Recent Economic Downturns and Foreign Direct Investment to and from Asia

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Abstract

This paper analyzes trends in foreign direct investment (FDI) by multinational corporations (MNCs) investing in and out of Asia in the years surrounding three major, recent economic downturns. It first finds that FDI flows, both inward and outward, generally continued upward trends during periods of crisis. Relatively large increases in inward stocks were observed for inward investors in most hosts (11 of 14) during the Asian financial crisis surrounding 1998, and were also observed in about half (6-7) of these economies surrounding subsequent downturns in 2001 and 2009. For outward flows, relatively large increases were observed in only about one third of the economies during all three downturns. Second relatively strong, negative (-0.5 or less) correlations between trends in cumulative FDI-GDP ratios and economic growth were common among inward investors in 1996-2000 and both inward and outward investors in 2007-2009. On the other hand, positive correlations were not very common. There is thus some evidence that MNCs have tended to increase their FDI stocks relatively rapidly during periods of economic downturn. This pattern is consistent with the view that MNCs are often better able to take advantage of buying opportunities that emerge during downturns than other firms, partially because they tend to be relatively large and are able to access capital relatively easily. On the other hand, there is a tendency for relatively high FDI growth to be concentrated in the same host and home economies, suggesting that country-specific factors may be relatively important determinants of FDI growth.

Keywords: Multinational corporations, Asia, manufacturing, Economic downturns and cycles
JEL categories: F23, L60, N15, N65, O53

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1. Economic Cycles and Foreign Direct Investment: Why the Interest?

Foreign direct investment (FDI) is conducted by multinational corporations (MNCs), which are generically defined to include all firms with operations (production, sales, or services) in more than economy.[1] FDI has become an increasingly important source of balance of payments finance for many Asian nations, especially over the last two decades. Correspondingly, both local- and foreign-based MNCs have grown relatively rapidly, especially in manufacturing, mining, trade, business services, and finance. They are now important actors in all but a few of Asia's major economies. Moreover, several economies in Northeast and Southeast Asia have recently gone through three major downturns surrounding 1998, 2001, and 2009 (Table 1). The downturns followed the so-called boom decade of 1986-1996, which followed the previous, relatively mild slowdown that surrounded 1985. As a result, the reactions of MNCs to economic downturns and their possible contributions to those downturns have become topics of keen interest among academics and policy makers.

The purpose of this paper is thus to examine trends in aggregate flows and stocks of FDI, both inward and outward, during crisis periods, and how those trends have correlated with economic growth among 14 of Asia's larger economies, Japan, China, Hong Kong, Taiwan, Korea, Singapore, Malaysia, Thailand, Indonesia, Philippines, Vietnam, India, Pakistan, and Bangladesh. The methodology is descriptive because the primary interest is document how trends in FDI differed depending on the economy and downturn involved, not to estimate the "average" reactions of MNCs across cross sections or over the years. The paper begins by documenting various aspects of economic cycles in this region (Section 2), before examining how to interpret trends in FDI and FDI-GDP ratios (Section 3) and then the trends experienced by Asian economies during economic downturns (Section 4). The final section (5) concludes by highlighting how MNCs' adjustment of FDI flows has varied among

[1] The definition of an "economy" generally corresponds to that of nation-state, but there are several important exceptions. For example, China and Hong Kong are generally considered separate economies, even though they have been part of the same country for more than a decade.

economies and downturns.

This paper is designed to paint the "big", macroeconomic picture and focuses on describing how trends in FDI flows and stocks have correlated with overall economic trends during times of economic duress. Largely because the number of relevant data points is relatively few and because key correlations appear to have differed among economies and downturns, more rigorous statistical analysis that would be possible if a large numbers of years or countries were combined into a single sample, is not very meaningful in this context. Correspondingly, this paper cannot sort out the precise reasons for the trends and correlations observed or the, though it does speculate about them to the extent that previous literature or other evidence is suggestive. Rather the question here is a simple macroeconomic one: are there discernable, consistent relationships among FDI flows or stocks and economic growth during times of economic downturn? If so what are they, and what might they mean?[2]

In this paper, the primary concern is with how MNCs adjust their FDI flows and stocks during cyclical downturns, and this is often a point of departure for understanding FDI trends. On the other hand, it is also important to recognize that FDI can affect economic cycles, especially if FDI is large enough relative to the local economy to affect aggregate demand or to cause supply shocks, and thus economic cycles (e.g., perhaps some years in Hong Kong or Singapore). For example, FDI increased sharply in many of Asia's economies during the decade before the Asian financial crisis surrounding 1998. Correspondingly, it is likely that MNCs did contribute some to unsustainable levels of investment (and borrowing) that were the primary cause of that crisis. However, outside of Hong Kong and Singapore on both inward and outward sides, and to a lesser extent Vietnam on the inward side, FDI flows in

[2] Another important consequence of the macroeconomic focus on FDI is that important differences among MNCS in alternative industries or differences between the production-related activities of MNCs such as employment or production and FDI flows or stocks, which are heavily influence by financial restructuring in MNCs, cannot be examined. For example, a companion paper focuses on manufacturing plants or firms in several of the region's economies, revealing some very different patterns than observed here (Ramstetter and Haji Ahmad (2010).

Asia have generally been relatively small compared to home or host economies. Moreover, previous literature on the subject has generally emphasized how MNCs appeared to help mitigate the effects of sharp economic downturns by providing relatively stable sources of international finance (FDI) and being less constrained financially than local firms.[3] This in turn made them better able to take advantage of investment and export opportunities that resulted from adjustment (e.g., declines in asset prices and exchange rates) to the downturns.

Moreover, the most influential effects of MNCs are generally thought to result from the exploitation of firm-specific, intangible assets (e.g., patents, other results of R&D and technology development, marketing networks, and management know-how) that affect long-term firm performance, both in the investing MNCs and surrounding firms in host and home economies, rather than the shocks directly transmitted by FDI flows.[4] In this context, it is important to realize that MNCs possess extensive exporting capabilities facilitated by superior technologies and marketing networks, as well as relatively astute financial management capabilities, and that these characteristics may lead MNCs to react somewhat differently to downturns than non-MNCs.

2. Identifying and Understanding Economic Downturns

There many types of economic downturns (recession or mild downturn, depression or sharp, prolonged downturn, etc.) and many potential ways to measure them. Recessions have been most common since World War II and are usually defined as periods during which real GDP declines two or more consecutive quarters. In principle, this paper will follow this convention with two important modifications. First, primarily because several economies of keen interest here do not have quarterly GDP estimates of sufficient length for this analysis,

[3] For examples of this literature, see Aguiar, and Gopinath (2005), Athukorala (2003); Chung et al. (2007), Desai, et al. (2004), Fukao (2001), Harrison and McMillan (2001), Hill and Jongwanich (2009); Lipsey (2001), Narjoko and Hill (2007), Wang and Wong (2007).

[4] See Caves (2007), Dunning (2003), and Rugman and Brewer (2001) for summaries of or compilations of relevant literature.

this paper relies on annual data. Although non-standard, this approach may actually be helpful to eliminate potentially spurious correlations because quarterly FDI flows often fluctuate widely in ways that are often very difficult to explain. Second, it is important to recognize the fact that average growth has been relatively high in Asia over the last three decades. For example, according to International Monetary Fund (IMF 2009) estimates and forecasts as of October 2009, the mean of annual growth rates during 1980-2009 was below 5 percent in only 3 economies, Japan, the Philippines, and Bangladesh and 6 percent or higher in five (Korea, China, Singapore, Vietnam, and India).[5] Correspondingly, even slow growth is considered a slowdown in most Asian economies, Thus, this paper defines a downturn as any year during which the annual growth rate falls below 1.00 percent.

Using this definition there were two major, region-wide downturns in 1998 and again in 2009, when growth fell below this threshold in 8 each of the region's 14 largest economies (Table 1). These downturns both affected Japan, Korea, Hong Kong, Korea, Singapore, Malaysia, and the Philippines, while growth fell below this threshold in only one year each for Taiwan (2009) and Indonesia (1998). This indicator also suggests less widespread regional downturns occurred in 1985 and 2001, which affected Hong Kong, Singapore and Malaysia in both years, the Philippines in 1985, as well as Japan and Taiwan in 2001. All Japanese downturns, including another Japan-specific downturn surrounding 1993 after the financial bubble burst, were relatively long, at least two years. Downturns also continued for two years surrounding 1998 in Thailand and Indonesia, as well as in Taiwan during 2008-2009.

This definition of economic downturns above only considers one element, the slowing of real economic growth to low levels. Changes in domestic prices (inflation or deflation) and domestic currencies (depreciating exchange rates) have also been key elements of recent downturns in Asia, for example. It is therefore instructive to look at alternative measures that

[5] See Appendix Table 1 for a compilation of these data for the 14 economies studied here.

reflect the influence of these factors. One example of an indicator reflecting the combined effects of slowed real growth, deflation and depreciation is the growth rate of nominal GDP growth measured in U.S. dollars.[6] Again using the IMF's (2009) October 2009 estimates and a 1.00 percent growth criterion, the 1998 and 2001 downturns appear much more widespread (affecting 11 of 14 economies) when using the U.S. dollar estimates than when using the real GDP criteria (Table 1). By this definition, only China and Vietnam avoided a marked slowdown in both of these years, while Bangladesh (1998) and India (2001) experienced a marked slowdown in only one year each. The 1985 downturn also appears more widespread when growth is measured in U.S. dollars, affecting half the 14 economies. Moreover, the U.S. dollar measure indicates that all three of these episodes extended lasted 2 years or more in a larger number of economies surrounding 1985 (4 vs. 1), 1998 (9 vs. 3), and 2001 (5 vs. 1). On the other hand, the October 2009 (and more recent) estimates suggest that 2009 downturn is unlikely to extend more than two years, Korea (both criteria) and Japan (real GDP criterion only) being the only exceptions.[7]

The data on nominal GDP in U.S. dollars also highlight how two large Northeast Asian economies, Japan and China, dominate Asian economic activity, especially in the tradable sectors, accounting for 65-77 percent of 14 economy total in 1980-2009 (Appendix Table 2). If Korea and India are added, the largest four economies accounted for 82-88 percent of the 14 economy total. Although these large economies tend to be less dependent on trade and foreign capital than smaller economies, they are still large enough that the stagnation and decline of the Japanese economy since the early 1990s, large fluctuations in Korean economic activity, and the generally healthy growth of the China and India, have had important effects

[6] Another potentially interesting measure would be the growth of nominal GDP measured in international dollars (Appendix Table 4). This measure accounts for cross-country differences in the prices of non-tradable goods that are ignored when market exchange rates are used to convert to U.S. dollars, and is probably the better measure of economic welfare across countries. However, the U.S. dollar measure is probably more relevant to MNCs and their investment decisions and is the focus here.

[7] Note that the these projections also suggest that growth will recover to above 1.0 percent in 2010 and more recent projects by the IMF and others are generally higher than those published in October 2009.

on the economic cycles of the smaller economies in the region. Of course, domestic factors and trends in large economies outside the region (especially Europe and the United States) have also been important. In addition, the Asian crisis surrounding 1998 also began in Thailand, before similar fears spread to the financial markets of other economies, many of them with important weaknesses (strong incentives to extend or receive questionable loans, weak and inconsistent regulation of financial transactions) similar to those in Thailand. Nonetheless, these data clearly illustrate the fact that trends in a few large economies dominate this region as a whole.

Table 2 shows that deflation, defined as negative growth of the consumer price index, has been a relatively rare element of Asian economic downturns. The two major exceptions to this were during the most recent downturns in 2009 (7 economies experiencing deflation) and in 2001-2002 (4 and 5 economies, respectively). Among these economies, the deflation in Japan and Hong Kong is probably best understood as a medium-to-long-term adjustment of prices from unusually high levels (compared to international or Chinese norms), rather than a cyclical indicator.

In contrast, most economies experienced depreciations, often rather large ones, for many years during these three decades (Table 2). In other words, the tendency for US$ based estimates to suggest more widely spread and longer lasting downturns is much more related to currency depreciation than domestic price deflation. Notably some of the most widespread trends toward depreciation also accompanied the four major downturn surrounding 1985, 1998, and 2001 when 13 economies experienced depreciation and also in 2009 when depreciation affected 11 economies.

In short, Tables 1 and 2 clearly illustrate that there were four periods over the last three decades during which several of Asia's major economies experienced economic downturns. These were the years surrounding 1985, 1998, 2001, and 2009. The remainder of this paper

will thus focus analyzing how FDI flows and stocks changed during the latter three of these downturns, though other periods of downturns (e.g., 1985, the prolonged down turn in Japan after 1992 and the 1991-1992 downturn in the Philippines) will also be examined as warranted.

3. Interpreting Trends in FDI Flows and Stocks

Before proceeding to these analyses, it is first crucial to understand the precise meaning of FDI. FDI is probably the most commonly cited measure of MNC activity, largely because it is available more readily and in a timelier manner than indicators such as MNC employment or production, for example. However, it is a rather strange measure referring to a portion, and often a rather small portion, of the sources of funds invested by MNCs. To understand this point, it is convenient to refer to a corporate balance sheet, which defines the stock of total assets or uses of investible funds, such as fixed assets and other assets (financial assets, inventory, etc.), as equal to the stock of total liabilities, which are comprised of equity and loans. In this context, the stock of FDI is equal to the equity and loans remitted from the parent company and related companies residing abroad to a recipient company in which the parent or related companies hold a "a lasting interest in an enterprise resident in another economy".[8] Statistically, the lasting interest is usually defined as investments when a single foreign parent and/or related foreign companies hold combined ownership shares in an affiliate of 10 percent or more, that is where the ultimate beneficial owner owns one-tenth of a foreign company, or more.

The flow of FDI is then the net additions to the FDI stock remitted during a year, excluding changes in the valuation of the stock.[9] Thus, in principle, positive FDI flows can be used to

[8] The lasting interest is interpreted to imply "the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence by the investor on the management of the enterprise" (International Monetary Fund 1993, p. 86).

