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Abstract

This paper analyzes foreign direct investment (FDI) by multinational corporations (MNCs) investing in Asia's 14 largest economies over the last two decades, focusing on trends during three region-wide, economic downturns surrounding 1998, 2001, and 2009. It first finds that FDI flows were highly volatile and often declined during downturns and in other years; in other words, no consistent pattern is observed in FDI flows during downturns. In contrast, ratios of FDI stocks to GDP, probably the best measure of MNC presence in these economies that is available in a timely manner, tended to increase in almost all countries experiencing downturns (Indonesia in 1999 being the major exception). These increases partially reflect declining values of domestic currencies relative to the U.S. dollar in affected economies. FDI stock-GDP ratios also tended to increase for Japanese and U.S. MNCs investing in these economies. During downturns, ratios of Japanese affiliate sales to GDP often fell more than FDI stock-GDP ratios, but Japanese affiliate shares of host country employment often fell relatively little. On the other hand, there were more consistent upward trends in sales-GDP and FDI stock-GDP ratios for U.S. affiliates during downturns, but their shares of host economy employment fell or stagnated in many of these cases.

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

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1. Definitions and Issues

Foreign direct investment (FDI) is conducted by multinational corporations (MNCs), which are generically defined to include all firms with plants (facilities involved in production of goods or services) in more than economy.[1] FDI is a flow of equity and loans from the parent company or related affiliates to other affiliates located abroad. It is a source of corporate finance and positive flows or increases in the stock of FDI can be used to finance (1) increases in the recipient affiliate's stock of fixed assets, (2) increases in other assets held by the affiliate, such as inventory, bank deposits, or other financial assets (e.g., stocks, bonds), and/or (3) decreases in the stocks of equity and/or loans obtained from non-FDI sources (e.g., other companies, financial institutions).[2]

Especially after the mid-1980s, stocks of FDI have generally grown relatively rapidly in much of Asia and indeed throughout the world (United Nations Conference on Trade and Development, various years). These increases have often been interpreted as evidence that MNCs have become increasingly important to both home and host economies. Rapid increases of sales, employment, and related activities of MNC parents and affiliates have also accompanied rapid increases in FDI stocks in several Asian economies.

However, it is also important to recognize that large portions of FDI are used for non-production-related purposes (uses (2) and (3) mentioned above). Thus, increases or decreases in FDI stocks have not always resulted in corresponding increases or decreases production-related activities of MNCs (Lipsey 1999; Ramstetter 1998a, 2000). In short, FDI trends in FDI often are poorly correlated with trends in production-related activities such as

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

[2] 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" (International Monetary Fund 1993, p. 86). Reinvested earnings (equity generated by the affiliate) and valuation adjustments are also included in principle but sometimes not measured. 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.

employment or sales in recipient affiliates. On the other hand, FDI is clearly a measure of the extent to which MNC investors are willing to risk their financial resources by allocating them to recipient affiliates instead of the parent or other related affiliates. Thus, the size of FDI flows to a given recipient is probably a reasonable indication of the profits MNCs expect to earn from that recipient compared to alternative uses of those funds at the time of remittance. However, analyzing patterns in FDI flows is probably more similar to compiling an opinion poll of MNCs' financial managers than to analyzing patterns of sales or employment, or even fixed investment, of recipient affiliates.

After the mid-1980s, Asia experienced three major downturns, the Asian financial crisis surrounding 1998, the dot.com crash surrounding 2001, and subprime crisis surrounding 2009 (Table 1). This turbulent period followed the boom decade of 1986-1996, when FDI was often thought to be part of a "virtuous circle" where rapid growth contributed to increased in investments in human and physical capital (by both MNCs and non-MNCs), and those investments in turn contributed to further growth (Birdsall and Sabot 1993; World Bank 1993). There is also considerable evidence that FDI flows tended to be large in countries and years with high GDP and growth, in other words, that MNCs, like other investors, tend to be attracted to booming and rich economies.[3]

In the middle of the Asian financial crisis, I cited such evidence when concluding that "the falling GDP growth rate can be expected to reduce TNC [MNC] investments" in affected Asian economies (Ramstetter 1998b, p. 325). Although I did allow that falling exchange rates and other factors might mitigate the declines, I (like many others at the time) failed to appreciate the potential scope of the ensuing fire sale produced by the combination of lower asset prices and exchange rates (Aguiar and Gopinath 2005). Correspondingly, I know of no one that anticipated the subsequent, large increases of inward FDI flows into Korea and

[3] See Ramstetter (2011, Section 2a) for a review of this literature.

