8	2.4	2.3	2.4	0.7
Resident lending/ other, net **	-0.7	0.5	0.8	-3.3	-8.4	-1.6	-0.5	-4.3	2.4
Reserves (- = increase)	-0.6	-3.2	-3.3	0.6	2.6	-1.2	-3.6	-0.6	0.4

Notes:

* Indonesia, Malaysia, the Philippines, South Korea and Thailand.

** Including net lending, monetary gold, and errors and omissions.

Source: Institute for International Finance (IIF) data.**Table 2 Japan's International Bank Lending**
(in millions of dollars and percentages)

	1995.6		1996.6		1999.12		2001.6	
	Amount	Share	Amount	Share	Amount	Share	Amount	Share
Developed								
Countries	30,308	0.182	26,526	0.159	528,335	0.667	728,725	0.752
Asia	107,976	0.649	115,471	0.693	65,050	0.082	51,934	0.054
Indonesia	20,512	0.123	21,622	0.130	12,491	0.016	9,626	0.010
Korea	20,874	0.125	22,512	0.135	12,592	0.016	10,110	0.010
Malaysia	6,091	0.037	8,131	0.049	6,029	0.008	5,843	0.006
Philippines	1,147	0.007	1,402	0.008	2,921	0.004	3,066	0.003
Thailand	32,628	0.196	37,552	0.225	13,075	0.016	7,979	0.008
Sub total	81,252	0.488	91,219	0.547	47,108	0.059	36,624	0.038
Total	166,368		166,701		792,676		969,425	

Source: Bank for International Settlements, *The BIS Consolidated International Banking Statistics*, various issues.

Table 3 Japan's Overseas Direct Investment by Region*
(in millions of dollars)

	1997	1998	1999	2000	2001 (first half)
Asia	12,181	6,528	7,162	5,931	2,762
Korea	442	303	980	813	355
Hong Kong	695	602	971	936	92
Taiwan	450	224	285	510	146
Singapore	1,824	636	962	424	418
Thailand	1,867	1,371	816	931	512
Philippines	524	379	617	458	93
Indonesia	2,514	1,076	918	414	191
Malaysia	791	514	526	232	104
China	1,987	1,065	751	995	752
Vietnam	311	51	99	21	49
India	434	257	208	168	36
Sri Lanka	270	36	19	11	13
Pakistan	62	9	-	-	-
N-America	21,389	10,943	24,770	12,271	3,223
Lat.-America	6,336	6,463	7,437	5,232	2,245
Middle East	471	146	113	19	1
Europe	11,204	14,010	25,804	24,406	4,966
Africa	332	444	515	53	123
Oceania	2,058	2,213	893	667	380
Total	53,972	40,747	66,694	48,580	13,699

Note:

* Report-Accepted Basis.

Source: JETRO, *Jetro Investment White Paper*, 2000 and 2002.

Table 4 Korea's Overseas Direct Investment by Region*
(in millions of dollars)

	1997	1998	1999	2000	2001	Outstanding at the end of 2001
Asia	1,575	1,531	857	849	-317	10,882
Malaysia	-7	21	2	-13	10	323
Vietnam	92	50	15	36	31	638
Singapore	23	129	154	72	20	508
India	105	115	14	15	8	475
Indonesia	154	58	75	61	-363	1,061
Japan	62	22	34	34	75	527
China	695	665	221	307	-274	4,382
Thailand	184	89	4	17	28	500
Philippines	30	33	77	62	42	505
Hong Kong	52	371	203	239	72	1,269
Middle East	68	6	0.9	27	17	246
North America	826	686	935	1,179	342	8,286
Latin America	251	224	183	1,411	76	2,722
Europe	357	1,033	204	139	1,741	5,387
Africa	92	91	20	20	13	515
Oceania	120	102	36	61	11	669
Total	3,289	3,674	2,236	3,686	1,883	28,706

Note:

* Actual Investment.

Source: The Export-Import Bank of Korea (2002), *Overseas Direct Investment Statistics Yearbook, 2002*.