[9] FDI is originally a flow concept from the balance of payments that also distinguishes newly remitted equity

finance (1) increases in fixed stocks or (2) increases in other asset stocks, and/or (3) reductions in equity and loans from non-FDI sources. An important point often ignored by the public press and many academic economists is that items (2) and (3) are often rather large, and are essentially money games similar to those played by portfolio investors in stocks and bonds, for example. In short, although the economic literature often emphasizes how FDI by MNCs differs from portfolio investment in important respects, the statistical reality is that FDI is in part, and often a large part, similar to portfolio investment.

As a result, it is not at all surprising that trends and patterns (e.g., distributions across countries or industries) of FDI stocks often differ greatly from trends and patterns observed in other indicators of activities by the recipient MNCs such as total asset stocks, fixed asset stocks, employment, and sales (Lipsey 1999, Ramstetter 1998a, 2000). Moreover, although FDI may be a relatively stable source of international finance as indicated by several of the studies cited in footnote 3 above, FDI stocks are often more volatile than employment or sales, for example. And because FDI flows are essentially the first differences of stocks, they tend to be even more volatile than stocks, which are comprised primarily of cumulative flows, and thus more stable. For example, the U.S. dollar value (at current prices) of inward FDI doubled or halved in over one-fourth (111) of the 390 years for which annual growth rates can be calculated in 1981-2009 (when the previous year's FDI was non-zero) and that the same was true for over one-third (104) of the 288 cases for outward FDI (Appendix Tables 3-4).

The important point here is that FDI data, especially data on FDI flows (Tables 3, 5), are rather volatile and often are poor indicators of the scope of MNC production or employment, for example. However trends in FDI are often interpreted as proxies for such real activity by the popular press, international reports such as UNCTAD's *World Investment Report*, and

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from equity financed out of profits or reinvested earnings. However, this distinction is irrelevant on a corporate balance sheet because both are sources of equity belonging to the parent and related firms. Valuation adjustments to the FDI stock are often not estimated, and are usually relatively limited when estimated. They are not meant to reflect large changes in asset prices, for example.

many academic economists who misinterpret or ignore the nature of these data, often because there are often no preferable alternatives.

Data on cumulative FDI stocks, especially if measured relative to the size of the host or investing economy (Tables 4, 6) are arguably better indicators of the scope of MNC activities than flow data. These data suggest that foreign MNCs are by far the largest relative to the local economy in Hong Kong and Singapore, followed distantly by Vietnam, Malaysia, and Thailand in recent years, and smallest in Japan, Bangladesh, and Korea. Outward investment was also largest relative to the home economy in Hong Kong, followed more distantly by Singapore in this case. Perhaps surprisingly, these measures suggest that outward FDI stocks were larger relative to the home economy in Taiwan and Malaysia than in Japan. This partially results from a valuation bias, because older investors like Japanese MNCs purchased their assets when prices were much lower than recent investors. In other words, if the investments were revalued at current equity and loan values, it is likely that Japanese FDI stocks in the region would be substantially larger relative to the newer investments from Taiwan and Malaysia.

On the other hand, positive FDI flows do indicate that the investing MNC is willing to risk its capital by financing the activities of an affiliate in the recipient economy, be they related to directly controlled production activities or other investment activities of the affiliate involved. It is therefore a meaningful indicator of investor sentiment, or more specifically the profit expectations investing MNCs have regarding remitting equity and loans to and/or from an economy. Thus, FDI is a potentially interesting indicator, but it is conceptually more similar to compiling an opinion poll of the investment professionals who control corporate finance decisions in MNCs than to measuring real output or employment or even fixed investment, of recipient affiliates, for example.

When analyzing how MNCs react to economic downturns, it is also important to recognize

that MNCs tend be among the best managed firms and largest firms in the world. As a result, MNCs, especially the larger, more prominent ones generally have relatively little difficulty raising capital, either in the form of equity or loans, compared to non-MNCs. They also appear to avoid debt problems more than non-MNCs, though there have been some prominent bankruptcies among well-known MNCs. As a result, MNCs have often been relatively resilient in face of economic downturns and better able to take advantage of acquisition opportunities that arise during downturns.

4. Trends in FDI Flows and Stocks during Recent Asian Downturns

As indicated in Section 2 above, after the economic boom in 1986-1996, recent Asian economic history provides three interesting examples of how MNCs react to economic downturns surrounding 1998, 2001, and 2009. This section analyzes these reactions, focusing on trends in ratios of cumulative inward or outward FDI to GDP during the three downturns. The goal is to illustrate how trends in the willingness of MNCs to risk their investible funds compared with trends in overall economic size during slowdowns in the economies studied.

4a. The Asian Financial Crisis Surrounding 1998

The Asian financial crisis was a watershed event for the entire region, primarily because it exposed critical weaknesses, which were particularly conspicuous among banks and other financial companies, and financial market regulators in the region. The fundamental problem was that lenders, borrowers, and regulators all became overly optimistic and facilitated large investments that were often unable to generate rates of return sufficient to pay off related debts. As a result, non-performing loans soared, crippling credit growth and financial systems. The crisis quickly revealed the need to drastically restructure many large banks and finance companies, and resulted in large changes to key economic policies and institutions in many of

the region's economies. Some (e.g., Indonesia, Korea, Thailand) adopted policies implemented in conjunction with the IMF's somewhat controversial advice. Notably Malaysia chose a somewhat different, also controversial, policy mix that included a peg of the ringgit to the U.S. dollar. However, even the Malaysian approach was not that unconventional, largely because the ringgit was pegged below pre- and post-crisis levels.

This turn of events was a particularly rude shock to several of the region's economies, which had been accorded "miracle" status by the famous World Bank (1993) publication. This status was to some degree consistent with the region's spectacular performance for the four decades or so through 1996, particularly that during the boom of 1986-1996, when local investment (measured as fixed investment recorded in the national accounts), exports, imports, and FDI all grew rapidly. And although there were distinct differences in policy responses, there were common threads as well. For example, many of the region's economies reacted to the crisis in part by strengthening their abilities to regulate financial institutions and imposing more transparent, and often stricter, auditing standards. In addition, several economies (e.g., Korea, Indonesia, Malaysia, Thailand, and Vietnam) had large current account deficits before the crisis but adjusted quickly (partially because of currency depreciation) and subsequently recorded substantial surpluses

The Asian financial crisis first broke out in Thailand during the summer of 1997 and then spread to Korea and Indonesia later in the year. It was a major reason for severe 1998 contractions in these two economies, as well as in Malaysia and Hong Kong. The reaction of inward investors was perhaps the most conspicuous in Korea and Thailand. Instead of panicking, foreign MNCs responded with large increases of inward FDI flows to what were then historical highs for both of these economies (5.0-6.5 percent of GDP in Thailand and 1.5-2.0 percent in Korea, Table 3). Correspondingly, during 1996-2000, cumulative inward FDI grew from 2.1 percent of GDP to 7.3 percent in 2000 in Korea and from 11 to 33 percent

in Thailand (Table 4). Increased ratios partially reflected depreciated exchange rates (and reduced US$ values of GDP), in addition to increased FDI. Trends in these ratios suggest that foreign MNCs were generally more willing to risk their investible funds, relative to the size of the host economy, after the crisis than before it.[10]

This is also reflected by negative correlations between annual and cumulative FDI-GDP ratios on the one hand, and GDP growth rates (measured in real domestic currency or nominal U.S. dollars) on the other. Although samples are very small and thus not trustworthy, it is perhaps meaningful that relatively strong, negative correlations (-0.5 or less) were observed between annual flows and both lagged GDP growth rates in Korea and Thailand, as well as between annual flows and concurrent growth of real GDP in Thailand (Table 3). Ratios of cumulative flows were never strongly correlated with growth measures in Korea, but were strong and negatively related to lagged growth measures in Thailand (Table 4).

These negative correlations are perhaps surprising because previous time series research on the inward FDI in Asian economies suggested that GDP or changes in GDP had a strong, positive influence on FDI flows in Asia (e.g., Ramstetter 1998b), in other words, if averaged over years, FDI was generally pro-cyclical. Thus, when it became clear that growth was likely to fall substantially in 1998, many predicted that FDI flows, both inward and outward, would fall as well. Similar projections have also been made for the 2009 downturn by UNCTAD and others. Moreover, it is likely that declines in growth do indeed discourage inward FDI, regardless of the strong negative correlations observed in these (and some other) cases in Tables 3 and 4. Conversely, the unexpectedly large FDI flows during this period are probably best explained as a reaction to low asset prices (measured in a convertible currency like the U.S. dollar) that prompted foreign MNCs to roll forward or expand previous investment plans,

[10] These increases partially reflect the fact that asset prices were generally higher in the late 1990s than in previous years in Korea and Thailand (and elsewhere). Correspondingly, there is a tendency for newer FDI to be overvalued relative to older FDI. However, the effects of general inflation, measured by increases in the GDP deflator, are accounted for by measuring FDI flows relative to GDP. Unfortunately, there are no similarly reliable measures of changes in asset prices that are comparable across economies.

and/or to buy equity from financially stressed local firms, many of which were joint-venture partners with MNCs. In both Korea and Thailand, governments also encouraged inward FDI after the crisis, especially takeovers of joint ventures, by removing what were previously among the toughest remaining foreign ownership restrictions in Asia.[11]

By 1995, Korea was actually a bigger outward investor than recipient of inward FDI and the 1998 depreciation, combined with a healthy increase in outward FDI flows, led to increases in the ratio of cumulative outward FDI from 3.4 percent of GDP to a peak of 8.0 percent in 1998, before falling back to 7.1 percent in 1999-2000 (Tables 5-6). Thailand was a much smaller outward investor but it too saw the ratio of cumulative outward FDI to GDP rise during this period. In short, local MNCs and as well as foreign MNCs investing in Korea and Thailand, viewed the downturn as an opportunity to expand their investments relative to the size of the home economies. This is perhaps surprising because both of these economies experienced sharp declines in total private fixed investment after the crisis.[12]

Current growth was also strongly and negatively correlated with the cumulative inward FDI-GDP ratios in Indonesia, but correlations to lagged growth were weaker (Table 4). A positive correlation to lagged real growth was also the only relatively strong (0.5 or more in absolute value) one involving annual FDI-GDP ratios for Indonesia (Table 3). In many respects, the Thai and Korean story was reversed in Indonesia, where the crisis' effects were arguably the severest, and foreign MNCs (along with many Indonesians) reacted by sending funds abroad (withdrawals of inward FDI alone amounted to as much as 2.7 percent of GDP in 2000, for example). In 1996-1998 a 76 percent decline in the value of the rupiah against the U.S. dollar led to an increase of the cumulative FDI-GDP ratio, though proportionately

[11] These foreign ownership restrictions in principle made it more difficult to establish majority- or wholly-foreign affiliates. In practice, exceptions were common, especially in Thai manufacturing, but the removal of the restrictions as the government's reacted to the crisis by essentially rolling forward policy changes (to remove most foreign ownership restrictions) that had already been agreed to under the Uruguay Round.

[12] In Korea, ratios of private fixed investment to GDP fell from 30-34 percent in 1995-1997 to 19 percent in 1998 and 24-26 percent in 1999-2005. In Thailand this ratio fell from 31 percent in 1996 to 22 percent in 1997, and 12-13 percent in 1998-1999, 14-15 percent in 2000-2002, and 18-22 percent in 2003-2006 (International Centre for the Study of East Asian Development 2007).

smaller one (from 8.9 percent to 25 percent, Table 5). The cumulative FDI-GDP ratio then declined back to 8.9 percent in 2002 and 7.2-7.3 percent in 2003-2004, before recovering back to the 9-10 percent level in 2005-2009. Similar trends are also observed on the outward side, though Indonesia was a much smaller outward investor (Table 6).

Hong Kong and Malaysia also experienced strong downturns in 1998, which were accompanied and followed by large increases in the ratio of inward FDI stocks to GDP (from 38 percent in 1996 to 103 percent in 2000 in Hong Kong and from 39 to 58 percent in Malaysia, Table 4) and smaller increases in the ratio of outward FDI stocks to GDP (from 73 to 140 percent in Hong Kong and from 0 to 4 percent in Malaysia, Table 6).[13] To some extent, Hong Kong and Malaysia were both arguably victims of "contagion" emanating from the meltdowns in Bangkok, Seoul, and Jakarta. Both have relatively large foreign capital flows and trade (measured as ratios to GDP), making them vulnerable to fluctuations in surrounding economies, and the large foreign capital inflows of the 1990s (FDI, portfolio investment, or other investment---primarily loans), created important policy issues for both governments. In Hong Kong, the primary concern was maintaining macroeconomic stability, and its peg to the U.S. dollar was thought to be crucial in this respect. Like Korea and Thailand, Malaysia also faced large current account deficits and mounting external debts before the crisis, but it rejected the IMF policy prescription (to some extent) and fixed the U.S. dollar value of the ringgit at a relatively cheap level (compared to years before and after the peg).

In the Philippines, Singapore, and Japan, the downturn was milder, but inward flows again grew rather rapidly. The Philippines and especially Singapore could also be viewed as victims of regional contagion in 1998, but local weaknesses were also important in the Philippines, which had chronic balance of payments' and inflation problems. In Japan, external surpluses persisted even though its national government ran up one of the largest cumulative deficits in

[13] Note that balance of payments' estimates for Hong Kong were initiated in 1998 and are not consistent estimates for previous years, when Hong Kong had no official balance of payments' estimates.

the world (measured relative to GDP) during its efforts to stimulate the economy out of recession in the 1990s. The 1998-1999 slowdown also involved reaction to a sales tax increase that was designed to help deal with the ballooning fiscal shortfall.

Despite these varying backgrounds, both outward and FDI increased markedly relative to GDP in these economies. In Japan ratios of cumulative inward FDI to GDP rose particularly conspicuously (from 0.2 percent in 1996 to 0.8 percent in 2000, Table 5), a large portion of this increase reflecting Renault's purchase of a large stake in Nissan in 1999. On the outward side, there was a proportionally smaller increase, (6.9 to 9.1 percent, Table 6), and the annual value of flows was rather stagnant at US$22-26 billion in 1995-1999 (Table 3). In the Philippines and Singapore, cumulative inward FDI increased markedly relative to GDP in 1996-2000 (72-130 percent in Singapore and 11-21 percent in the Philippines). Increases on the outward side were even larger (30-59 percent in Singapore and 0.0-1.5 percent in the Philippines), though outward FDI from the Philippines remained very small.