Thailand, two of the most severely affected economies, to levels exceeding previous (1996) highs by 3 or 4 times in 1998-1999 (Table 2). On the other hand, inward FDI flows plummeted in Malaysia and especially in Indonesia, where political turmoil and transition spooked investors, among many others.

As the above example illustrates, MNCs clearly reacted differently to the Asian financial crisis in Korea and Thailand compared to Indonesia and Malaysia, for example. Moreover, as illustrated in Table 2, the reactions of MNCs in Korea and Thailand to the recent global financial crisis have contrasted to the reaction in 1997-1999. This paper's core question is a simple one: how have foreign-based MNCs reacted to the three recent downturns in large Asian economies?[4] More specifically, have foreign MNCs chosen to increase or reduce their FDI stocks in host economies during or after downturns? Are there any consistent patterns to these reactions across host economies and/or downturns? How have trends in FDI stocks correlated with other measures of MNC activity such as affiliate sales or employment? The paper adopts a descriptive methodology designed to paint the "big", macroeconomic picture in a way the illuminates the answers to these questions. Because the available time series are too short to facilitate meaningful econometric analysis, it does not attempt to model the determinants of observed trends and thus is unable to offer new evidence regarding the precise reasons for trends and correlations observed. However, it does speculate about them to the extent that previous literature or other evidence is suggestive.

The paper begins by documenting various key aspects of economic cycles Asia's large economies (Section 2). The core of the paper focuses on analysis of trends in ratios of FDI stocks to GDP during times of economic slowdown, because this is the best, comprehensive

[4] Asia's large economies consist of five advanced economies (Singapore, Japan, Hong Kong, Taiwan, Korea) and nine developing economies (Malaysia, Thailand, China, Indonesia, Philippines, India, Vietnam, Pakistan, Bangladesh). All other Asian economies are much smaller; according to 2010 estimates by the International Monetary Fund (2010), the largest excluded economy was Sri Lanka, which had GDP which was only 47 percent of the smallest economy in the sample if measured in U.S. dollars (Vietnam) and 40 percent of the smallest economy when measured in international dollars adjusted for purchasing power parity (Bangladesh).

measure of MNC presence that is available in a timely manner (Section 3). This analysis is then supplemented with a comparison of trends in ratios of FDI stocks and affiliate sales to GDP for Japanese and U.S. affiliates in the region in an attempt to discern the implications of focusing on FDI stock data alone (Section 4).[5] Finally, some concluding remarks are offered.

2. Recent Growth and Downturns in Asia's Large Economies

Strong economic growth and slow population growth have combined to produce rapid increases in real per capita GDP and average living standards over the last two decades in most of Asia's large economies (Table 1).[6] Increases have been particularly conspicuous in China, Vietnam, and India, where mean annual growth rates (*a* in Table 1) exceeded 5 percent. Over these two decades, high growth has translated into increases of inflation-adjusted, real per capita GDP of as much as 5.6-fold in China and 2.6-3.0 times in India and Vietnam. Increases were also substantial (increases of 1.7-fold or mean of 2.9 percent or more) in Singapore, Hong Kong, Malaysia, Thailand, Indonesia, and Bangladesh. In this context, the increases in Malaysia, Thailand, and Indonesia, as well as Korea and Taiwan, are notable because these economies were among the hardest hit by one or more of the region's three downturns. Even in the relatively slow growing economies of Pakistan and the Philippines (mean annual growth of 2.0 percent each), per capita GDP increased a modest 42-50 percent. On the other hand, Japanese growth stagnated (mean growth of 0.7 percent), as it struggled to recover from the effects of its financial crash in the 1990s, the large government debt it subsequently incurred, and the effects of rapid aging.

These growth performances have drastically changed Asia's economic landscape over the

[5] Unfortunately, data constraints make it s impossible to perform similar, economy-wide analyses for most of the host economies in this sample.