Table 5 Taiwan's Overseas Direct Investment by Region*
(in millions of dollars)

	1997	1998	1999	2000	2001
Asia	819	581	836	851	815
Hong Kong	214	69	122	111	96
Japan	32	30	122	312	169
Singapore	230	158	325	220	378
Philippines	127	39	29	13	46
Indonesia	56	20	7	34	6
Thailand	58	131	113	50	16
Vietnam	85	110	35	54	31
Korea	0.3	2	81	93	12
America	1,916	2,637	2,268	3,946	3,461
Europe	59	34	61	62	46
Oceania	28	8	41	148	63
Africa	-	36	41	7	6
Total	2,894	3,296	3,269	5,077	4,391

Note:

* Approval Basis.

Source: Investment Commission, MOEA of Taiwan. *Statistics on Overseas Chinese & Foreign Investment, Outward Investment, Indirect Mainland Investment, 2001/12.*

Table 6 Singapore's Investment Abroad, 1997-1999
(in millions of dollars)

	1997	1998	1999
Total	158,566	177,949	191,031
Total Direct investment	75,807	75,622	84,219
Direct Equity investment	57,191	53,211	58,754
Direct investment	41,478	39,899	45,293
Portfolio investment	23,277	36,155	35,965
Other Foreign Assets	59,482	66,172	70,847

Destination of Singapore's Total Direct Investment Abroad
Top 8 Investment Destination Based on 1999 (Stock as at Year-End)

China	10,477	12,186	12,625
Hong Kong	8,113	7,668	8,399
Malaysia	8,908	8,610	7,940
Belgium	1,751	3,261	6,151
Indonesia	6,519	4,485	4,517
British Virgin Islands	2,901	3,993	4,368
United States	2,905	3,064	4,285
Mauritius	2,485	3,222	4,072

Source: Singapore Department of Statistics.

Table 7 VAR Decomposition of East Asian Stock Prices
(weekly dollar index)*

Period	1/ 3/ 90 ~ 4/30/97			1/ 6/ 99 ~ 8/21/02		
Shock	Global	Regional	Country	Global	Regional	Country
<i>Hong Kong</i>						
1	11.81547	0.551633	87.63290	29.37337	7.361128	63.26550
2	11.84875	0.641289	87.50996	31.28107	7.092248	61.62668
3	11.74604	0.640663	87.61330	30.90170	7.222633	61.87567
4	11.74676	0.647848	87.60540	30.89759	7.236009	61.86640
<i>Indonesia</i>						
1	0.514037	0.022548	99.46341	0.153653	0.990592	98.85576
2	0.530492	0.080252	99.38926	0.180802	1.317838	98.50136
3	0.852544	1.201549	97.94591	0.188271	1.331859	98.47987
4	0.869937	1.309453	97.82061	0.189255	1.336095	98.47465
<i>Korea</i>						
1	1.857645	1.290440	96.85191	16.15357	5.103949	78.74248
2	2.053302	1.469221	96.47548	18.97168	9.104634	71.92369
3	2.043870	1.966944	95.98919	18.35919	13.33941	68.30140
4	2.045702	1.969084	95.98521	18.62073	13.29491	68.08436
<i>Malaysia</i>						
1	8.720180	1.796037	89.48378	6.619883	0.000570	93.37955
2	10.40599	1.900747	87.69326	6.569100	0.560231	92.87067
3	10.34695	1.991289	87.66176	6.577603	1.134615	92.28778
4	10.37380	2.013665	87.61254	6.578612	1.134506	92.28688
<i>Philippines</i>						
1	4.333805	0.187880	95.47831	6.314236	0.186250	93.49951
2	6.744170	0.882054	92.37378	7.883241	0.439348	91.67741
3	6.906731	0.961260	92.13201	11.71351	0.493182	87.79331
4	6.939220	0.960077	92.10070	11.75481	0.492699	87.75249
<i>Singapore</i>						
1	14.34621	7.612955	78.04084	18.51377	3.222573	78.26366
2	15.93102	7.462130	76.60685	20.31242	3.082938	76.60464
3	15.74236	8.755126	75.50251	20.67759	3.155843	76.16656
4	15.75407	8.771754	75.47417	20.67528	3.163149	76.16157
<i>Thailand</i>						
1	6.180099	0.235447	93.58445	9.390497	0.358787	90.25072
2	6.813609	0.954562	92.23183	11.22046	1.338870	87.44067
3	7.107116	2.721726	90.17116	10.79652	4.871466	84.33202
4	7.106599	2.728698	90.16470	10.81709	4.872960	84.30995
<i>Average across countries in period 4</i>						
	7.833727	2.628654	89.53762	14.21905	4.504333	81.27661

Note: * This table presents the results of variance decomposition of East Asian market returns using the estimates of trivariate VAR for the US, Japan, and each of the East Asian markets. Estimation is based on a weekly dollar return index of each country. The return index data are from DataStream International.