The Japanese, Hong Kong and Singaporean cases highlight the important point that many companies are simultaneously affiliates of foreign MNCs or recipients of inward FDI and parents of affiliates abroad or sources of outward FDI. Nissan, Mazda, and Mitsubishi Motors are prominent examples of Japanese manufacturing parents that are also largely owned by foreigners and at the time have substantial investments abroad. In Hong Kong and Singapore, the situation is further complicated because many MNCs choose to funnel their FDI into third economies through regional headquarters located in these two entrepots, instead of investing directly from the home economy (Low et al., 1998). The Hong Kong case is even more complex because substantial FDI actually originates from Mainland Chinese companies seeking to take advantage of Chinese incentives offered inward investing MNCs by funneling investment funds through their Hong Kong affiliates, a practice called round-tripping. It is also important to recognize that many Hong Kong and Singapore firms are parents or

affiliates of companies operating in Caribbean tax havens, and remit much larger FDI flows to and from such related firms, that would be common for large MNCs from Japan or the United States, for example. As a result shares of these tax havens in both inward and outward FDI are quite large (Ramstetter 2005).

The three remaining East Asian economies, Taiwan, China, and Vietnam, and the three South Asian economies, Bangladesh, India, and Pakistan, did not experience economic downturns (real growth of less than 1.00 percent) in years surrounding the 1998 crisis. To some extent, the relatively closed nature of financial markets in these economies is thought to have prevented some of the unsustainable lending and borrowing practices that plagued the more severely affected economies. These economies also protect their goods markets more than many others in the region, further isolating them. Nonetheless, many of these economies experienced strong growth in FDI relative to the local economy. Increases in the ratio of cumulative inward FDI to GDP were particularly conspicuous in China and Vietnam (over 8 percentage points each between 1996 and 2000) and there were more moderate, but still large increases in both cumulative FDI-GDP ratios in Taiwan (2.7 and 5.1 percentage points on the inward and outward sides, respectively; Tables 4, 6).

In summation, most major Asian economies (10 of 14) experienced relatively large increases in cumulative inward FDI-GDP ratios (of 2.5 percentage points or more) in 1996-2000, the years surrounding the Asian financial crisis. As a result, correlations between cumulative inward FDI-GDP ratios and growth were negative and relatively strong (less than -0.5) in a number of cases (4-5 of 14 when correlations to concurrent growth are calculated and 8 of 14 when correlations to lagged growth are calculated). On the outward side, relatively large increases of cumulative FDI-GDP ratios were scarcer than on the inward side (5 of 14 economies, Table 6), partially because initial ratios tended to be lower than on the inward side. Relatively strong correlations of these ratios to growth rates were also less

common (3-5 of 14 cases, depending on the measure and lag used). In other words, there is substantial evidence that FDI, particularly inward FDI, was countercyclical during the Asian financial crisis. We speculate this was large a result of foreign MNCs seeking to take advantage of relatively low asset prices.

4b. The 2001 Downturn and a Preliminary Look at the 2009 Downturn

In other words, the evidence summarized above suggests that the Asian economic crisis apparently made both inward and outward investors were more willing to risk their investible funds, relative to the size of Asian host and home economies, than they were before the crisis. Were these patterns observed during subsequent downturns? This is a key question in this paper, which eventually tries to speculate about how MNCs in the region may respond to the most recent downturn in 2009.

On average, the answer on the inward side appears to be no, the countercyclical response has not been as strong as it was during and after the Asian financial crisis. For example, according to Table 4, only about half (6 or 7) of the 14 large Asian host economies experienced relatively large (more than 2.5 percentage points) increases in cumulative inward FDI-GDP ratios during subsequent downturns in 1999-2003 and 2007-2009. Five of these economies, Hong Kong, Taiwan, Singapore, Thailand, and Vietnam, experienced relatively large increases during the periods surrounding all three recent downturns. On the outward side, Hong Kong, Taiwan, and Malaysia experienced large increase in cumulative FDI-GDP ratios in all years (Table 6), while Korea experienced rapid growth in 1996-2000 and 2007-2009 and Japan in 1999-2003. Relatively strong correlations between cumulative FDI-GDP ratios and growth were also relatively scarce for 2001 but relatively strong negative correlations were more common for 2007-2009. This suggests that MNCs may be reacting to the most recent downturn more like the Asian financial crisis and this may result in increased FDI as they try

to take advantage of buying opportunities. However, it should also be emphasized that FDI estimates are often subject to large revisions and errors, and it will take a few more years before one can clearly ascertain how MNCs have reacted to the most recent crisis.

In 1999-2003, Singapore and Taiwan were the only economies to experience negative growth, though growth in Hong Kong and Malaysia also fell to 0.5 percent. The 2001 dot.com crash had a particularly large effect on the electronics sectors of Singapore, Taiwan, and Malaysia, and on the many MNCs that operate in this industry. Japan's electronics-related industries were also adversely affected though its slow growth is probably better understood as a result of underlying domestic economic weaknesses (e.g., aging, extremely large fiscal deficits & debt, financial sector weaknesses [through the first few years of the 21st century]) than other factors.

In Hong Kong and Singapore, both inward and outward FDI continued to grow much faster than elsewhere, again reflecting the unique role these economies have as regional headquarters and entrepots. It is also important to reemphasize that companies in these economies often engage in intercompany, international financial transactions that would generally take place with another domestic branch and not be recorded as FDI in larger economies like Japan or Korea for example. Taiwan's FDI stocks also continued to grow relatively rapidly on both the inward and outward sides. In Malaysia, inward FDI fell or stagnated after the late 1990s but outward FDI grew rapidly. Japan's inward FDI continued to be quite small relative to the host economy while outward FDI-GDP ratios continued increase at relatively rapid rate that was fastest in 1999-2003.

It is also crucial to reemphasize that many of the region's large economies, most notably China, Vietnam, and the three South Asian economies did not experience economic downturns as normally defined here during the three decades studied in this paper. Growth did slow some especially in 1998 and 2009, but these economies generally performed rather well

even when the other region's economies were experiencing downturns. Thus, although these data suggest that MNCs in these economies also tended to increase their FDI through times of regionwide downturns, this does not tell us anything about how MNCs might react if these economies were to experience severe downturns themselves.

Preliminary analysis of the most recent downturn that was centered around 2009 is speculative at best. Similar to the 2001 downturn, there were relatively large increases (more than 2.5 percentage points) of cumulative inward FDI-GDP ratios during 2007-2009 in half of the 14 countries studied (Table 4). Similar to the 1996 downturn, strong negative correlations (<-0.5) between inward FDI-GDP ratios and growth rates were observed during this period; it should be emphasized that these samples are very small and correlations may change a lot when 2010-2011 data are included. On the outward side, cumulative FDI-GDP ratios rose relatively rapidly (more than 2.5 percentage points) in about one-third (4) of the sample economies and declined by a similar margin in none. Preliminary predictions for 2010 suggest that world growth will rebound, and this will likely increase investor confidence some. However, because equity markets and asset prices have already recovered to a large extent, many buying opportunities resulting from the recent slowdown may have already been exhausted.

5. Conclusions

This study has examined trends in ratios of FDI flows and stocks to GDP and how those trends correlate with trends in economic growth during times of economic downturn. The paper began with a brief review of Asia's growth history in Section 2, revealing 4 distinct periods of relatively widespread economic downturn surrounding 1985, 1998, 2001, and 2009. The Asian crisis surrounding 1998 was by far the most severe of these downturns, both in terms of the economic damage it caused in several of the region's economies, but also in

terms of the changes in economic policies and institutions it inspired. It was also followed by relatively large increases in inward FDI stocks relative to host economy size in over three-fourths of the region's 14 relatively large economies. During other slowdowns in 2001 and 2009, relatively rapid growth of inward FDI was still common but somewhat less so, occurring in about half (6 or 7) of the 14 economies. Interestingly, there were five economies in which relatively rapid growth was observed during all crisis periods, Hong Kong, Taiwan, Singapore, Thailand, and Vietnam. On the outward side, relatively rapid growth was persistent in Hong Kong and Taiwan.

These patterns reflect a combination of short- and long-term influences that this simple paper has not been able to sort out entirely. However, three important patterns emerge. First, there appears to be a relatively strong, long-run (decade or longer) trend toward higher ratios of cumulative FDI to GDP in major Asian economies. In other words, the portion of corporate finance measured by FDI is probably increasing more rapidly than other sources of corporate finance. To some extent this increase is also likely to reflect increased MNC willingness to risk its investible funds by conducting FDI to and from these economies.

Second, during downturns, FDI has tended to grow relatively rapidly in some of the so-called "crisis" economies, but not all. The experiences of Korea and Thailand on the one hand, Indonesia on the other, and Malaysia in the middle, so to speak, after the 1998 Asian financial crisis highlight how reactions differed in the economies and some of the reasons for those differences. It also appears that the countercyclical tendency which was particularly strong for inward FDI stocks during the 1998 slowdown, and again in 2009, but was a bit weaker in 2001 and the surrounding years.

Third, the tendency for relatively high FDI growth to be concentrated in the same economies suggests that country-specific factors may be relatively important determinants of FDI growth. In this context, the concentration of rapid FDI growth in the same economies

during all downturns suggests that inward investing MNCs had consistently strong expectations of healthy future profits in the host economy in Hong Kong, Taiwan, Singapore, Thailand, and Vietnam, while MNCs seeking to invest abroad from Hong Kong and Taiwan also experienced increased confidence regarding such overseas investments.

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Appendix A: Data Sources for FDI estimates

As noted below Appendix Tables 3-6, the estimates of FDI flows presented in this paper refer in principle to the most recent available estimates of net inward FDI from foreign-domiciled companies or net outward FDI from companies domiciled in the reporting economy. These are balance of payments data and in principle follow the definitions in IMF (1993) and most data are from compilations in IMF (2010) or more recent updates taken from national sources. The national sources of more recent estimates are: Bank of Japan (2010), Hong Kong, Census and Statistics Department (2009), Bank of Korea (2010), Central Bank of China (1983), Central Bank of the Republic of China (2010), China, National Bureau of Statistics (2010), Singapore, Ministry of Trade and Industry (2010), Bank Negara Malaysia (2010), Bank of Thailand (2010), Bank Indonesia (2010), Central Bangko Sentral ng Pilipinas (2010), General Statistics Office of Vietnam (2010), Reserve Bank of India (2010), State Bank of Pakistan (2010), and Bangladesh Bank (2010). With the exception of the Chinese and

Vietnamese sources, all data from national sources use definitions that are more or less compatible with IMF (1993). The most important discrepancy is that several countries still do not collect good estimates of reinvested earnings (often an important source of MNC-owned equity as measured on a corporate balance sheet). Data collection and compilation practices have become increasingly standardized, however, and as a result data for recent years, especially for years following the Asian crisis that surrounded 1998, are more comprehensive and comparable than data for earlier years.

In contrast to most national sources, the Chinese and Vietnamese sources are clearly inconsistent with standard definitions and are only used to estimate the growth of inward FDI flows in 2009. These data refer to "utilized FDI" and "registered capital of licensed FDI projects", respectively. In recent years, Chinese estimates of "realized FDI are much smaller than corresponding balance of payments estimates, though in previous years they were quite similar. On the other hand, the recent Vietnamese data on licensed FDI projects appear to refer to approvals, not actual FDI, and are even more inconsistent with standard definitions as a result. For some other countries (Hong Kong, Malaysia, the Philippines, and India), 2009 estimates were only available for the first three quarters of the year. In these cases, 2009 data are estimated by assuming that the annual growth rate for 2009 will equal that for the first three quarters of 2009, compared to the same period in 2008.

Because data for older years are sometimes unavailable from IMF (2010) and recent national sources, data from UNCTAD (2010) are used to estimate missing observations. In most cases, these data appear compatible and are similar, if not identical, to those reported in previous issues of IMF (2010), but omitted from more recent issues because of changes in definitions or compilation methodologies by the national agencies supplying such data. For example, we know of no comparable estimates of the balance of payments for Hong Kong in 1980-1997 and Vietnam in 1980-1988 and UNCTAD (2010) does not clarify the sources of its

estimates or the underlying definitions or methodologies. For Vietnam, this is not a large problem because both inward and outward FDI was clearly close to zero during this period. However, FDI in and out of Hong Kong was clearly very large and we suspect that the UNCTAD estimates are subject to an extremely large margin of error.

Finally, we wish to emphasize that all estimates of FDI (and other international capital flows) are probably subject to much larger margins of error than estimates of other economic activities that are more clearly defined and measured in more standardized ways (e.g., employment, sales, merchandise trade). As a result there are often large discrepancies (often hundreds of percentage points) between home and host country estimates of the same investment flows, even when host and home us similar definitions and methodologies (e.g., comparisons of 1998-2003 data for flows among Japan, Hong Kong, the United States, and Thailand as illustrated by Ramstetter 2005). These discrepancies are generally much larger than corresponding discrepancies in estimates of the same merchandise trade flows by importers and exporters, for example. The bottom line is that FDI is difficult to measure and measurement methodologies often differ greatly among countries. This is one reason we caution against putting too much faith in comparisons or aggregations of FDI flows across economies in this paper. On the other hand, comparisons of trends during different periods in single economies are probably more meaningful.