[6] Although per capita GDP does not measure important economic benefits (e.g., those created by unpaid household workers) and costs (e.g., uncompensated costs of pollution), the growth of real per capita GDP is probably the most commonly used and most widely available measure of how rapidly average living standards are increasing in an economy. Where possible this paper focuses on the 1992-2011 period; with the exception of FDI data, 2010-2011 figures are estimates or forecasts as of October 2010.

last two decades. In 1992, Japan had the region's highest per capita income was by far the largest economy if measured in current U.S. dollars (Table 3). The U.S. dollar measure is probably most commonly cited one and the one most relevant to MNC investment decisions, because tradables account for the vast majority of MNC production and MNCs use convertible currencies (e.g., the U.S. dollar, the Euro, or the Yen) as bases for most of their accounting. In 1992-2010, Singapore's per capita GDP increased from about half (53 percent) of Japanese levels to just above them. Increases of China's per capita GDP (from 1.4 to 10 percent of Japan's levels) and total GDP (from 13 to 107 percent) of Japan's levels were again conspicuous. Increases in India (from 1.1 to 2.8 percent of Japan's per capita GDP and 7.7 to 27 percent of its size), Vietnam (0.5 to 2.7 percent and 0.3 to 1.9 percent, respectively) were also substantial. Indonesia's increases (2.7 to 7.0 percent and 4.0 to 13 percent) were also notable, especially when one recognizes that the large rupiah depreciation in 1998 reduced the U.S. dollar values of its per capita and total GDP by 56 percent in just one year.

Do the figures in Table 3 really mean that the average Chinese could purchase only 10 percent of goods and services affordable to the average Japanese in 2010? Or that the average Indian or Vietnamese could only purchase 2.7-2.8 percent of Japan's average? Clearly the answer to this question is no, average income differentials are much smaller if one accounts for the fact that Japanese prices often tend to be higher than prices in China, India, or Vietnam. Correspondingly, most economists believe that estimates of per capita and total GDP which are adjusted to account for difference in purchasing power parity (PPP) provide a more accurate basis for cross country comparisons (Table 4). If such differences are accounted for, China's per capita GDP rises to 22 percent of Japanese levels while Indian and Vietnamese figures rise to 9.7 and 9.2 percent of Japan's levels. One of the major reasons for discrepancies between the U.S. dollar and PPP-adjusted estimates is the fact that market exchange rates used to calculate the U.S. dollar estimates fail to account for the fact that many

services (and some goods) are not traded and that their relative prices are not reflected in market exchange rates. PPP-adjusted estimates are designed to account for these differences and thus provide a better comparison of living standards among countries, but are not always consistent or easily justified.[7] Because the U.S. dollar estimates are probably more relevant to most MNCs, this paper will focus on the U.S. dollar measures below, but it is important to recall that PPP-adjusted figures are generally more accurate measures of relative economic size and incomes among economies.

The preceding discussion is relevant because it is important to precisely define what constitutes an economic downturn. 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. However, this definition is impractical in this context for three reasons. First, several economies of interest here have not compiled estimates of quarterly GDP or other relevant indicators of sufficient length for this analysis. Second, as emphasized in the preceding discussion, economic growth has generally been rather rapid in Asia. Thus, even relatively slow, positive growth is viewed as a slowdown by many Asians. Third, most Asians still have relatively low incomes and there is substantial variation in population growth rates across economies. Thus, it seems more reasonable to focus on per capita GDP growth, rather than total GDP growth. Reflecting these three considerations, this paper defines a downturn as any year during which the annual growth rate of real per capita GDP fell below zero or below the mean growth rate of real per capita GDP for 1992-2011 less two standard deviations (*a-s*2* in Table 1). The first condition (negative growth) is binding in almost all cases for these 14

[7] For example, previous estimates of PPP-adjusted GDP for China (IMF 2003) were substantially larger than recent estimates and suggested that China became larger than Japan as early as 1994, instead of 2001 as suggested by recent estimates (Table 4). The previous estimates were source of some controversy because some observers (myself included) thought they resulted at least partially from U.S. political pressure on the IMF and the World Bank to depict China as being larger and richer than it really is.

economies during this period, Vietnam in 1999 being the sole exception.