Table 8 VAR Decomposition of EU Stock Prices
(weekly dollar index)*

Forecast Period	1/3/1990~8/21/2002		
	Global shock	Regional shock	Country shock
<i>Austria</i>			
1	6.647274	25.92117	67.43156
2	6.709909	25.88374	67.40635
3	7.002183	25.79909	67.19872
4	7.009582	25.79814	67.19228
<i>Belgium</i>			
1	14.97513	29.29040	55.73447
2	15.00695	29.58801	55.40504
3	15.27961	29.50389	55.21650
4	15.28966	29.50303	55.20731
<i>Denmark</i>			
1	10.61022	29.09709	60.29268
2	10.70731	28.92995	60.36274
3	10.90243	28.90157	60.19600
4	10.90720	28.89882	60.19399
<i>Finland</i>			
1	19.29257	10.99099	69.71644
2	19.37823	11.13095	69.49082
3	19.55892	11.08780	69.35328
4	19.56437	11.08748	69.34815
<i>France</i>			
1	30.53955	51.88161	17.57884
2	30.86205	51.66236	17.47559
3	31.28831	51.35359	17.35810
4	31.29836	51.34576	17.35589
<i>Germany</i>			
1	28.78945	51.55460	19.65595
2	28.39232	51.43619	20.17149
3	28.50102	51.33116	20.16783
4	28.50627	51.32725	20.16647
<i>Ireland</i>			
1	16.92309	17.72883	65.34808
2	17.04189	17.53927	65.41884
3	17.47764	17.46170	65.06066
4	17.48791	17.46638	65.04571

Table 8 (continued)

Forecast Period	1/3/1990~8/21/2002		
	Global shock	Regional shock	Country shock
<i>Italy</i>			
1	15.53691	38.32677	46.13632
2	15.55041	38.46852	45.98107
3	15.61792	38.63925	45.74283
4	15.62166	38.63841	45.73994
<i>Netherlands</i>			
1	30.55973	42.00199	27.43828
2	30.06335	41.70098	28.23568
3	30.68545	41.19582	28.11873
4	30.71460	41.17469	28.11071
<i>Portugal</i>			
1	5.023863	18.90529	76.07085
2	5.035442	18.90736	76.05720
3	5.168920	19.04828	75.78280
4	5.170355	19.04948	75.78017
<i>Spain</i>			
1	23.19103	38.69052	38.11844
2	23.13295	38.84912	38.01793
3	23.16078	38.82539	38.01383
4	23.16234	38.82461	38.01305
<i>Sweden</i>			
1	28.86423	21.30764	49.82812
2	28.94635	21.37666	49.67699
3	29.35966	21.30291	49.33742
4	29.36817	21.30586	49.32597
<i>United Kingdom</i>			
1	32.94921	25.89883	41.15197
2	32.99670	26.02761	40.97569
3	33.43264	25.91782	40.64954
4	33.44185	25.92327	40.63487
<i>Average across countries in period 4</i>			
	20.580179	30.7956292	48.6241931

Note:

* This table presents the results of variance decomposition using the estimates of trivariate VAR for the US, EMU (value weighted return index), and each of the European markets estimated for the periods from 1/3/1990 to 8/21/2002. The estimation is based on a Weekly US-dollarised return index of each country. The data are from DataStream International.