Table 1: Indicators of Economic Downturns in Major Asian Economies (growth rates for economies experiencing downturns [growth<=1.0%])

	Real GDP Growth in Domestic Currency														Nominal GDP Growth in US$												
Year	Jp	Hk	Kr	Tw	Ch	Si	Ml	Th	Id	Ph	Vi	Ia	Pk	Bg	Jp	Hk	Kr	Tw	Ch	Si	Ml	Th	Id	Ph	Vi	Ia	Pk	Bg
1983	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-7.5	-	-	-	-	-	-	-9.4	-11	-	-	-	-
1984	-	-	-	-	-	-	-	-	-	-7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-5.4	-	0.4	-	-
1985	-	0.7	-	-	-	-1.4	-0.9	-	-	-7.3	-	-	-	-	-	-	-	-	-1.2	-5.7	-8.1	-6.9	-0.3	-2.1	-69	-	-	-
1986	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-3.1	-	-11	-	-8.3	-2.8	-	-	-	-
1987	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-5.2	-	-	-	-	-
1988	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-45	-	-	-
1989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-73	-0.8	-	-
1990	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-14	-	-	-	-	-	-	-	-	-
1991	-	-	-	-	-	-	-	-	-	-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-11	-	-
1992	0.8	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.0
1993	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-2.2	-	-
1994	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-8.8	-	-	-	-	-	-	-	0.8	-
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-12	-	-	-	-	-	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	-	-	-1.4	-	-	-	-	-	-	-8.2	-	-7.4	-	-	-	-0.7	-17	-4.9	-0.8	-	-	-1.4	-
1998	-2.0	-6.0	-6.9	-	-	-1.4	-7.4	-11	-13	-0.6	-	-	-	-	-9.5	-5.3	-33	-7.9	-	-14	-28	-26	-56	-20	-	0.8	-0.4	-
1999	-0.1	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	-2.2	-	-	-	0.3	-	-	-	-	-	-	-6.2	-
2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-0.3	-	-	-	-
2001	0.2	0.5	-	-2.2	-	-2.4	0.5	-	-	-	-	-	-	-	-12	-1.5	-5.4	-9.2	-	-7.6	-1.1	-5.9	-2.9	-6.2	-	-	-2.4	0.3
2002	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-4.3	-1.7	-	-	-	-	-	-	-	-	-	-	0.6	-
2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-3.2	-	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-1.2	-	-	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-4.2	-	-	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-
2008	-0.7	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-11	-	-	-	-	-	-	-	-	-	-	-
2009	-5.4	-3.6	-1.0	-4.1	-	-3.3	-3.6	-3.5	-	1.0	-	-	-	-	-	-3.0	-14	-8.7	-	-10	-6.4	-2.5	0.6	-4.9	-	-	-	-

Note: 2008 data are often preliminary and 2009 data are IMF forecasts as of October 2009; Jp=Japan, Hk=Hong Kong, Kr=Korea, Tw=Taiwan, Ch=China, Si=Singapore, Ml=Malaysia, Th=Thailand, Id=Indonesia, Ph=Philippines, Vi=Vietnam, Ia=India, Pk=Pakistan, Bg=Bangladesh.
Source: International Monetary Fund (2009); see Appendix Tables 1-2 for copies of the full databases.

Table 2: Indicators of Deflation and Depreciation in Large Asian Economies (percentage changes for economies experiencing declines)

	Consumer Price Growth in Domestic Currency														Percentage Changes in Domestic Currency per US$											
Year	Jp	Hk	Kr	Tw	Ch	Si	Ml	Th	Id	Ph	Vi	Ia	Pk	Bg	Jp	Hk	Kr	Tw	Ch	Si	Ml	Th	Id	Ph	Vi	Ia	Pk	Bg
1983	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-16	-5.8	-2.4	-4.2	-	-	-0.0	-27	-23	-5.9	-6.4	-8.1	-10
1984	-	-	-0.0	-	-	-	-	-	-	-	-	-	-	-	-0.0	-7.1	-3.7	-	-15	-0.9	-1.0	-2.7	-11	-33	-2.8	-11	-9.4	-2.9
1985	-	-	-0.2	-	-	-	-	-	-	-	-	-	-	-	-0.4	-	-7.4	-0.6	-21	-3.0	-5.6	-13	-7.6	-10	-85	-8.1	-8.0	-9.4
1986	-	-	-	-	-	-1.4	-	-	-	-0.3	-	-	-	-	-	-0.2	-1.3	-	-15	-	-3.8	-	-13	-8.7	-63	-1.9	-4.3	-7.9
1987	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-7.2	-	-	-	-22	-0.9	-71	-2.7	-3.8	-1.8
1988	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-0.0	-	-3.8	-	-2.5	-2.5	-87	-6.9	-8.2	-2.5
1989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-7.1	-	-	-	-1.1	-	-3.3	-1.6	-4.8	-2.8	-89	-14	-8.8	-1.7
1990	-	-	-	-	-	-	-	-9.5	-	-	-	-	-	-	-4.7	-	-5.1	-1.7	-21	-	-	-	-3.9	-11	-31	-7.3	-1.4	-6.6
1991	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-3.5	-	-10	-	-1.6	-1.8	-5.5	-11	-35	-23	-4.7	-5.5
1992	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-6.1	-	-3.5	-	-	-	-3.9	-	-10	-12	-8.9	-6.0
1993	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-2.7	-4.6	-4.3	-	-1.0	-0.5	-2.7	-5.9	-	-15	-4.3	-1.6
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-0.3	-33	-	-1.9	-	-3.4	-	-3.0	-2.8	-14	-1.6
1995	-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-0.1	-	-	-	-	-3.9	-	-0.3	-3.2	-2.2	-0.2
1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-14	-	-4.1	-3.5	-	-	-0.5	-1.7	-4.2	-2.0	-0.1	-8.5	-8.1	-3.6
1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-10	-0.1	-15	-4.3	-	-5.0	-11	-19	-19	-11	-5.5	-2.4	-14	-4.8
1998	-	-	-	-	-0.8	-0.3	-	-	-	-	-	-	-	-	-7.6	-0.0	-32	-14	-	-11	-28	-24	-71	-28	-12	-12	-9.7	-6.4
1999	-0.3	-3.9	-	-	-1.4	-	-	-	-	-	-	-	-	-	-	-0.2	-	-	-	-1.3	-	-	-	-	-4.9	-4.3	-15	-4.4
2000	-0.8	-3.7	-	-	-	-	-	-	-	-	-1.8	-	-	-	-	-0.4	-	-	-0.0	-1.7	-	-5.7	-6.4	-12	-1.6	-4.1	-2.9	-5.9
2001	-0.7	-1.6	-0.0	-	-	-	-	-	-	-	-0.3	-	-	-	-11	-0.1	-12	-7.6	-	-3.8	-0.0	-9.7	-18	-13	-4.3	-4.8	-11	-6.6
2002	-0.9	-3.0	-0.2	-	-0.8	-0.4	-	-	-	-	-	-	-	-	-3.1	-0.0	-	-2.2	-	-	-0.0	-	-	-1.2	-3.1	-2.9	-4.9	-3.6
2003	-0.3	-2.6	-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.0	-	-	-	-	-4.8	-1.5	-	-	-0.5
2004	-	-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.0	-	-	-	-	-	-	-4.0	-3.3	-1.5	-	-	-2.3
2005	-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-1.8	-	-	-	-	-	-	-	-8.0	-	-0.7	-	-3.0	-7.5
2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-5.2	-	-	-1.1	-	-	-	-	-	-	-0.8	-2.7	-0.8	-5.6
2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-1.2	-0.4	-	-0.9	-	-	-	-	-	-	-0.6	-	-1.3	-1.0
2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-16	-	-	-	-	-	-5.6	-	-2.2	-5.0	-3.1	-
2009	-1.1	-1.0	-0.5	-	-0.1	-0.2	-0.1	-1.2	-	-	-	-	-	-	-	-	-15	-5.1	-	-7.5	-3.8	-0.0	-8.7	-7.2	-7.1	-5.2	-21	-2.8

Note: 2008 data are often preliminary and 2009 data are IMF forecasts as of October 2009; Jp=Japan, Hk=Hong Kong, Kr=Korea, Tw=Taiwan, Ch=China, Si=Singapore, Ml=Malaysia, Th=Thailand, Id=Indonesia, Ph=Philippines, Vi=Vietnam, Ia=India, Pk=Pakistan, Bg=Bangladesh.
Source: International Monetary Fund (2009); see Appendix Tables 2a & 2b data on all years and economies.

Table 3: Ratios of Annual Inward FDI Flows to GDP (percent), and Correlation Coefficeints with GDP Growth Rates During Downturns

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
RATIOS OF ANNUAL INWARD FDI FLOWS TO GDP (percent)														
1995	0.001	4.308	0.329	0.569	4.925	13.685	4.634	1.231	1.946	1.957	8.559	0.606	0.976	0.005
1996	0.005	6.580	0.400	0.644	4.694	10.461	4.961	1.284	2.470	1.798	9.699	0.665	1.192	0.033
1997	0.075	6.448	0.528	0.749	4.644	14.346	5.052	2.581	1.962	1.459	8.255	0.876	0.939	0.321
1998	0.085	8.846	1.503	0.080	4.291	8.876	2.953	6.539	-0.228	3.434	6.136	0.640	0.666	0.425
1999	0.282	15.052	2.010	0.979	3.577	20.067	4.848	4.976	-1.206	1.637	4.920	0.493	0.747	0.386
2000	0.176	36.615	1.740	1.534	3.204	17.779	4.038	2.743	-2.749	2.951	4.163	0.776	0.416	0.596
2001	0.151	14.272	0.699	1.409	3.339	17.621	0.597	4.386	-1.853	0.274	3.997	1.157	0.530	0.166
2002	0.232	5.912	0.415	0.485	3.392	7.224	3.177	2.634	0.074	2.007	3.989	1.137	1.132	0.106
2003	0.148	8.592	0.548	0.148	2.869	12.660	2.244	3.668	-0.254	0.617	3.665	0.754	0.640	0.492
2004	0.169	20.515	1.281	0.573	2.844	18.286	3.707	3.632	0.738	0.791	3.542	0.862	1.140	0.759
2005	0.071	18.911	0.747	0.456	3.539	11.884	2.873	4.568	2.916	1.876	3.692	0.970	2.008	1.331
2006	-0.155	23.721	0.377	2.027	2.938	22.010	3.861	4.567	1.349	2.485	3.939	2.323	3.352	1.069
2007	0.506	26.255	0.170	2.019	4.092	22.827	4.543	4.605	1.604	2.024	9.422	2.315	3.904	0.886
2008	0.500	27.810	0.356	1.388	3.415	5.834	2.997	3.136	1.226	0.841	10.664	3.424	3.305	1.156
2009	0.238	16.774	0.188	0.785	3.037	8.952	1.101	2.307	1.029	0.944	11.059	2.755	1.431	0.581
CORRELATIONS OF ANNUAL INWARD FDI-GDP RATIOS 1996-2000 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	-0.21	0.50	0.03	0.45	0.65	0.64	0.85	-0.72	0.21	-0.56	0.83	-0.76	-0.00	0.73
lagged	-0.93	-0.13	-0.61	-0.54	0.96	-0.75	-0.13	-0.77	0.62	0.23	0.94	0.58	0.56	0.94
Nom. GDP$	0.97	-0.17	0.29	0.84	0.51	0.42	0.72	-0.48	-0.13	-0.78	0.68	0.49	0.08	-0.87
lagged	-0.22	-0.67	-0.51	0.03	0.83	-0.74	0.08	-0.90	-0.00	0.08	0.96	0.02	0.97	-0.88
CORRELATIONS OF ANNUAL INWARD FDI-GDP RATIOS 1999-2003 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	-0.50	0.86	0.78	-0.22	-0.85	0.17	0.83	-0.39	-0.06	0.71	-0.98	-0.93	-0.11	0.94
lagged	-0.76	0.10	-0.50	0.52	-0.68	0.42	-0.76	-0.62	0.12	-0.50	-0.54	-0.43	-0.90	0.05
Nom. GDP$	0.41	0.94	0.64	-0.13	-0.92	-0.15	0.79	-0.07	0.43	0.29	-0.61	-0.46	-0.18	0.18
lagged	-0.64	-0.11	-0.30	0.54	-0.19	0.07	-0.77	-0.61	-0.34	0.14	-0.85	0.29	-0.01	0.93
CORRELATIONS OF ANNUAL INWARD FDI-GDP RATIOS 2007-2009 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	0.93	0.86	-0.06	1.00	0.97	0.83	0.95	0.92	0.82	0.84	-0.98	-0.40	0.70	0.69
lagged	0.99	0.97	0.40	0.77	0.51	0.41	0.78	0.84	-0.82	-0.12	-0.62	-0.05	0.99	0.60
Nom. GDP$	0.30	0.85	-0.50	0.95	0.75	0.66	0.88	0.95	0.77	0.63	-0.34	-0.60	0.92	0.97
lagged	-0.97	0.95	0.34	0.34	-0.96	-0.11	-0.89	0.65	0.95	-0.13	0.78	0.87	0.07	-0.19

Sources and Notes: See Appendix Tables 1 and 3.