Using this definition there were three major, region-wide downturns in 1998, 2001, and 2009. The 1998 and 2009 downturns were the most widespread, affecting eight of the region's 14 large economies in both cases. The 2001 slowdown was slightly less wide spread, affecting six economies. The Asian financial crisis led to a sharp contraction in 1998 and was the most severe during the period. Per capita GDP fell 15 percent in Indonesia, 12 percent in Thailand, 9.7 percent in Malaysia, 7.0 percent in Hong Kong, 6.4 percent in Korea, and 5.6 percent in Singapore (Table 1). There were also milder, related downturns in the Philippines in 1998, Thailand in 1997, and Indonesia and Vietnam in 1999. On the other hand, the Japanese downturn in 1998-1999 was probably more the result of domestic factors mentioned above and the increase of its consumption tax than to the effects Asian financial crisis. Like Japan, Bangladesh, and India, Pakistan's economy is not very dependent on exports, and its 1997 downturn was mainly a result of domestic factors.[8]

The Asian financial crisis was soon followed by the U.S. dot.com crash in 2001 which led to milder downturns (at most -2.7 percent) in economies with large, export-oriented electronics industries, Singapore, Taiwan, Malaysia, and the Philippines (Table 1). Although Japan's electronics companies also export large portions of output, slowdowns in this economy and Pakistan were again more the result of domestic factors than anything. It is also important to recognize that both of these economies and the Philippines tended to grow more slowly than other Asian economies. These relatively low growth paths of course make it more likely for downturns to result in negative growth.

The most recent subprime crisis led to fears of a financial crisis paralleling the depression of the early 1930s, but governments worldwide reacted very differently by increasing liquidity

[8] Ratios of exports of goods and services to GDP were much smaller in Japan, India, Pakistan, and Bangladesh (e.g., 14-19 percent in the relatively normal years of 2002-2007) than in the rest of the region's economies (31-34 percent in Indonesia and China, 40-46 percent in Korea and the Philippines, 63-71 percent in Taiwan, Vietnam, and Thailand, and over 100 percent in Malaysia, Singapore, and Hong Kong; ADB various years).

and resisting pressures for increased protectionism. These efforts paid off (at least in the short- to medium-run) by limiting the scope of the contraction in 2009 and hastening recovery in 2010. Asia's recent experience with Japan's financial mismanagement in the 1990s and the Asian financial crisis also meant that Asia's governments were relatively vigilant and its financial institutions relatively risk-averse compared to those in the United States or Europe. As a result, Japan was the only large Asian economy in which per capita GDP declined more than 4 percent in 2009 and Asia led the world recovery by posting generally strong growth in 2010 (IMF 2010; Table 1). Real per capita GDP increased 4.7 percent or more in 12 of the 14 economies and even Japan posted its strongest growth in two decades (3.0 percent), with Pakistan growing slightly more rapidly.

The nature of these economic slowdowns has differed greatly. For example, in the years preceding the Asian financial crisis, Korea and Thailand, and to a lesser extent in Indonesia, Malaysia, and the Philippines, experienced relatively high inflation rates and large current account deficits (Tables 5-6). These factors combined with the accumulation of bad debts, which were particularly large in Korean and Thai financial institutions, to undermine the confidence of foreign portfolio investors, who had invested substantial funds during the boom of the mid-1990s. As a result, these economies were particularly vulnerable to the withdrawal of portfolio funds from the region. And after the Thai authorities decided to let the baht decline in mid-1997, many Asian currencies plummeted in value. The weakening and eventual fall of President Suharto in Indonesia and the violence in East Timor, Aceh, and the Moluccas brought back memories of the deadly political transition the country experienced in 1967, making the loss of investor confidence much larger there than elsewhere. Even the strong Singapore dollar was hit despite large current account surpluses and strict financial regulation there.