Table 9 VAR Decomposition of East Asian Interest Rates*

Forecast Period	1/ 1/ 94 ~ 4/31/97			1/ 1/ 99 ~ 8/31/02		
Shock	Global	Regional	Country	Global	Regional	Country
<i>Hong Kong</i>						
5	4.85	0.03	95.10	9.39	0.06	90.54
10	9.73	0.06	90.19	11.16	0.23	88.60
15	15.24	0.20	84.55	12.22	0.42	87.34
20	20.89	0.42	78.67	13.10	0.59	86.29
<i>Indonesia</i>						
5	0.05	0.40	99.54	0.68	0.23	99.08
10	0.54	0.62	98.82	0.75	0.90	98.34
15	1.81	0.85	97.32	0.79	1.50	97.69
20	3.83	1.07	95.08	0.84	1.96	97.19
<i>Malaysia</i>						
5	0.11	0.09	99.79	0.005	0.0007	99.99
10	0.23	0.22	99.53	0.003	0.0004	99.99
15	0.40	0.40	99.19	0.002	0.0005	99.99
20	0.61	0.61	98.77	0.002	0.0007	99.99
<i>Philippines</i>						
5	0.25	0.08	99.65	0.09	0.30	99.59
10	0.37	0.11	99.51	0.07	1.23	98.69
15	0.49	0.13	99.37	0.05	2.20	97.74
20	0.62	0.16	99.20	0.04	3.03	96.91
<i>Korea</i>						
5	0.02	0.12	99.84	0.11	0.01	99.87
10	0.06	0.56	99.37	0.11	0.06	99.82
15	0.19	1.32	98.47	0.12	0.13	99.74
20	0.41	2.39	97.18	0.12	0.20	99.66
<i>Thailand</i>						
5	0.18	0.06	99.75	0.004	0.86	99.13
10	0.14	0.07	99.77	0.01	2.73	97.25
15	0.15	0.08	99.75	0.01	4.08	95.90
20	0.21	0.09	99.69	0.01	4.79	95.19
<i>Singapore</i>						
5	0.94	0.52	98.53	0.45	0.31	99.22
10	0.92	0.47	98.59	0.88	1.09	98.01
15	0.84	0.44	98.71	1.39	1.93	96.67
20	0.72	0.40	98.83	1.99	2.66	95.33
<i>Average across countries in period 20</i>						
	2.30	1.89	95.79	3.90	0.74	95.34

Note: * This table presents the results of variance decomposition of interest rates using the estimates of trivariate VAR for the US, Japan, and each of the East Asian markets. Estimation based on daily interest rate data from DataStream International.

Table 10 VAR Decomposition of the Interest Rates Before and After the Maastricht Treaty in Europe

Forecast Period	1/ 1/ 85 ~ 12/31/90			1/1/94 ~ 8/30/02		
Shock	Global	Regional	Country	Global	Regional	Country
<i>Austria</i>						
5	0.04	1.84	98.10	0.431	1.48	98.08
10	0.03	4.68	95.27	0.67	5.03	94.29
15	0.09	8.62	91.28	0.92	10.09	88.98
20	0.19	13.42	86.37	1.15	15.74	83.09
<i>Belgium</i>						
5	0.29	0.34	99.35	1.56	12.41	86.02
10	0.65	0.53	98.81	1.96	14.72	83.31
15	0.98	0.76	98.25	2.27	17.24	80.47
20	1.26	1.06	97.67	2.57	19.81	77.61
<i>Denmark</i>						
5	1.58	0.27	98.13	0.50	1.44	98.05
10	2.74	0.48	96.76	0.72	2.16	97.10
15	3.47	0.70	95.82	0.93	3.00	96.06
20	3.91	0.92	95.16	1.17	3.94	94.88
<i>France</i>						
5	0.02	3.78	96.18	1.68	2.55	95.75
10	0.08	5.00	94.91	2.07	3.06	94.85
15	0.16	6.18	93.64	2.31	3.56	94.11
20	0.25	7.47	92.26	2.52	4.09	93.37
<i>Ireland</i>						
5	0.04	0.35	99.60	1.98	1.08	96.93
10	0.07	0.54	99.37	2.36	1.11	96.52
15	0.14	0.72	99.13	2.58	1.15	96.26
20	0.18	0.91	98.89	2.77	1.19	96.03
<i>Italy</i>						
5	0.21	0.06	99.72	0.07	0.003	99.91
10	0.97	0.04	98.98	0.09	0.01	99.88
15	1.75	0.03	98.20	0.11	0.04	99.83
20	2.39	0.03	97.57	0.14	0.07	99.77
<i>Netherlands</i>						
5	0.05	0.47	99.47	7.95	22.12	69.92
10	0.10	0.87	99.01	9.09	23.15	67.75
15	0.22	1.42	98.35	9.58	23.89	66.51
20	0.36	2.13	97.50	9.93	24.53	65.52