Table 4: Ratios of Cumulative Inward FDI Flows to GDP (percent), and Correlation Coefficeints with GDP Growth Rates During Downturns

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
RATIOS OF CUMULATIVE INWARD FDI FLOWS TO GDP (percent)														
1995	0.17	35.00	1.79	4.40	18.03	67.04	38.47	10.05	7.20	10.26	18.65	0.61	4.61	0.11
1996	0.19	38.34	2.06	4.81	20.03	71.51	38.84	10.57	8.88	10.98	25.41	0.67	5.61	0.14
1997	0.28	41.02	2.76	5.39	22.64	83.39	44.16	15.32	11.30	12.53	31.59	0.88	6.63	0.45
1998	0.40	52.17	5.62	5.93	25.45	105.89	64.24	27.21	25.32	19.18	37.33	0.64	7.32	0.86
1999	0.63	68.38	6.37	6.46	27.52	125.69	63.43	29.79	16.06	18.41	40.34	0.49	8.55	1.22
2000	0.77	102.64	7.29	7.55	28.08	129.77	58.37	32.51	12.26	21.42	41.30	0.78	8.64	1.80
2001	1.03	118.47	8.40	9.72	28.74	158.09	59.60	38.92	10.78	23.11	43.58	1.16	9.39	1.96
2002	1.31	126.41	7.78	10.01	29.58	160.52	58.02	38.08	8.92	23.43	44.38	1.14	10.47	1.97
2003	1.36	139.16	7.50	9.90	29.08	164.79	55.33	37.54	7.18	23.22	43.03	0.75	9.75	2.29
2004	1.42	153.54	7.97	9.71	27.55	158.34	52.59	36.82	7.30	22.06	41.00	0.86	9.44	2.87
2005	1.50	162.18	7.56	9.49	27.34	155.45	50.40	38.25	9.48	21.28	38.90	0.97	10.46	4.10
2006	1.41	175.52	7.09	11.24	25.94	157.10	48.16	37.16	8.78	20.38	37.73	2.32	12.34	4.91
2007	1.91	187.25	6.60	12.73	24.47	153.80	45.18	35.86	9.01	18.65	41.75	2.31	14.89	5.23
2008	2.21	207.85	7.81	13.90	22.54	146.96	40.94	35.42	8.83	16.94	43.71	3.42	16.26	5.74
2009	2.39	231.10	9.25	16.01	23.54	172.85	44.86	38.64	9.81	18.76	53.85	2.75	17.50	5.82
CORRELATIONS OF CUMULATIVE INWARD FDI-GDP RATIOS 1996-2000 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	0.01	0.38	0.02	-0.32	-0.88	0.03	-0.61	-0.12	-0.99	-0.38	-0.87	-0.76	0.08	0.82
lagged	-0.80	-0.25	-0.38	-0.53	-0.98	-0.54	-0.63	-0.66	-0.20	-0.43	-0.89	0.58	-0.51	0.83
Nom. GDP$	0.89	-0.34	0.22	0.23	-0.80	-0.08	-0.38	-0.02	-0.63	-0.37	-0.77	0.49	-0.40	-0.90
lagged	0.20	-0.73	-0.28	-0.19	-0.98	-0.88	-0.75	-0.59	-0.38	-0.41	-0.98	0.02	-0.90	-0.74
CORRELATIONS OF CUMULATIVE INWARD FDI-GDP RATIOS 1999-2003 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	-0.07	-0.19	-0.69	-0.56	0.78	-0.72	-0.09	-0.03	-0.75	0.03	0.78	-0.93	-0.15	0.01
lagged	0.44	0.65	0.77	-0.40	0.69	0.11	-0.68	0.75	-0.88	0.74	0.78	-0.43	-0.42	-0.13
Nom. GDP$	-0.41	-0.22	-0.96	-0.68	0.63	-0.32	-0.12	-0.17	0.47	-0.62	0.15	-0.46	0.33	0.41
lagged	-0.33	0.58	0.61	0.12	0.85	0.52	-0.73	0.52	-0.59	0.57	0.60	0.29	0.20	0.06
CORRELATIONS OF CUMULATIVE INWARD FDI-GDP RATIOS 2007-2009 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	-0.97	-1.00	-1.00	-0.97	0.80	-0.63	-0.30	-0.92	-0.97	-0.01	-0.89	-0.40	-0.89	-0.83
lagged	-0.73	-0.94	-0.90	-0.87	-0.36	-0.95	-0.61	-0.97	0.08	-0.91	-0.97	-0.05	-0.91	-0.89
Nom. GDP$	0.33	-1.00	-0.89	-0.99	-0.05	-0.81	-0.46	-0.88	-0.98	-0.33	-0.85	-0.60	-0.74	-0.40
lagged	0.93	-0.59	-0.93	-0.50	-0.82	-0.98	-0.47	-1.00	-0.36	-0.91	1.00	0.87	-0.38	1.00

Sources and Notes: See Appendix Tables 1 and 4.

Table 5: Ratios of Annual Outward FDI Flows to GDP (percent), and Correlation Coefficeints with GDP Growth Rates During Downturns

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
RATIOS OF ANNUAL OUTWARD FDI FLOWS TO GDP (percent)														
1995	0.428	17.333	0.659	1.089	0.275	8.052	0.000	0.527	0.270	0.528	0.000	0.033	0.001	0.000
1996	0.505	16.690	0.789	1.328	0.247	8.591	0.000	0.512	0.239	0.216	0.000	0.066	0.009	0.000
1997	0.611	13.843	0.818	1.748	0.269	11.374	0.000	0.384	0.075	0.162	0.000	0.028	-0.032	0.007
1998	0.638	10.176	1.316	1.389	0.258	2.627	0.000	0.116	0.000	0.240	0.000	0.012	0.066	0.007
1999	0.510	11.862	0.904	1.479	0.164	9.687	1.770	0.282	0.000	0.175	0.000	0.018	0.029	0.000
2000	0.676	35.095	0.937	2.086	0.076	6.380	2.160	-0.019	0.000	0.165	0.000	0.110	0.015	0.000
2001	0.940	6.810	0.480	1.879	0.520	23.308	0.288	0.370	0.000	-0.197	0.000	0.296	0.043	0.044
2002	0.817	10.662	0.454	1.641	0.173	2.636	1.889	0.135	0.000	0.085	0.000	0.339	0.039	0.005
2003	0.680	3.463	0.532	1.860	-0.009	2.891	1.243	0.437	0.091	0.380	0.000	0.328	0.023	0.005
2004	0.672	27.558	0.644	2.158	0.093	9.850	1.652	0.048	1.326	0.666	0.000	0.326	0.057	0.007
2005	0.998	15.301	0.508	1.693	0.506	9.275	2.154	0.284	1.072	0.191	0.123	0.380	0.040	0.003
2006	1.150	23.681	0.854	2.020	0.796	13.516	3.848	0.470	0.725	0.088	0.139	1.638	0.085	0.000
2007	1.678	29.516	1.489	2.887	0.502	16.395	5.933	1.164	1.082	2.455	0.259	1.570	0.068	0.000
2008	2.664	23.487	2.039	2.629	1.236	-4.625	6.742	0.940	1.153	0.155	0.334	1.522	0.030	0.000
2009	1.521	17.902	1.321	1.639	-	3.634	3.265	1.431	0.580	0.235	-	1.380	-0.011	0.000
CORRELATIONS OF ANNUAL OUTWARD FDI-GDP RATIOS 1996-2000 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	-0.04	0.69	-0.86	0.24	0.38	0.74	0.33	0.28	0.54	-0.67	-	0.06	0.30	-0.36
lagged	0.23	0.14	-0.10	-0.15	0.84	-0.35	-0.64	0.28	0.55	0.32	-	0.52	-0.90	0.16
Nom. GDP$	-0.04	0.22	-0.69	0.39	0.22	0.55	0.56	0.28	0.15	-0.48	-	-0.09	-0.12	0.20
lagged	0.10	-0.44	-0.30	0.30	0.63	0.04	-0.49	0.28	0.23	0.01	-	0.21	-0.34	-0.23
CORRELATIONS OF ANNUAL OUTWARD FDI-GDP RATIOS 1999-2003 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	-0.14	0.90	0.75	-0.23	-0.46	-0.66	0.93	0.05	0.30	0.74	-	-0.50	-0.87	-0.62
lagged	0.94	-0.03	-0.37	0.47	-0.07	0.63	-0.49	-0.03	0.31	-0.33	-	-0.77	-0.10	0.64
Nom. GDP$	-0.98	0.97	0.66	-0.19	-0.19	-0.78	0.92	0.18	0.05	0.52	-	0.19	-0.51	-0.46
lagged	0.27	-0.25	-0.15	0.91	0.44	0.56	-0.46	-0.09	0.27	0.17	-	0.22	0.69	-0.49
CORRELATIONS OF ANNUAL OUTWARD FDI-GDP RATIOS 2007-2009 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	0.24	0.99	0.25	0.92	-	0.69	0.93	-0.73	0.98	0.87	-	0.96	0.87	-
lagged	0.67	0.91	0.66	0.94	-	0.20	1.00	-0.84	-0.14	-0.07	-	1.00	0.92	-
Nom. GDP$	0.95	0.99	-0.21	1.00	-	0.47	0.98	-0.67	0.99	0.67	-	0.87	0.78	-
lagged	-0.37	0.55	0.61	0.64	-	-0.33	-0.39	-0.96	0.41	-0.08	-	0.39	0.33	-

Sources and Notes: See Appendix Tables 1 and 5.

Table 6: Ratios of Cumulative Outward FDI Flows to GDP (percent), and Correlation Coefficeints with GDP Growth Rates During Downturns

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
RATIOS OF CUMULATIVE OUTWARD FDI FLOWS TO GDP (percent)														
1995	5.67	61.99	2.79	10.83	2.44	23.19	0.00	1.38	0.70	1.42	0.00	0.06	0.06	0.00
1996	6.93	72.93	3.38	11.57	2.32	29.71	0.00	1.79	0.87	1.49	0.00	0.12	0.07	0.00
1997	8.16	79.60	4.46	12.91	2.36	40.06	0.00	2.54	0.99	1.66	0.00	0.14	0.04	0.01
1998	9.66	94.26	7.99	15.41	2.46	49.23	0.00	3.54	2.23	2.33	0.00	0.15	0.11	0.01
1999	9.03	108.22	7.10	15.73	2.48	58.79	1.77	3.51	1.52	2.21	0.00	0.16	0.14	0.01
2000	9.13	139.58	7.12	16.72	2.32	58.76	3.68	3.49	1.42	2.39	0.00	0.26	0.15	0.01
2001	11.35	148.50	8.00	20.29	2.62	86.92	4.00	4.08	1.46	2.35	0.00	0.55	0.20	0.06
2002	12.68	161.72	7.47	21.52	2.56	86.92	5.57	3.85	1.20	2.26	0.00	0.86	0.24	0.06
2003	12.43	170.49	7.21	22.83	2.26	85.27	6.34	3.86	1.09	2.56	0.00	1.07	0.23	0.06
2004	12.08	190.53	7.07	23.22	2.01	82.32	7.26	3.46	2.32	3.01	0.00	1.25	0.25	0.06
2005	13.22	193.09	6.55	23.29	2.24	83.91	8.71	3.45	3.16	2.84	0.12	1.44	0.26	0.06
2006	14.95	204.41	6.67	24.65	2.68	86.44	11.50	3.41	3.21	2.48	0.25	2.93	0.31	0.06
2007	16.56	217.01	7.54	26.36	2.61	88.45	15.64	4.03	3.78	4.48	0.47	3.90	0.35	0.05
2008	17.44	232.15	10.55	28.54	3.28	76.54	19.88	4.57	4.35	4.02	0.71	5.08	0.33	0.05
2009	18.48	257.29	13.57	32.90	-	89.00	24.51	6.12	4.90	4.46	-	6.31	0.32	0.04
CORRELATIONS OF CUMULATIVE OUTWARD FDI-GDP RATIOS 1996-2000 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	-0.65	0.30	-0.37	-0.60	-0.79	-0.01	0.34	-0.35	-0.94	-0.49	-	-0.26	0.53	0.54
lagged	-0.44	-0.25	-0.43	-0.52	-0.33	-0.56	-0.40	-0.72	-0.28	-0.42	-	0.04	-0.54	0.85
Nom. GDP$	0.47	-0.42	-0.14	-0.04	-0.82	-0.16	0.56	-0.24	-0.56	-0.43	-	-0.04	-0.13	-0.67
lagged	-0.35	-0.71	-0.45	-0.37	-0.48	-0.91	-0.24	-0.71	-0.28	-0.49	-	-0.18	-0.68	-0.93
CORRELATIONS OF CUMULATIVE OUTWARD FDI-GDP RATIOS 1999-2003 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	-0.25	-0.14	-0.52	-0.42	-0.48	-0.81	-0.08	-0.26	-0.59	0.36	-	-0.10	-0.07	-0.44
lagged	0.49	0.59	0.38	-0.39	-0.17	0.10	0.54	0.54	-0.58	0.67	-	-0.85	-0.24	-0.26
Nom. GDP$	-0.53	-0.20	-0.87	-0.53	-0.47	-0.46	-0.08	-0.27	0.05	-0.46	-	0.56	0.51	0.40
lagged	-0.40	0.51	0.22	0.01	0.47	0.51	0.61	0.29	-0.37	0.77	-	0.08	0.32	-0.38
CORRELATIONS OF CUMULATIVE OUTWARD FDI-GDP RATIOS 2007-2009 AND CONCURRENT OR LAGGED GROWTH RATES														
Real GDP	-1.00	-1.00	-1.00	-0.96	-	0.07	-0.94	-1.00	-0.90	0.07	-	-1.00	0.87	0.94
lagged	-0.85	-0.97	-0.88	-0.89	-	-0.47	-0.76	-0.99	0.70	-0.87	-	-0.94	0.92	0.97
Nom. GDP$	0.14	-1.00	-0.91	-0.99	-	-0.20	-0.87	-0.99	-0.87	-0.26	-	-0.97	0.76	0.61
lagged	0.98	-0.68	-0.91	-0.52	-	-0.85	0.90	-0.91	-0.88	-0.88	-	-0.13	0.35	-0.97

Sources and Notes: See Appendix Tables 1 and 6.