Korea, Thailand, Indonesia, Malaysia, and Vietnam adjusted very quickly after the Asian

financial crisis. By 2000 inflation rates had fallen and current account deficits had become surpluses, which were in many cases very large (Tables 5-6). Although the adjustment was less pronounced in the Philippines, trends were in the same direction and growth recovered strongly (Table 1). On the other hand, several economies, notably Japan, Taiwan, Malaysia, the Philippines, Vietnam and the three South Asian economies, ran large government budget deficits during this period, partially because of deliberate attempts to counteract the effects of the 1998 downturn. Nonetheless, when the 2001 dot.com crash came, only export dependent economies with large export-oriented electronics industries, Taiwan, Singapore, and Malaysia, were severely affected. These electronics industries are heavily dominated by foreign MNCs in Singapore and Malaysia and both local and foreign MNCs in Taiwan.

In 2001-2008, inflationary pressures were strong Indonesia and the Philippines, and increased toward the end of the period in Vietnam and South Asia (Table 5). Fiscal deficits remained large in Japan and grew to high levels in South Asia. Current account deficits also ballooned in Vietnam and Pakistan but current accounts remained in surplus or close to zero in the remaining economies (Table 6). Strong foreign demand for financial assets combined with external surpluses to create more concern over upward pressure on domestic currencies than with depreciation in Japan, Malaysia, Thailand, China, and even Indonesia, which were amplified during 2010's recovery from the 2009 downturn. Perhaps most importantly, Asia's financial institutions generally had limited exposure to the bad debts created by the subprime crisis in the United States, for reasons described above. In other words, most Asian economies had strong external and financial positions, and were thus better able to weather the 2009 downturn than their U.S. or European counterparts. On the other hand, fiscal positions remained weak in several economies (Japan, South Asia, Malaysia, the Philippines) and the source of some concern.

Asian economies have also had a tendency to invest large shares of GDP. Ratios of fixed

investment (gross fixed capital formation) to GDP were 40 percent or higher in Malaysia and Thailand before the Asian financial crisis and about 35-36 percent in Korea (Table 7). Ratios were also much higher before the crisis in Singapore, Hong Kong, Indonesia and in the Philippines. In other words, many of these economies were building new productive capacity at a very rapid rate. Although this investment was often viewed as part of the aforementioned "virtuous" circle, like the Japanese boom in the late 1980s, these investment booms eventually created substantial excess capacity and this capacity was another factor that led to the sharp downturns in 1998 and surrounding years. In recent years, there have been similar increases in fixed investment ratios that are particularly conspicuous in China, and to a lesser extent in India and Vietnam. Although these economies clearly need substantial new investment to facilitate future growth, high investment rates tend be accompanied by increases in relatively inefficient investments and the creation of excess capacity.

3. FDI Stock-GDP Ratios during Downturns

In this paper, the primary concern is with how MNCs adjusted 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. In Asia, FDI flows have been particularly large relative to host economy GDP in Hong Kong and Singapore, and to a lesser extent in Malaysia and Vietnam (Table 7). There were also conspicuous declines in FDI flow-GDP ratios in 1998 and 2008 in Singapore, in Malaysia in 1998, 2001, and 2009, and in Vietnam in 1999. Thus, it is not clear whether the declines in FDI-GDP ratios reflect a reaction to slowdowns in these years or a cause of them and it is probably most reasonable to expect they were both a cause of reduced investment demand and reaction to lower expected profits

brought about by the slowdowns.

It is also important to recognize that FDI-GDP ratios were highly volatile in most of these economies. For 1992-2009, standard deviations were under 50 percent of their respective means for only three economies, China, Singapore, and Malaysia (Table 7). In contrast, the largest standard deviations for fixed investment ratios (another indicator often thought to be volatile) were a maximum of 32 percent of the mean in Malaysia and 25 percent in Thailand. In short, high volatility is normal for FDI and low FDI-GDP ratios in years of rapid growth (e.g. Singapore in 1992-1993, Malaysia and Thailand in 1994) or high ratios in downturn years (e.g., Korea and Thailand in 1998) were not uncommon.

Previous literature has emphasized how MNCs can mitigate the effects of economic downturns by providing relatively stable sources of international finance (compared to portfolio or other investment) and being less constrained financially than local firms.[9] This in turn makes them better able to take advantage of investment and export opportunities that result from adjustment (e.g., declines in asset prices and exchange rates) to the downturns. Perhaps most importantly, the major effects of MNCs on host economies are thought to be medium- or long-term in nature, not the short-run effects of FDI flows on aggregate demand or balance of payments' finance. Rather the major effects of MNCs are usually hypothesized 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 in surrounding firms in host and home economies.[10] 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

[9] 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).