Table 10 (continued)

Forecast Period	1/ 1/ 85 ~ 12/31/90			1/1/94 ~ 8/30/02		
Shock	Global	Regional	Country	Global	Regional	Country
	<i>Norway</i>					
5	1.63	0.01	98.34	0.04	0.03	99.92
10	4.24	0.05	95.69	0.03	0.02	99.93
15	5.38	0.17	94.43	0.03	0.02	99.94
20	5.78	0.38	93.83	0.02	0.02	99.95
	<i>Sweden</i>					
5	0.23	0.15	99.60	1.56	0.39	98.04
10	0.73	0.09	99.17	1.76	0.53	97.69
15	1.15	0.07	98.76	1.85	0.68	97.45
20	1.46	0.09	98.44	1.92	0.86	97.21
	<i>Switzerland</i>					
5	1.14	20.91	77.94	2.58	3.23	94.17
10	1.70	23.54	74.75	3.04	3.78	93.17
15	2.13	25.76	72.10	3.34	4.29	92.35
20	2.47	27.91	69.61	3.62	4.79	91.57
	<i>United Kingdom</i>					
5	1.87	0.74	97.37	4.47	0.84	94.67
10	3.81	2.74	93.44	5.18	0.88	93.93
15	4.67	5.35	89.97	5.61	0.88	93.49
20	4.98	8.13	86.87	5.98	0.87	93.13
	<i>Average across countries in period 20</i>					
	2.11	5.68	92.20	2.89	6.90	90.19

Note:

* This table presents the results of variance decomposition of daily interest rates using the estimates of trivariate VAR for the US, Germany, and each of the European markets estimated for each of the two sub periods (before 1/ 1/ 85 ~ 12/31/90, and after 1/1/94 ~ 8/30/02), respectively. The interest rate data are from DataStream.

Table 11 Foreign Bank Ownership in Selected Emerging Markets¹

(in millions of dollars and percentages)

	Total Assets	Foreign Control ²	Total Assets	Foreign Partici- pation	Foreign Control ³	Foreign Control ⁴
	December 1994	December 1994	December 1999	December 1999	December 1999	December 1999
Central Europe						
Czech Republic	46.6	5.8	63.4	47.3	49.3	50.7
Hungary	26.8	19.8	32.6	59.5	56.6	80.4
Poland	39.4	2.1	91.1	36.3	52.8	52.8
Total	112.8	7.8	187.1	44.0	52.3	56.9
Latin America						
Argentina	73.2	17.9	157.0	41.7	48.6	48.6
Brazil	487.0	8.4	732.3	18.2	16.8	17.7
Chile	41.4	16.3	112.3	48.4	53.6	53.6
Colombia	28.3	6.2	45.3	16.2	17.8	17.8
Mexico	210.2	1.0	204.5	18.6	18.8	18.8
Asia						
Korea	638.0	0.8	642.4	11.2	4.3	16.2
Malaysia	149.7	6.8	220.6	14.4	11.5	11.5
Thailand	192.8	0.5	198.8	6.0	5.6	5.6
Total	980.5	1.6	1061.8	10.9	6.0	13.2

Notes:

¹ Ownership data reflected changes up to December 1999 while balance sheet data are the most recent available in Fitch IBCA's BankScope.

² Ratio of assets of banks where foreigners own more than 50 percent of total equity to total bank assets.

³ For central Europe and Asia available balance sheet data are in most cases for December 1998.

⁴ Same as footnote 2 but at 40 percent level.

Source: IMF (2000).

Table 12 The Top 20 Investment Banks by Parent Country
(numbers in parentheses are percentages)

Function	Overall Results		Underwriting		Trading		Advisory	
	1996	2002	1996	2002	1996	2002	1996	2002
Parent Country of Investment Banks								
US	8 (40)	11 (55)	8 (40)	9 (45)	8 (40)	10 (50)	8 (40)	10 (50)
UK	3 (15)	3 (15)	2 (10)	3 (15)	5 (25)	3 (15)	6 (30)	3 (15)
Europe	7 (35)	5 (25)	7 (35)	6 (30)	6 (30)	7 (35)	6 (30)	7 (35)
Japan	2 (10)	1 (5)	3 (15)	2 (10)	1 (5)	0 (0)	0 (0)	0 (0)
Total no. of Investment Bank	20 (100)	20 (100)	20 (100)	20 (100)	20 (100)	20 (100)	20 (100)	20 (100)

Source: Euromoney, January 1996 and 2002.