Appendix Table 1a: Annual Growth Rates of Real GDP (percent; IMF estimates and projections as of October 2009)

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
1980	3.2	10.3	-1.5	7.4	7.9	9.7	7.4	4.6	9.9	5.1	-3.5	3.6	8.5	0.4
1981	4.2	9.3	6.2	6.2	5.3	9.7	6.9	5.9	7.6	3.4	5.8	6.2	6.8	3.1
1982	3.4	2.9	7.3	3.5	9.0	7.1	5.9	5.4	2.2	3.6	8.2	4.1	6.5	3.2
1983	3.1	6.0	10.8	8.3	10.9	8.5	6.3	5.6	4.2	1.9	7.1	6.4	6.8	4.6
1984	4.5	9.9	8.1	10.7	15.2	8.3	7.8	5.8	7.0	-7.3	8.4	4.6	5.1	4.2
1985	6.3	0.7	6.8	5.0	13.5	-1.4	-0.9	4.6	2.5	-7.3	5.6	4.9	7.6	3.7
1986	2.8	11.1	10.6	11.5	8.9	2.1	1.2	5.5	5.9	3.4	3.4	4.9	5.5	4.0
1987	4.1	13.4	11.1	12.7	11.6	9.8	5.4	9.5	4.9	4.3	2.5	4.2	6.5	2.9
1988	7.1	8.4	10.6	8.0	11.3	11.5	9.9	13.3	5.8	6.8	5.1	8.3	7.6	2.4
1989	5.4	2.2	6.7	8.5	4.1	10.0	9.1	12.2	7.5	6.2	7.8	6.8	5.0	4.3
1990	5.6	3.9	9.2	5.7	3.8	9.2	9.0	11.6	7.2	3.0	5.0	5.6	4.5	4.6
1991	3.3	5.7	9.4	7.6	9.2	6.6	9.5	8.1	7.0	-0.6	5.8	2.1	5.5	4.2
1992	0.8	6.1	5.9	7.8	14.2	6.3	8.9	8.1	6.5	0.3	8.7	4.4	7.8	4.8
1993	0.2	6.0	6.1	6.9	14.0	11.7	9.9	8.3	6.8	2.1	8.1	4.9	1.3	4.3
1994	0.9	6.0	8.5	7.4	13.1	11.6	9.2	9.0	7.5	4.4	8.8	6.2	3.7	4.5
1995	1.9	2.3	9.2	6.5	10.9	8.2	9.8	9.2	8.2	4.7	9.5	7.4	5.0	4.8
1996	2.6	4.2	7.0	6.3	10.0	7.8	10.0	5.9	7.8	5.8	9.3	7.6	4.8	5.0
1997	1.6	5.1	4.7	6.6	9.3	8.3	7.3	-1.4	4.7	5.2	8.2	4.6	1.0	5.3
1998	-2.0	-6.0	-6.9	4.5	7.8	-1.4	-7.4	-10.5	-13.1	-0.6	5.8	6.0	2.6	5.0
1999	-0.1	2.6	9.5	5.7	7.6	7.2	6.1	4.4	0.8	3.4	4.8	6.9	3.7	5.4
2000	2.9	8.0	8.5	5.8	8.4	10.1	8.7	4.8	5.4	6.0	6.8	5.7	4.3	5.6
2001	0.2	0.5	4.0	-2.2	8.3	-2.4	0.5	2.2	3.6	1.8	6.9	3.9	1.9	4.8
2002	0.3	1.8	7.2	4.6	9.1	4.1	5.4	5.3	4.5	4.4	7.1	4.6	3.2	4.8
2003	1.4	3.0	2.8	3.5	10.0	3.8	5.8	7.1	4.8	4.9	7.3	6.9	4.9	5.8
2004	2.7	8.5	4.6	6.2	10.1	9.3	6.8	6.3	5.0	6.4	7.8	7.9	7.4	6.1
2005	1.9	7.1	4.0	4.2	10.4	7.3	5.3	4.6	5.7	5.0	8.4	9.2	7.7	6.3
2006	2.0	7.0	5.2	4.8	11.6	8.4	5.8	5.2	5.5	5.3	8.2	9.8	6.1	6.5
2007	2.3	6.4	5.1	5.7	13.0	7.8	6.2	4.9	6.3	7.1	8.5	9.4	5.6	6.3
2008	-0.7	2.4	2.2	0.1	9.0	1.1	4.6	2.6	6.1	3.8	6.2	7.3	2.0	6.0
2009	-5.4	-3.6	-1.0	-4.1	8.5	-3.3	-3.6	-3.5	4.0	1.0	4.6	5.4	2.0	5.4

Note: 2007-2008 data are often preliminary and 2009 data are IMF forecasts as of October 2009
Source: International Monetary Fund (2009b?)---WEO

Appendix Table 1b: Nominal GDP in US$ (billions; IMF estimates and projections as of October 2009)

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
1980	1,071	29	67	42	309	12	25	32	95	32	28	177	29	20
1981	1,184	31	75	49	293	14	25	35	106	36	14	190	31	19
1982	1,100	32	79	50	281	15	27	37	109	37	18	197	31	17
1983	1,200	30	88	53	302	17	31	40	99	33	28	213	32	18
1984	1,276	33	97	60	311	19	35	42	101	31	48	213	34	21
1985	1,364	36	101	63	307	18	32	39	101	31	15	221	35	21
1986	2,021	41	116	77	298	18	28	43	93	30	34	243	36	22
1987	2,449	50	146	104	324	21	32	51	88	33	42	268	39	25
1988	2,971	60	195	126	404	25	35	62	98	38	23	293	42	27
1989	2,973	69	240	153	451	30	39	72	111	43	6	291	44	29
1990	3,058	77	275	165	390	37	44	86	126	44	6	314	48	30
1991	3,485	89	321	184	409	43	50	96	141	45	8	279	55	31
1992	3,796	104	344	219	488	50	60	109	153	53	10	281	59	31
1993	4,350	120	378	231	613	58	68	122	175	54	13	275	63	33
1994	4,779	136	441	252	559	71	76	144	195	64	16	312	63	36
1995	5,264	144	539	274	728	84	90	168	223	76	21	354	74	40
1996	4,643	159	581	289	856	93	102	182	251	84	25	365	77	42
1997	4,262	176	538	300	953	96	102	151	238	84	27	408	76	43
1998	3,857	167	360	276	1,019	82	73	112	105	67	27	412	76	45
1999	4,369	163	464	299	1,083	83	80	123	155	76	29	439	71	47
2000	4,667	169	533	321	1,198	93	94	123	166	76	31	462	74	47
2001	4,095	167	505	292	1,325	86	93	116	161	71	33	473	72	47
2002	3,918	164	576	298	1,454	88	101	127	196	77	35	495	73	50
2003	4,229	159	644	305	1,641	93	110	143	235	80	40	573	84	54
2004	4,606	166	722	331	1,932	110	125	161	257	87	45	669	98	59
2005	4,552	178	845	356	2,236	121	138	176	286	99	53	784	110	61
2006	4,363	190	952	366	2,658	139	157	207	364	118	61	875	127	65
2007	4,380	207	1,049	385	3,382	167	186	246	432	144	71	1,101	143	74
2008	4,911	215	929	391	4,327	182	222	273	512	167	90	1,207	165	84
2009	5,049	209	800	357	4,758	163	207	266	515	159	92	1,243	167	92

Note: 2007-2008 data are often preliminary and 2009 data are IMF forecasts as of October 2009
Source: International Monetary Fund (2009)

Appendix Table 1c: Nominal GDP at Purchasing Power Parity (international $ billions)

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
1980	978	34	100	60	248	17	32	51	108	60	16	277	49	27
1981	1,115	40	116	70	285	20	38	59	127	68	19	322	57	31
1982	1,223	44	133	76	330	23	43	66	137	75	22	356	65	34
1983	1,310	49	153	86	381	26	47	72	149	79	24	393	72	37
1984	1,420	55	171	99	455	29	53	79	165	76	27	427	79	40
1985	1,555	57	188	107	532	29	54	85	174	73	29	461	87	42
1986	1,635	65	213	122	591	31	55	92	189	77	31	495	94	45
1987	1,751	76	244	141	679	35	60	104	204	83	33	530	103	48
1988	1,941	85	279	158	782	40	68	121	223	91	36	594	114	50
1989	2,122	91	309	178	844	46	77	141	248	101	40	658	125	55
1990	2,327	98	350	195	910	52	88	164	277	108	43	722	135	59
1991	2,490	107	396	217	1,029	57	99	183	306	111	48	763	148	64
1992	2,569	116	430	240	1,203	62	111	203	334	114	53	816	163	69
1993	2,631	126	466	262	1,402	71	124	224	365	119	58	875	169	73
1994	2,709	136	517	287	1,619	81	139	250	400	127	65	949	179	78
1995	2,818	142	576	312	1,833	90	156	279	442	135	73	1,040	192	84
1996	2,947	151	628	338	2,055	98	174	301	486	146	81	1,139	205	89
1997	3,046	161	668	367	2,286	109	190	302	518	156	89	1,213	210	96
1998	3,017	153	630	388	2,492	108	178	273	455	157	95	1,300	218	102
1999	3,058	160	700	417	2,721	118	192	289	465	165	101	1,411	229	109
2000	3,213	176	775	450	3,013	132	213	310	501	179	110	1,523	244	117
2001	3,292	181	824	450	3,337	132	219	324	531	186	121	1,618	255	126
2002	3,354	187	898	479	3,700	140	235	346	564	197	131	1,719	267	134
2003	3,474	197	943	506	4,158	148	254	379	603	211	144	1,877	286	145
2004	3,666	220	1,015	551	4,698	167	278	413	650	231	160	2,096	312	158
2005	3,873	243	1,097	592	5,314	187	301	445	705	250	178	2,358	340	174
2006	4,081	269	1,191	641	6,124	209	329	484	768	272	199	2,674	373	191
2007	4,296	294	1,288	697	7,119	231	360	522	840	300	222	3,008	405	209
2008	4,356	307	1,345	712	7,926	239	384	547	910	318	241	3,298	422	226
2009	4,187	301	1,352	693	8,735	235	376	536	961	326	256	3,529	437	242

Note: 2007-2008 data are often preliminary and 2009 data are IMF forecasts as of October 2009
Source: International Monetary Fund (2009)

Appendix Table 2a: Consumer Price Inflation Rates (percent, annual average consumer price indexes)

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
1980	7.8	4.4	19.0	28.7	6.0	8.5	6.7	19.7	18.0	18.2	25.2	11.4	11.9	15.4
1981	4.9	9.5	16.3	21.4	2.4	8.2	9.7	12.7	12.2	13.1	69.6	13.1	11.9	14.5
1982	2.7	10.9	3.0	7.2	1.9	3.9	5.8	5.3	9.5	9.0	95.4	7.9	5.9	12.9
1983	1.9	10.0	1.4	3.4	1.5	1.0	3.7	3.7	11.8	5.3	49.5	11.9	6.4	9.5
1984	2.3	8.6	-0.0	2.3	2.8	2.6	3.9	0.9	10.5	46.2	64.9	8.3	6.1	10.4
1985	2.0	3.6	-0.2	2.5	9.3	0.5	2.6	2.4	4.7	23.2	91.6	5.6	5.6	10.5
1986	0.6	3.6	0.7	2.8	6.5	-1.4	0.4	1.8	5.8	-0.3	453.5	8.7	3.5	10.2
1987	0.1	5.7	0.5	3.1	7.3	0.5	0.7	2.5	9.3	3.0	360.4	8.8	4.7	10.8
1988	0.6	7.8	1.3	7.1	18.8	1.5	0.3	3.8	8.0	12.2	374.4	9.4	8.8	9.7
1989	2.2	10.2	4.4	5.7	18.0	2.3	2.6	5.4	6.4	11.4	95.8	6.2	7.9	8.7
1990	3.1	10.3	4.1	8.6	3.1	3.5	3.0	-9.5	7.8	13.5	36.0	9.0	9.1	10.5
1991	3.4	11.3	3.6	9.3	3.4	3.4	4.4	5.7	9.4	18.5	81.8	13.9	12.6	8.3
1992	1.6	9.5	4.5	6.2	6.4	2.3	4.8	4.2	7.5	8.9	37.7	11.8	4.9	3.6
1993	1.3	8.8	2.9	4.8	14.7	2.3	3.6	3.3	9.7	7.6	8.4	6.4	9.8	3.0
1994	0.6	8.8	4.1	6.3	24.1	3.1	3.7	5.1	8.5	9.0	9.5	10.2	11.3	6.2
1995	-0.1	9.0	3.7	4.5	17.1	1.7	3.2	5.8	9.4	8.1	16.9	10.2	13.0	10.1
1996	0.1	6.3	3.1	4.9	8.3	1.4	3.5	5.9	7.0	9.1	5.6	9.0	10.8	2.5
1997	1.9	5.8	0.9	4.4	2.8	2.0	2.7	5.6	6.2	5.8	3.1	7.2	11.8	5.0
1998	0.6	2.8	1.7	7.5	-0.8	-0.3	5.3	8.1	58.0	9.7	8.1	13.2	7.8	8.6
1999	-0.3	-3.9	0.2	0.8	-1.4	0.0	2.7	0.3	20.8	6.4	4.1	4.7	5.7	6.2
2000	-0.8	-3.7	1.3	2.3	0.4	1.3	1.6	1.5	3.8	4.0	-1.8	4.0	3.6	2.5
2001	-0.7	-1.6	-0.0	4.1	0.7	1.0	1.4	1.6	11.5	6.8	-0.3	3.8	4.4	1.9
2002	-0.9	-3.0	-0.2	2.8	-0.8	-0.4	1.8	0.7	11.8	3.0	4.1	4.3	2.5	3.7
2003	-0.3	-2.6	-0.3	3.5	1.2	0.5	1.1	1.8	6.8	3.5	3.3	3.8	3.1	5.4
2004	0.0	-0.4	1.6	3.6	3.9	1.7	1.4	2.8	6.1	6.0	7.9	3.8	4.6	6.1
2005	-0.3	0.9	2.3	2.8	1.8	0.5	3.0	4.5	10.5	7.7	8.4	4.2	9.3	7.0
2006	0.3	2.0	0.6	2.2	1.5	1.0	3.6	4.6	13.1	6.2	7.5	6.2	7.9	7.1
2007	0.0	2.0	1.8	2.5	4.8	2.1	2.0	2.2	6.0	2.8	8.3	6.4	7.8	9.1
2008	1.4	4.3	3.5	4.7	5.9	6.5	5.4	5.5	9.8	9.3	23.1	8.3	12.0	7.7
2009	-1.1	-1.0	-0.5	2.6	-0.1	-0.2	-0.1	-1.2	5.0	2.8	7.0	8.7	20.8	5.3

Note: 2007-2008 data are often preliminary and 2009 data are IMF forecasts as of October 2009
Source: International Monetary Fund (2009)

Appendix Table 2b: Percentage Changes in US$/Domestic Currency Exchange Rates (percent, annual averages)