[10] See Caves (2007), Dunning (1993), and Rugman and Brewer (2001) for summaries of or compilations of relevant literature.

may lead MNCs to react somewhat differently to downturns than non-MNCs. Thus, the reactions of foreign MNCs over the medium- and long-term to economic trends in host economies are probably more important economically than short-term reactions.

Data on cumulative FDI stocks, especially if measured relative to the size of the host or investing economy (Table 8) are better indicators of the size of MNCs relative to host economies than flow-based indicators. Through 2004, decades FDI stock-GDP ratios have were the largest in Singapore. In Hong Kong, these ratios have also increased to above 100 percent from 2000 and exceeded Singapore's levels from 2005. These two high-income economies are distinguished by their long history of acting as entrepot trading and finance centers for China and Southeast Asia, respectively, as well as industrial and economic policies that impose few restrictions on international traders or foreign investors. Singapore's manufacturing industries have also been dominated by foreign MNCs, though this is not the case in Hong Kong where manufacturing is now a much smaller portion of the economy than in Singapore (ADB various years). Their high dependence on intraregional trade also means that these economies are particularly susceptible to downturns in surrounding economies. They both experienced downturns in 1998 and 2009 and Singapore also experienced one in 2001. FDI stock-GDP ratios rose during all of these downturns.

As late as 1998, Malaysia's FDI stock-GDP ratios exceeded Hong Kong's, but these ratios declined more or less continually after the Asian financial crisis until 2009 (Table 8). Like Singapore, this economy depends very heavily on foreign MNCs in its manufacturing industries. Also like Singapore, it was severely affected by the downturns in 1998 and to a smaller extent in 2009 and 2001. However, despite lower FDI flows (Tables 2, 7), FDI stock-GDP ratios increased in all these years, with particularly large increases in 1998 and 2009. FDI stock-GDP ratios have also been relatively high in Vietnam and Thailand in recent years, where foreign MNCs again account for large shares of manufacturing production.

Vietnam experienced a mild slowdown in 1999 when its FDI-GDP ratio increased some. As noted above, Thailand was at the center of the Asian financial crisis, but its FDI stock-GDP ratios rose markedly after the crisis and increased again during the 2009 slowdown, though to a smaller extent. Similar patterns were also observed in the Philippines, though ratios were smaller there.

The conspicuous contrast of trends in FDI flow-GDP and FDI stock-GDP ratios in Indonesia (Tables 7, 8) highlights the important roles of large exchange rate adjustments during the Asian financial crisis. More specifically, the large depreciation of the rupiah reduced the U.S. dollar value of GDP so much that FDI stock-GDP ratios increased markedly in 1998 and remained higher in 1999-2000 than in 1997, despite negative flows of FDI in 1998-2000. Currency depreciation had relatively large implications for trends in FDI stock-GDP ratios in Thailand, Malaysia, Korea, and the Philippines, and to a lesser extent in Singapore (c.f., Table 5). Stock and other asset prices also recovered relatively rapidly after the crisis in many economies and were often higher than many years before the crisis. To the extent that MNCs used FDI to buy relatively high-priced assets after the crisis, the real value of post-crisis FDI tends to be overstated relative to much older FDI and is another potential cause of rising FDI stock-GDP ratios.[11]

Korea, Taiwan, and Japan have had had relatively low FDI stock-GDP ratios, but there has been a relatively strong upward trend in these ratios since the late 1990s. Like Thailand, Korea experienced a strong increase in the FDI stock-GDP ratio in 1998 and a smaller one in 2009. In Korea (and in Thailand) increases after the Asian financial crisis were also related to the removal of many ownership restrictions on foreign MNCs.[12] Relaxed ownership

[11] The effects of general inflation, measured by increases in the GDP deflator, are largely accounted for by measuring FDI flows and stocks relative to GDP. Unfortunately, there are no similarly reliable measures of changes in asset prices that can be used to deflate the FDI stock in a more reliable way.