Table 13-1 Distribution of International Financing by Country and by Financial Instrument
(in millions of dollars and percentages)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total	%
	<i>Capital market financing (A)</i>												
Indonesia	242	100	285	1591	1545	1232	3223	0	767	76	450	9511	8.7
Malaysia	0	0	475	1325	3509	749	3000	89	591	556	1600	11894	10.9
Philippines	12	403	928	1112	1543	3020	2644	1919	623	1431	700	14335	13.2
South Korea	693	1179	2938	3214	9644	8533	4769	2137	4166	4304	3302	44880	41.2
Taiwan	139	1131	0	1766	1634	1051	1484	682	1502	3448	1693	14530	13.3
Thailand	1378	84	2095	1782	1809	1358	3421	708	661	0	555	13852	12.7
Total (A)	2464	2897	6722	10790	19683	15943	18543	5535	8310	9814	8300	109002	100.0
	<i>Loan financing (B)</i>												
Indonesia	2171	2903	1652	5600	6255	5792	7094	0	0	0	0	31467	25.8
Malaysia	1161	1994	3493	1913	4227	5315	2975	600	0	0	0	21678	17.8
Philippines	0	57	1486	578	471	2402	2269	0	0	0	0	7263	6.0
South Korea	3369	1246	701	4772	3046	4467	5058	0	0	0	0	22658	18.6
Taiwan	850	498	611	270	1152	4075	7479	995	0	129	0	16058	13.2
Thailand	1559	2840	5326	2809	4975	3764	1531	0	0	0	0	22804	18.7
Total (B)	9110	9538	13268	15942	20126	25815	26405	1595	0	129	0	121928	100.0
Total (C)=A+B	11574	12435	19990	26732	39809	41758	44948	7130	8310	9943	8300	230929	
Proportion of capital market financing A/C	21.3	23.3	33.6	40.4	49.4	38.2	41.3	77.6	100.0	98.7	100.0	47.2	

Note:

The table presents the distribution of international financing proceeds financed in six Asian countries during the period of 1991-2001 by country and by instrument. The financing schemes are categorised into capital market financing and loan financing. Capital market financing instruments include: (i) Bond (bond with warrants, convertible bond, plain bond); (ii) Medium Term Note; and (iii) Equity (ordinary shares, preference shares, warrants). Loan financing instruments include syndicate loans.

Source: Thomson Financial SDC database.