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
1980	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	2.8	-11.0	-10.8	-2.3	-12.1	1.3	-5.5	-6.2	-0.8	-4.9	-64.5	-9.2	-9.0	-14.1
1982	-11.5	-7.9	-6.8	-5.8	-9.9	-1.3	-1.3	-5.1	-4.5	-7.5	-38.7	-8.4	-12.9	-18.7
1983	4.9	-16.5	-5.8	-2.4	-4.2	1.3	0.6	-0.0	-27.3	-23.2	-5.9	-6.4	-8.1	-10.1
1984	-0.0	-7.1	-3.7	1.2	-14.8	-0.9	-1.0	-2.7	-11.4	-33.5	-2.8	-11.1	-9.4	-2.9
1985	-0.4	0.3	-7.4	-0.6	-21.0	-3.0	-5.6	-13.0	-7.6	-10.3	-84.6	-8.1	-8.0	-9.4
1986	41.5	-0.2	-1.3	5.1	-14.9	1.0	-3.8	3.3	-13.4	-8.7	-62.8	-1.9	-4.3	-7.9
1987	16.5	0.1	7.2	19.1	-7.2	3.4	2.5	2.2	-22.0	-0.9	-70.9	-2.7	-3.8	-1.8
1988	12.9	-0.1	12.5	11.4	-0.0	4.6	-3.8	1.7	-2.5	-2.5	-87.1	-6.9	-8.2	-2.5
1989	-7.1	0.1	8.9	8.3	-1.1	3.2	-3.3	-1.6	-4.8	-2.8	-89.2	-14.2	-8.8	-1.7
1990	-4.7	0.1	-5.1	-1.7	-21.3	7.6	0.1	0.5	-3.9	-10.8	-31.1	-7.3	-1.4	-6.6
1991	7.5	0.2	-3.5	0.1	-10.1	4.9	-1.6	-1.8	-5.5	-11.5	-35.4	-23.0	-4.7	-5.5
1992	6.4	0.4	-6.1	6.6	-3.5	6.1	8.0	0.7	-3.9	7.7	-10.4	-12.3	-8.9	-6.0
1993	13.9	0.1	-2.7	-4.6	-4.3	0.8	-1.0	-0.5	-2.7	-5.9	5.3	-15.0	-4.3	-1.6
1994	8.8	0.1	-0.1	-0.3	-33.1	5.8	-1.9	3.3	-3.4	2.7	-3.0	-2.8	-13.9	-1.6
1995	8.7	-0.1	4.2	-0.1	3.2	7.8	4.8	0.9	-3.9	4.7	-0.3	-3.2	-2.2	-0.2
1996	-13.5	0.0	-4.1	-3.5	0.4	0.5	-0.5	-1.7	-4.2	-2.0	-0.1	-8.5	-8.1	-3.6
1997	-10.1	-0.1	-15.4	-4.3	0.3	-5.0	-10.6	-19.2	-19.3	-11.2	-5.5	-2.4	-13.9	-4.8
1998	-7.6	-0.0	-32.1	-14.2	0.1	-11.3	-28.3	-24.2	-70.9	-27.6	-12.0	-12.0	-9.7	-6.4
1999	14.9	-0.2	17.9	3.7	0.0	-1.3	3.3	9.4	27.5	2.4	-4.9	-4.3	-14.5	-4.4
2000	5.7	-0.4	5.1	3.3	-0.0	-1.7	0.0	-5.7	-6.4	-11.5	-1.6	-4.1	-2.9	-5.9
2001	-11.3	-0.1	-12.4	-7.6	0.0	-3.8	-0.0	-9.7	-18.1	-13.3	-4.3	-4.8	-11.3	-6.6
2002	-3.1	-0.0	3.2	-2.2	0.0	0.1	-0.0	3.4	10.0	-1.2	-3.1	-2.9	-4.9	-3.6
2003	8.2	0.2	5.0	0.4	-0.0	2.8	0.0	3.6	8.6	-4.8	-1.5	4.4	4.9	-0.5
2004	7.2	-0.0	4.0	3.0	0.0	3.1	0.0	3.1	-4.0	-3.3	-1.5	2.8	1.5	-2.3
2005	-1.8	0.1	11.8	3.9	1.0	1.6	0.4	0.0	-8.0	1.7	-0.7	2.7	-3.0	-7.5
2006	-5.2	0.1	7.3	-1.1	2.8	4.7	3.5	6.2	5.9	7.3	-0.8	-2.7	-0.8	-5.6
2007	-1.2	-0.4	2.7	-0.9	4.8	5.4	6.4	9.7	0.3	11.2	-0.6	9.5	-1.3	-1.0
2008	13.9	0.2	-15.7	4.1	9.5	6.5	3.1	3.6	-5.6	3.8	-2.2	-5.0	-3.1	0.2
2009	8.9	0.5	-15.5	-5.1	1.6	-7.5	-3.8	-0.0	-8.7	-7.2	-7.1	-5.2	-20.5	-2.8

Note: 2007-2008 data are often preliminary and 2009 data are IMF forecasts as of October 2009
Source: International Monetary Fund (2009)

Appendix Table 2c: Percentage Changes in International $/Domestic Currency Exchange Rates (percent, annual averages)

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
1980	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1981	6.0	-0.9	-7.5	-2.4	7.0	2.6	8.2	0.9	4.6	-2.1	-17.6	-1.7	-1.2	-0.6
1982	4.5	-3.3	-0.5	2.6	8.4	2.0	3.5	1.0	0.9	-2.4	-47.0	-2.4	-3.0	-2.8
1983	3.0	-0.5	-2.1	2.0	2.9	0.3	-0.6	0.3	-13.1	-9.0	-30.5	-4.2	-1.3	-6.8
1984	2.0	-5.4	-2.1	2.9	-1.1	3.0	-2.2	2.3	-3.9	-32.3	-37.1	-3.9	-5.4	-7.7
1985	2.0	-2.3	-1.7	2.4	-6.5	4.4	4.9	0.8	-2.2	-12.4	-46.2	-4.1	-1.4	-5.9
1986	0.4	-1.5	-3.1	-1.1	-2.4	3.9	11.9	0.5	2.2	-0.7	-82.6	-4.4	-1.0	-6.7
1987	3.0	-5.3	-2.6	2.3	-2.2	2.3	-2.5	-1.7	-11.1	-4.3	-75.3	-5.4	-1.5	-5.7
1988	3.1	-5.1	-3.9	2.4	-7.7	-2.4	-0.2	-2.3	-3.9	-5.7	-74.6	-4.7	-5.6	-4.3
1989	1.5	-8.0	-1.9	0.4	-4.4	-0.6	-0.6	-2.2	-7.1	-4.8	-55.6	-4.2	-4.3	-3.4
1990	1.6	-3.4	-6.0	0.1	-1.8	-0.2	0.0	-1.7	-5.1	-7.8	-26.9	-5.7	-3.1	-2.4
1991	0.9	-5.0	-6.4	-0.3	-3.1	-1.2	-1.5	-2.1	-6.6	-11.2	-40.1	-8.3	-8.3	-1.1
1992	0.8	-6.9	-4.9	-0.8	-5.4	0.2	-0.0	-2.0	-3.5	-5.3	-22.8	-7.0	-6.9	0.8
1993	1.8	-6.0	-3.9	-1.3	-11.2	-1.6	-1.7	-1.0	-7.0	-4.3	-12.9	-6.8	-6.4	0.1
1994	2.0	-4.1	-5.3	0.1	-15.3	-0.8	-1.8	-2.9	-5.3	-7.2	-12.7	-7.2	-9.6	-3.3
1995	2.6	-2.0	-4.9	0.0	-10.2	-0.2	-1.5	-3.3	-7.1	-5.1	-12.8	-6.6	-10.4	-3.4
1996	2.6	-3.6	-3.1	-1.1	-4.3	0.6	-1.7	-2.0	-6.2	-5.3	-6.2	-2.7	-6.0	-1.7
1997	1.2	-3.7	-2.7	0.1	0.2	1.1	-1.7	-2.2	-9.6	-4.2	-4.5	-7.2	-10.2	-2.4
1998	1.2	0.3	-4.4	-1.5	2.0	2.9	-6.8	-7.4	-42.3	-8.4	-7.1	-6.4	-5.9	-3.6
1999	2.8	6.2	1.6	2.8	2.8	7.1	1.4	5.7	-11.1	-6.1	-4.0	-2.7	-4.1	-1.7
2000	4.0	6.0	1.4	3.8	0.1	-1.5	-4.9	0.8	-5.9	-3.9	-1.2	-1.5	-0.5	0.4
2001	3.5	4.2	-1.5	1.8	0.2	4.0	3.9	0.2	-10.5	-3.9	0.3	-1.2	-5.3	-0.1
2002	3.2	5.3	-1.6	1.9	1.0	2.7	-1.5	0.8	-4.0	-2.8	-2.2	-1.4	-0.9	-2.2
2003	3.8	8.8	-1.4	3.5	-0.4	3.3	-1.1	0.8	-3.2	-1.6	-4.2	-1.6	-2.2	-2.1
2004	3.8	6.5	-0.1	3.5	-4.0	-1.0	-3.4	-0.6	-5.5	-3.2	-4.8	-1.7	-5.8	-1.6
2005	4.9	3.5	3.2	3.8	-1.3	2.7	-1.5	-1.4	-10.3	-3.0	-5.1	-1.4	-5.3	-2.0
2006	4.2	3.6	3.4	4.0	-0.4	1.8	-0.6	-1.7	-9.5	-1.8	-3.7	-1.1	-6.5	-2.6
2007	3.5	-0.1	0.8	2.6	-4.3	-2.6	-1.9	-0.4	-7.6	-0.1	-5.0	-2.0	-4.5	-4.2
2008	3.1	0.7	-0.6	4.6	-4.7	1.0	-7.4	-2.3	-13.6	-5.0	-16.1	-4.9	-12.1	-5.0
2009	1.8	1.4	-1.3	1.2	1.9	1.2	0.7	0.6	-4.2	0.1	-3.4	-1.5	-18.7	-4.8

Note: 2007-2008 data are often preliminary and 2009 data are IMF forecasts as of October 2009
Source: International Monetary Fund (2009)

Appendix Table 3: Annual Inward FDI Flows in US$ (billions)

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
1980	0.280	*0.710*	0.006	0.166	0.057	1.236	0.934	0.190	0.180	-0.106	*0.002*	0.000	0.064	0.000
1981	0.190	*2.063*	0.102	0.151	0.265	1.660	1.265	0.291	0.133	0.172	*0.018*	0.000	0.108	0.000
1982	0.440	*1.237*	0.069	0.104	0.430	1.602	1.397	0.191	0.225	0.016	*0.013*	0.000	0.064	0.000
1983	0.410	*1.144*	0.069	0.149	0.636	1.134	1.261	0.350	0.292	0.105	*0.000*	0.000	0.029	0.000
1984	-0.010	*1.288*	0.110	0.199	1.258	1.302	0.797	0.401	0.222	0.009	*0.001*	0.000	0.056	-0.001
1985	0.640	*-0.267*	0.234	0.342	1.659	1.047	0.695	0.163	0.310	0.012	*-0.000*	0.000	0.131	0.000
1986	0.230	*1.888*	0.460	0.326	1.875	1.710	0.489	0.263	0.258	0.127	*0.000*	0.000	0.106	0.002
1987	1.160	*6.250*	0.616	0.715	2.314	2.836	0.423	0.352	0.385	0.307	*0.010*	0.000	0.129	0.003
1988	-0.480	*4.979*	1.014	0.961	3.194	3.655	0.719	1.105	0.576	0.936	*0.008*	0.000	0.186	0.002
1989	-1.040	*2.041*	1.118	1.604	3.393	2.887	1.668	1.775	0.682	0.563	0.100	0.000	0.211	0.000
1990	1.780	*3.275*	0.789	1.330	3.487	5.575	2.332	2.444	1.093	0.530	0.120	0.000	0.245	0.003
1991	1.290	*1.021*	1.180	1.271	4.366	4.887	3.998	2.014	1.482	0.544	0.220	0.074	0.258	0.001
1992	2.760	*3.887*	0.728	0.879	11.156	2.204	5.183	2.113	1.777	0.228	0.260	0.277	0.336	0.004
1993	0.120	*6.930*	0.588	0.917	27.515	4.686	5.006	1.804	2.004	1.238	0.300	0.550	0.349	0.014
1994	0.910	*7.828*	0.809	1.375	33.787	8.550	4.342	1.366	2.109	1.591	1.048	0.973	0.421	0.011
1995	0.040	*6.213*	1.776	1.559	35.849	11.535	4.178	2.068	4.346	1.478	1.780	2.144	0.723	0.002
1996	0.210	*10.460*	2.325	1.864	40.180	9.682	5.078	2.336	6.194	1.517	2.395	2.426	0.922	0.014
1997	3.200	*11.368*	2.844	2.248	44.237	13.753	5.137	3.895	4.677	1.222	2.220	3.577	0.716	0.139
1998	3.270	14.765	5.412	0.222	43.751	7.314	2.163	7.315	-0.241	2.287	1.671	2.635	0.506	0.190
1999	12.310	24.578	9.333	2.926	38.753	16.578	3.895	6.103	-1.866	1.247	1.412	2.169	0.532	0.180
2000	8.230	61.924	9.283	4.928	38.399	16.485	3.788	3.366	-4.550	2.240	1.298	3.584	0.308	0.280
2001	6.190	23.776	3.528	4.109	44.241	15.093	0.554	5.067	-2.977	0.195	1.300	5.472	0.383	0.079
2002	9.090	9.682	2.392	1.445	49.308	6.381	3.203	3.342	0.145	1.542	1.400	5.626	0.823	0.052
2003	6.240	13.624	3.526	0.453	47.077	11.800	2.473	5.232	-0.597	0.491	1.450	4.323	0.534	0.268
2004	7.800	34.032	9.246	1.898	54.937	20.054	4.624	5.860	1.896	0.688	1.610	5.771	1.118	0.449
2005	3.210	33.618	6.309	1.625	79.127	14.374	3.966	8.055	8.336	1.854	1.954	7.606	2.201	0.813
2006	-6.780	45.054	3.586	7.424	78.095	30.633	6.064	9.453	4.914	2.921	2.400	20.336	4.273	0.697
2007	22.180	54.365	1.784	7.769	138.413	38.110	8.456	11.330	6.928	2.916	6.700	25.483	5.590	0.653
2008	24.550	59.890	3.311	5.432	147.791	10.614	6.642	8.570	6.275	1.403	9.579	41.315	5.438	0.973
2009	12.022	*35.031*	1.506	2.804	*144.469*	14.603	*2.282*	6.148	5.300	*1.499*	*10.148*	*34.229*	2.382	0.535

Sources and Notes: Data refer to the most recent estimates of net inward flows of FDI from foreign-domiciled companies in the reporting economy that are available from International Monetary Fund (2010) and national sources, or older estimates of missing data from UNCTAD (2010); figures in italics come from series that are clearly inconsistent with definitions and/or overlapping estimates for other years---see Appendix A for details.