[12] These foreign ownership restrictions in principle made it difficult to establish majority- or wholly-foreign affiliates. In practice, exceptions were common, especially in Thai manufacturing, but both Korean and Thai governments reacted to the crisis by essentially rolling forward policy changes (removal of many foreign

restrictions probably contributed to relatively high FDI levels during 1998-2000 in both economies. Taiwan's ratios of FDI stocks to GDP also increased markedly during its downturns in 2001 and 2009. However, there was also a relatively strong upward trend in ratios in Taiwan (increases in 14 of 19 years) that make it difficult to ascertain whether increases are were part of a longer term trend or related to the downturns. In Japan, the persistence of slow growth led to many "downturns" and this combined with a relatively strong upward trend in ratios of FDI stocks to GDP, creates similar difficulties when trying to sort out how FDI trends relate to downturns.

In absolute terms, China has been the largest recipient of FDI among Asia's large economies for most of the last two decades, largely because it's large and rapidly growing market makes it an attractive location for most MNCs worldwide. The fact that it has not experienced a downturn as defined in this paper also makes it easier to attribute trends in FDI stock-GDP ratios to longer term factors. Two distinct trends emerge, a strong upward one in the 1990s and a decline from 2004, as increases in the FDI stock failed to keep up with rapid economic growth.

In South Asia, trends in India and Bangladesh seem similar to those in China during the 1990s (and earlier). FDI stock-GDP ratios generally increased and there have been no downturns as defined in this paper. Pakistan's growth performance has been more volatile, with downturns in 1997, 2001, and 2008 that more or less coincide with downturns in several other Asian economies. However, as noted above, Pakistan is not very dependent on trade so it is probably best to view these cycles as the result of domestic factors. During these downturns, and in another downturn in 1993, FDI stock-GDP ratios increased. In short, with the notable exception of Indonesia in 1999, FDI stock-GDP ratios never declined much during these downturns and often increased substantially.

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ownership restrictions) that had already been agreed to under the Uruguay Round.

4. Do Trends in FDI Stocks Correlate with Affiliate Sales and Employment?

The first section of this paper emphasized how trends in FDI flows and stocks often differ from corresponding trends in affiliate sales and employment, for example. Although host economy data cannot facilitate comparisons of these indicators for all MNCs in most large Asian hosts, it is possible to make comparisons in most hosts for MNCs from Japan and the United States using home economy data. Although FDI from other economies has grown rapidly in the last two decades, both Japanese and U.S. MNCs remain major actors in the region, making comparisons for these firms a source of important insights.

Tables 9 and 10 first compare trends in ratios of FDI stocks to GDP and ratios of affiliate sales to GDP. As emphasized throughout this paper, the ratio of FDI stocks to GDP, although probably the best measure of MNC presence that can be easily constructed from standard FDI data, is at best a poor proxy for the relative size of MNC production because the numerator refers to the stock of a peculiar source of MNC finance, while the denominator refers to the net production of goods and services (value added) in an economy. The sales-GDP ratio is arguably a more accurate measure of MNC presence over time and across host economies because in this case both the numerator and denominators are measures of production and thus conceptually more similar. However, the sales measure includes substantial intermediate consumption and is usually much larger than GDP (value added). And because the ratio of value added to sales varies among economies and over time, the variation of MNC sales-GDP ratios results from the variation of both value added-sales ratios and actual MNC presence.[13] However, if the FDI stock-GDP ratio is a comparison of oranges and apples, for example, the sales-GDP ratio is probably more akin to a comparison of oranges and tangerines.

The crucial question here is do these two ratios paint the same picture for Japanese and U.S.

[13] In addition, many affiliates do not respond to MNC surveys and this reporting is known to have been a relatively serious problem for Japanese affiliate data; correspondingly, this paper relies primarily on estimates that are designed to minimize the effects of non-respondents on the trends observed.

affiliates? Unfortunately, the answer to this question is often no. For example, during the recent turndown in 2009, ratios of Japan's FDI stocks to host economy GDP increased in all seven economies that experienced downturns, with particularly large increases in Singapore and Thailand (Table 9). On the other hand, sales-GDP ratios fell in all seven of these economies, with especially large declines in Singapore, Hong Kong, and Thailand. Similar patterns were also observed for Singapore and Malaysia in 1998 and 2001, Hong Kong and Thailand in 1998, and Taiwan in 2001. On the other hand, both ratios rose in the Philippines in 2001 and 2009 and in Indonesia in 1998, while both fell in Thailand in 1997. In other words, Japanese FDI stocks behaved much like total FDI stocks and tended to increase relative to GDP during these downturns, but sales-GDP ratios fell indicating that Japanese affiliate sales generally fell more than host economy GDP during these recent downturns.