Table 14 Distribution of Lead Managers by their Parent Countries and Year

	1991	1992	1993	1994	1995	1996	1997	'91-'97	1998	1999	2000	2001	'98 -2001	Total
<i>Capital Market Financing</i>														
US	100	0	756	412	2589	4614	5230	13700	1665	3469	4299	1396	10829	24529
UK	576	1790	2460	6102	8009	4298	8656	31890	1595	1668	3068	2995	9327	41217
Swiss	108	83	129	359	153	50	356	1238	18	0	0	0	18	1256
Other Europe	70	533	911	185	867	2412	1027	6005	252	543	556	2117	3468	9473
West Total	854	2406	4256	7058	11618	11374	15268	52834	3530	5680	7923	6508	23641	76475
%	34.65	83.08	63.31	65.41	59.02	71.34	82.34	68.58	63.77	68.35	80.72	78.40	73.97	70.16
Japan	114	0	1592	494	2528	1616	1832	8177	100	781	200	919	2001	10177
Singapore	15	0	102	179	698	943	150	2087	317	385	1211	224	2137	4223
Hong Kong	724	406	722	2327	2115	1194	819	8308	231	692	259	175	1356	9664
Other Asia	758	84	50	732	2725	815	473	5637	1357	772	222	475	2825	8462
Asia Total	1611	490	2466	3732	8066	4568	3274	24208	2005	2630	1892	1793	8319	32527
%	65.35	16.92	36.69	34.59	40.98	28.66	17.66	31.42	36.23	31.65	19.28	21.60	26.03	29.84
Total	2465	2896	6722	10790	19683	15942	18543	77042	5535	8310	9815	8301	31960	109002
%	100	100	100	100	100	100	100	100	100	100	100	100	100	100
<i>Loan Financing</i>														
US	597	458	2556	1047	253	932	1371	7213	0	0	0	0	0	7213
UK	2342	2342	655	1211	1004	1298	697	7391	0	0	0	0	0	7391
Swiss	0	80	25	220	291	2451	0	3068	0	0	0	0	0	3068
Other Europe	556	663	1053	3046	4297	4297	3685	16526	0	0	0	0	0	16526
West Total	3495	1384	4288	5525	5845	7908	5753	34197	0	0	0	0	0	34197
%	38.36	14.51	32.32	34.66	29.04	30.63	21.79	28.45	0	—	0	—	0	28.05
Japan	630	3081	4496	879	1172	2317	2864	15440	0	0	0	0	0	15440
Singapore	1200	2150	1186	2080	3047	3228	2181	15072	0	0	0	0	0	15072
Hong Kong	1385	1664	2511	4461	3128	2904	2114	18167	0	0	0	0	0	18167
Other Asia	2400	1259	786	2998	6935	9457	13492	37328	1595	0	129	0	1724	39052
Asia Total	5615	8154	8980	10417	14281	17907	20652	86006	1595	0	129	0	1724	87730
%	61.64	85.49	67.68	65.34	70.96	69.37	78.21	71.55	100	—	100	—	100	71.95
<i>Total</i>														
Total	9110	9538	13268	15942	20126	25815	26405	120204	1595	0	129	0	1724	121927
%	100	100	100	100	100	100	100	100	100	—	100	—	100	100

Note:

Distribution of international financing proceeds financed in six Asian countries during the period of 1991-2001 by parent country of a lead manager. The financing schemes are categorised into capital market financing and loan financing. Capital market financing instruments include i) Bond (bond with warrants, convertible bond, plain bond), ii) Medium Term Note, iii) Equity (ordinary shares, preference shares, warrants). Loan financing instruments include syndicate loans.

Source: Thomson Financial SDC database.

Table 15 Distribution of Lead Managers by their Parent Country and Financial Instrument
(in millions of dollars and percentages)

	Capital market financing				Loan financing	
	Bond	Equity	MTN	Total	Loan	Total
US	12234	7795	4500	24529	7213	31742
UK	18268	9849	13100	41217	7391	48608
Swiss	1019	237	0	1256	3068	4324
Other Europe	3864	1691	3917	9472	16526	25998
West Total	35385	19572	21517	76474	34197	110671
%	67.20	57.19	97.26	70.16	28.05	47.92
Japan	8841	1337	0	10178	15440	25618
Singapore	1209	3015	0	4224	15072	19296
Hong Kong	5207	3908	550	9665	18167	27832
Other Asia	2014	6390	57	8461	39052	47513
Asia Total	17271	14650	607	32528	87730	120258
%	32.80	42.81	2.74	29.84	71.95	52.08
Total	52657	34222	22124	109003	121927	230930
%	100	100	100	100	100	100

Note:

The distribution of international financing proceeds financed in six Asian countries during the period of 1991-2001 by the parent country of a lead manager. The financing schemes are categorised into capital market financing and loan financing. Capital market financing instruments include i) Bond (bond with warrants, convertible bond, plain bond), ii) Medium Term Note, and iii) Equity (ordinary shares, preference shares, warrants). Loan financing instruments include syndicate loans.

Source: Thomson Financial SDC database.