Appendix Table 4: Cumulative Inward FDI Flows 1980 to Yearend in US$ (billions)

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
1983	1.320	*5.154*	0.246	0.570	1.388	5.631	4.856	1.021	0.830	0.187	*0.033*	0.000	0.265	0.000
1984	1.310	*6.442*	0.356	0.769	2.646	6.933	5.654	1.422	1.052	0.196	*0.033*	0.000	0.321	-0.000
1985	1.950	*6.174*	0.589	1.111	4.305	7.980	6.349	1.585	1.362	0.208	*0.033*	0.000	0.452	-0.000
1986	2.180	*8.063*	1.049	1.437	6.180	9.690	6.837	1.848	1.620	0.335	*0.033*	0.000	0.558	0.002
1987	3.340	*14.313*	1.665	2.152	8.494	12.527	7.260	2.200	2.005	0.642	*0.044*	0.000	0.687	0.006
1988	2.860	*19.292*	2.679	3.113	11.688	16.181	7.979	3.305	2.581	1.578	*0.051*	0.000	0.874	0.007
1989	1.820	*21.333*	3.797	4.717	15.081	19.068	9.647	5.080	3.263	2.141	0.151	0.000	1.084	0.008
1990	3.600	*24.608*	4.586	6.047	18.568	24.643	11.980	7.524	4.356	2.671	0.271	0.000	1.329	0.011
1991	4.890	*25.629*	5.765	7.318	22.934	29.530	15.978	9.538	5.838	3.215	0.491	0.074	1.588	0.012
1992	7.650	*29.516*	6.494	8.197	34.090	31.734	21.162	11.651	7.615	3.443	0.751	0.277	1.924	0.016
1993	7.770	*36.446*	7.082	9.114	61.605	36.420	26.167	13.455	9.619	4.681	1.051	0.550	2.273	0.030
1994	8.680	*44.274*	7.891	10.489	95.392	44.971	30.509	14.821	11.728	6.272	2.099	0.973	2.694	0.041
1995	8.720	*50.487*	9.667	12.048	131.241	56.506	34.687	16.889	16.074	7.750	3.879	2.144	3.416	0.043
1996	8.930	*60.947*	11.992	13.912	171.421	66.188	39.766	19.225	22.268	9.267	6.274	2.426	4.338	0.057
1997	12.130	*72.315*	14.836	16.160	215.658	79.941	44.902	23.120	26.945	10.489	8.494	3.577	5.055	0.196
1998	15.400	87.080	20.248	16.382	259.409	87.255	47.066	30.435	26.704	12.776	10.165	2.635	5.561	0.386
1999	27.710	111.658	29.582	19.308	298.162	103.833	50.961	36.537	24.839	14.023	11.577	2.169	6.093	0.566
2000	35.940	173.582	38.865	24.236	336.562	120.317	54.749	39.903	20.288	16.263	12.875	3.584	6.401	0.846
2001	42.130	197.358	42.393	28.345	380.803	135.410	55.302	44.971	17.311	16.458	14.175	5.472	6.784	0.925
2002	51.220	207.040	44.785	29.790	430.111	141.791	58.506	48.312	17.456	18.000	15.575	5.626	7.607	0.977
2003	57.460	220.665	48.311	30.243	477.187	153.591	60.979	53.544	16.859	18.491	17.025	4.323	8.141	1.245
2004	65.260	254.696	57.557	32.141	532.124	173.645	65.603	59.405	18.755	19.179	18.635	5.771	9.259	1.694
2005	68.470	288.314	63.865	33.766	611.250	188.019	69.569	67.460	27.091	21.033	20.589	7.606	11.460	2.507
2006	61.690	333.367	67.452	41.190	689.345	218.652	75.633	76.913	32.006	23.954	22.989	20.336	15.733	3.205
2007	83.870	387.733	69.236	48.959	827.758	256.762	84.088	88.243	38.934	26.870	29.689	25.483	21.323	3.857
2008	108.420	447.623	72.547	54.391	975.549	267.376	90.730	96.814	45.209	28.273	39.268	41.315	26.761	4.831
2009	120.442	*482.654*	74.053	57.195	*1,120.0*	281.980	*93.012*	102.962	50.509	*29.772*	*49.416*	*34.229*	29.143	5.366

Sources and Notes: Data refer to the most recent estimates of net inward flows of FDI from foreign-domiciled companies in the reporting economy that are available from International Monetary Fund (2010) and national sources, or older estimates of missing data from UNCTAD (2010); figures in italics come from series that are clearly inconsistent with definitions and/or overlapping estimates for other years---see Appendix A for details.

Appendix Table 5: Annual Outward FDI Flows in US$ (billions)

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
1980	2.390	*0.082*	0.026	0.042	-	0.098	0.000	0.003	*0.006*	0.000	*0.000*	0.000	0.000	0.000
1981	4.900	*0.031*	0.048	0.060	-	-0.015	0.000	0.002	0.000	0.000	*0.000*	0.000	0.000	0.000
1982	4.540	*0.052*	0.151	0.032	0.044	0.304	0.000	0.002	0.000	0.000	*0.000*	0.000	0.000	0.000
1983	3.610	*0.566*	0.130	0.019	0.093	0.049	0.000	0.001	0.000	0.000	*0.000*	0.000	0.000	0.000
1984	5.960	*1.076*	0.052	0.072	0.134	0.092	0.000	0.001	0.000	0.000	*0.000*	0.000	-0.005	0.000
1985	6.490	*0.961*	0.591	0.079	0.629	0.238	0.000	0.001	0.000	0.000	*0.000*	0.000	-0.008	0.000
1986	14.670	*1.372*	1.227	0.065	0.450	0.181	0.000	0.001	0.000	0.000	*0.000*	0.000	-0.001	0.000
1987	20.300	*2.318*	0.515	0.705	0.645	0.206	0.000	0.170	0.000	0.000	*0.000*	0.000	0.019	0.000
1988	35.460	*2.533*	0.643	4.121	0.850	0.118	0.000	0.024	0.000	0.000	*0.000*	0.000	0.013	0.000
1989	46.020	*2.740*	0.598	6.951	0.780	0.882	0.000	0.050	0.000	0.000	*0.000*	0.000	0.043	0.000
1990	50.500	*2.448*	1.052	5.243	0.830	2.034	0.000	0.140	0.000	0.000	*0.000*	0.000	0.002	0.000
1991	31.620	*2.825*	1.489	2.055	0.913	0.526	0.000	0.167	0.000	0.000	*0.000*	*-0.011*	-0.004	0.000
1992	17.390	*8.254*	1.162	1.967	4.000	1.317	0.000	0.147	0.000	0.000	*0.000*	*0.024*	-0.012	0.000
1993	13.830	*17.713*	1.340	2.611	4.400	2.152	0.000	0.233	0.356	0.374	*0.000*	0.000	-0.002	0.000
1994	18.090	*21.437*	2.461	2.640	2.000	4.577	0.000	0.493	0.609	0.302	*0.000*	0.083	0.001	0.000
1995	22.510	*25.000*	3.552	2.983	2.000	6.787	0.000	0.886	0.603	0.399	*0.000*	0.117	0.000	0.000
1996	23.450	*26.531*	4.585	3.843	2.114	7.951	0.000	0.931	0.600	0.182	0.000	0.239	0.007	0.000
1997	26.060	*24.407*	4.404	5.243	2.563	10.904	0.000	0.580	0.178	0.136	0.000	0.113	-0.024	0.003
1998	24.620	16.985	4.740	3.836	2.634	2.165	0.000	0.130	0.000	0.160	0.000	0.048	0.050	0.003
1999	22.270	19.369	4.198	4.420	1.775	8.003	1.422	0.346	0.000	0.133	0.000	0.079	0.021	0.000
2000	31.530	59.352	4.999	6.701	0.916	5.915	2.026	-0.023	0.000	0.125	0.000	0.510	0.011	0.000
2001	38.500	11.345	2.420	5.480	6.884	19.965	0.267	0.428	0.000	-0.140	0.000	1.398	0.031	*0.021*
2002	32.020	17.463	2.617	4.886	2.518	2.329	1.905	0.171	0.000	0.065	0.000	1.678	0.028	0.003
2003	28.770	5.492	3.426	5.682	-0.152	2.695	1.369	0.623	*0.213*	0.303	*0.000*	1.879	0.019	0.003
2004	30.960	45.715	4.650	7.145	1.805	10.803	2.061	0.077	3.408	0.579	*0.000*	2.179	0.056	0.004
2005	45.440	27.201	4.291	6.028	11.306	11.218	2.972	0.501	3.065	0.189	0.065	2.978	0.044	0.002
2006	50.170	44.978	8.127	7.399	21.160	18.811	6.043	0.974	2.641	0.103	0.085	14.344	0.109	0.000
2007	73.490	61.119	15.620	11.107	16.995	27.372	11.042	2.864	4.675	3.536	0.184	17.281	0.098	0.000
2008	130.820	50.581	18.943	10.287	53.471	-8.415	14.942	2.568	5.900	0.259	0.300	18.370	0.049	0.000
2009	76.813	*37.388*	10.572	5.858	-	5.927	*6.770*	3.813	2.987	*0.374*	-	*17.151*	-0.019	0.000

Sources and Notes: Data refer to the most recent estimates of net outward flows of FDI from companies domiciled in the reporting economy that are available from International Monetary Fund (2010) and national sources, or older estimates of missing data from UNCTAD (2010); figures in italics come from series that are clearly inconsistent with definitions and/or overlapping estimates for other years---see Appendix A for details.

Appendix Table 6: Cumulative Outward FDI Flows 1980 to Yearend in US$ (billions)

Year	Japan	Hong Kong	Korea	Taiwan	China	Singa-pore	Malay-sia	Thailand	Indo-nesia	Philip-pines	Vietnam	India	Pakistan	Bangla-desh
1983	15.440	*0.731*	0.355	0.153	0.137	0.436	0.000	0.009	0.006	0.000	0.000	0.000	0.000	0.000
1984	21.400	*1.807*	0.407	0.225	0.271	0.529	0.000	0.010	0.006	0.000	0.000	0.000	-0.005	0.000
1985	27.890	*2.768*	0.998	0.304	0.900	0.766	0.000	0.010	0.006	0.000	0.000	0.000	-0.013	0.000
1986	42.560	*4.140*	2.225	0.369	1.350	0.948	0.000	0.011	0.006	0.000	0.000	0.000	-0.013	0.000
1987	62.860	*6.458*	2.740	1.074	1.995	1.154	0.000	0.181	0.006	0.000	0.000	0.000	0.006	0.000
1988	98.320	*8.991*	3.383	5.195	2.845	1.272	0.000	0.206	0.006	0.000	0.000	0.000	0.019	0.000
1989	144.340	*11.731*	3.980	12.146	3.625	2.154	0.000	0.255	0.006	0.000	0.000	0.000	0.062	0.000
1990	194.840	*14.179*	5.032	17.389	4.455	4.188	0.000	0.395	0.006	0.000	0.000	0.000	0.064	0.000
1991	226.460	*17.004*	6.521	19.444	5.368	4.713	0.000	0.562	0.006	0.000	0.000	-0.011	0.060	0.000
1992	243.850	*25.258*	7.682	21.411	9.368	6.030	0.000	0.709	0.006	0.000	0.000	0.013	0.048	0.000
1993	257.680	*42.971*	9.022	24.022	13.768	8.182	0.000	0.942	0.362	0.374	0.000	0.013	0.046	0.000
1994	275.770	*64.408*	11.483	26.662	15.768	12.759	0.000	1.435	0.971	0.676	0.000	0.096	0.047	0.000
1995	298.280	*89.408*	15.035	29.645	17.768	19.547	0.000	2.321	1.574	1.075	0.000	0.213	0.048	0.000
1996	321.730	*115.939*	19.620	33.488	19.882	27.498	0.000	3.252	2.174	1.257	0.000	0.452	0.055	0.000
1997	347.790	*140.346*	24.024	38.731	22.445	38.401	0.000	3.832	2.352	1.393	0.000	0.565	0.030	0.003
1998	372.410	157.330	28.764	42.567	25.079	40.566	0.000	3.962	2.352	1.553	0.000	0.613	0.080	0.006
1999	394.680	176.699	32.962	46.987	26.854	48.569	1.422	4.308	2.352	1.686	0.000	0.692	0.101	0.006
2000	426.210	236.052	37.961	53.688	27.770	54.484	3.448	4.285	2.352	1.811	0.000	1.202	0.112	0.006
2001	464.710	247.396	40.381	59.168	34.654	74.449	3.715	4.712	2.352	1.671	0.000	2.600	0.143	0.027
2002	496.730	264.859	42.997	64.054	37.172	76.778	5.620	4.883	2.352	1.736	0.000	4.278	0.171	0.029
2003	525.500	270.352	46.423	69.736	37.020	79.472	6.989	5.506	2.565	2.039	0.000	6.157	0.190	0.032
2004	556.460	316.066	51.073	76.881	38.825	90.275	9.051	5.583	5.973	2.618	0.000	8.336	0.246	0.036
2005	601.900	343.267	55.364	82.909	50.131	101.493	12.023	6.084	9.038	2.807	0.065	11.313	0.290	0.038
2006	652.070	388.246	63.491	90.308	71.291	120.304	18.067	7.057	11.678	2.910	0.150	25.657	0.399	0.038
2007	725.560	449.364	79.111	101.415	88.286	147.676	29.109	9.922	16.353	6.446	0.334	42.938	0.497	0.038
2008	856.380	499.945	98.055	111.702	141.757	139.261	44.051	12.490	22.253	6.705	0.634	61.308	0.546	0.038
2009	933.193	*537.333*	108.627	117.560	-	145.188	*50.820*	16.303	25.240	*7.079*	-	*78.459*	0.527	0.038

Sources and Notes: Data refer to the most recent estimates of net inward flows of FDI from foreign-domiciled companies in the reporting economy that are available from International Monetary Fund (2010) and national sources, or older estimates of missing data from UNCTAD (2010); figures in italics come from series that are clearly inconsistent with definitions and/or overlapping estimates for other years---see Appendix A for details.