Table 16 List of Top 20 Lead Managers
(in millions of dollars and percentages)

Lead Manager	Amount	Parent Company
Merrill Lynch International Ltd	8741	US
Lehman Brothers	6050	US
JP Morgan Securities Ltd	3819	US
Morgan Stanley Dean Witter & Co	3606	US
Daiwa Securities Co Ltd	3414	Japan
Goldman Sachs (Asia)	2485	US
Salomon Brothers Inc	2464	US
SBC Warburg	2392	UK
Warburg Dillon Read	2382	UK
CS First Boston Limited	2344	US
Nomura Securities Co Ltd	2300	Japan
JP Morgan & Co Inc	1965	US
Merrill Lynch & Co Inc	1941	US
Deutsche Morgan Grenfell	1739	Germany
Morgan Stanley International Ltd	1728	US
Goldman Sachs International	1649	US
Baring Brothers & Co Ltd	1543	UK
UBS Securities Inc	1515	Swiss
Credit Suisse First Boston Inc	1500	Swiss
Jardine Fleming	1325	UK

Country	Amount	No.	%
US	36792	11	61.11
UK	7641	4	22.22
Swiss	3015	2	11.11
Other Europe	1739	1	5.56
West Total	49186	18	90.00
Japan	5714	2	10.00
Singapore	0	0	0.00
Hong Kong	0	0	0.00
Other Asia	0	0	0.00
Asia Total	5714	2	10.00
Total	54900	20	100.00

Note:

The table presents the list of top 20 lead managers ranked by the issue proceeds financed in six Asian countries during the period of 1991-2001. The financial instruments used include (i) Bond (bond with warrants, convertible bond, plain bond); (ii) Medium Term Note; and (iii) Equity (ordinary shares, preference shares, warrants).

Source: Thomson Financial SDC database.

Table 17 List of Top 20 Lead Managers Before and After the East Asian Currency Crisis

(in millions of dollars and percentages)

Country	1991-1997		
	Amount	No.	%
US	23780	10	50
UK	7733	5	25
Swiss	1515	1	5
Other Europe	1739	1	5
West Total	34767	17	85
Japan	5164	2	10
Singapore	0	0	0
Hong Kong	0	0	0
Other Asia	1186	1	5
Asia Total	6351	3	15
Total	41118	20	100
Country	1998-2001		
	Amount	No.	%
US	16026	12	60
UK	2086	3	15
Swiss	2322	2	10
Other Europe	500	1	5
West Total	20934	18	90
Japan	550	1	5
Singapore	0	0	0
Hong Kong	0	0	0
Other Asia	704	1	5
Asia Total	1254	2	10
Total	22188	20	100

Note:

The table presents the list of top 20 lead managers before and after the Asian currency crisis. Lead managers are ranked by the issue proceeds financed in six Asian countries during the each period of 1991-1997 and 1998-2001, respectively. The financial instruments used include: (i) Bond (bond with warrants, convertible bond, plain bond); (ii) Medium Term Note; and (iii) Equity (ordinary shares, preference shares, warrants).

Source: Thomson Financial SDC database.

Table 18 Non Performing Loans of Crisis-Affected Countries
(in percentages of total loans)

	1997	1998	1999			2000				
	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Latest
Indonesia ^a	-	-	-	-	-	64.0	62.4	63.5	61.7	58.8 (Nov)
Excl. IBRA	7.2	48.6	58.7	39	38.9	32.9	32.1	30	26.9	23.9 (Nov)
Korea ^b	8.0	16.1	17.0	16.4	15.9	15.8	17.9	18.9	17.9	
Excl. KAMCO/KDIC	5.9	10.4	11.4	11.3	10.1	10.9	10.9	13.6	12.3	
Malaysia ^c	6.0	22.6	22.7	23.4	23.6	23.6	23.3	23.2	-	
Excl. Danaharta	-	18.9	18.2	18.1	17.8	16.7	16.7	16.2	16.1	15.3 (Dec)
Philippines ^d	4.7	10.4	13.2	13.1	13.4	12.5	14.4	14.6	15.3	15.1 (Dec)
Thailand ^e	-	45.0	47.0	47.4	44.7	41.5	39.8	34.8	30.6	26.5 (Dec)
Excl. AMCs	-	45	47	47.4	44.7	38.9	37.2	32	22.6	17.7 (Dec)

Notes:

- ^a The first line uses the “stringent” definition of an NPL; the second line excludes transfer to IBRA.
^b NPL figures use the BLC.
^c Figures include commercial banks, finance companies, merchant banks, and Danaharta.
^d Figures are for commercial banks.
^e Commercial banks. First line includes commercial banks, finance companies, and the estimated amount of NPLs transferred to wholly-owned private AMCs.

Source: World Bank (2001).