For the downturns surrounding 1998 and 2001, U.S. data suggest a somewhat more consistent tendency to increase U.S. MNC presence in these host economies (Table 10). For Thailand in 1997-1998 as well as Singapore, Korea, Malaysia, Indonesia, and the Philippines in 1998, both FDI stock-GDP ratios and sales-GDP ratios increased, with particular large increases observed for sales in Singapore and Malaysia where U.S. MNCs have substantial exporting operations. Increases were also relatively large for both ratios in Indonesia and the Philippines. In 1999, both ratios fell in Indonesia, however. In 2001, both ratios increase in Japan, Taiwan, the Philippines, and Pakistan, but moved in the opposite directions in Singapore (FDI stocks up, sales down) and Malaysia (FDI stocks down, sales up). In 2009 the FDI stock-GDP ratios rose in Hong Kong, Korea, Taiwan, Malaysia, and the Philippines, but fell in Singapore and Thailand (and slightly in Japan), suggesting a less uniform response. However, sales data are not yet available to compare with the FDI stock data for this year.

Finally, it is interesting to look at ratios of affiliate employment to total employment in these host economies (Table 11), because these are ratios where numerators and denominators

are defined similarly (the number of workers) and thus allow a more precise measure of MNC presence than ratios of FDI stocks or sales to GDP. On the other hand, India and Bangladesh do not have good series on nationwide employment and it is important to be aware of the fact that MNC shares of host economies tend to be smaller in terms of employment than in terms of production, for example, regardless of whether production is measured as sales or value added. In other words, because MNCs affiliates tend to have relatively high labor productivity, they also then to have relative small shares of employment in host economies. Indeed, the combined shares of Japanese and U.S. MNCs never exceeded 10-11 percent recorded in Singapore in 1995-2000 and Hong Kong in 2004-2005. At the other end of the spectrum, when calculations were possible, the maximum combined shares of Japanese and U.S. MNCs were always well under 0.10 percent in the three South Asian economies, 0.52 percent in China, Indonesia and Vietnam, 0.97 percent in Japan (U.S. affiliates only), Korea, and the Philippines. In other words, these affiliates accounted for particularly small shares of employment in the region's more populous economies.

During the Asian financial crisis, employment in Japanese affiliates generally grew more rapidly than host economy employment in most economies experiencing downturns (Singapore was the exception), but increases were very small in three of these (Korea, Malaysia, and Indonesia, Table 11). Small or not, these increases contrasted with declines in sales-GDP ratios in Hong Kong, Malaysia, and Thailand. During the 2001 downturn, Japanese affiliate shares of employment fell in Singapore, Malaysia and the Philippines, which was consistent with trends in sales-GDP ratios in Singapore and Malaysia, but not the Philippines. In Taiwan, there was little change in employment but the sales-GDP ratio fell. Japanese shares of employment and sales-GDP ratios also fell in Singapore, Hong Kong, and Malaysia during the 2009 downturn, but the employment decline was relatively small in Malaysia. Increases of employment shares contrasted with trends in sales-GDP ratios in Taiwan and Korea and

declines in employment shares were relatively small in Thailand and the Philippines.

During the Asian financial crisis, both employment shares and sales-GDP ratios fell for U.S. affiliates in Hong Kong, but increases in sales-GDP ratios contrasted with declining (Singapore, Malaysia, the Philippines) or stagnant (Thailand, Indonesia) employment shares elsewhere. Similarly, during the 2001 downturn declining for stagnant U.S. employment shares contrasted with rising sales-GDP ratios in Taiwan, Malaysia, and the Philippines, while both employment shares and sales-GDP ratios fell in Singapore. In short, these comparisons strongly suggest that the size of MNC presence and trends in that presence are quite sensitive to the measure used to estimate MNC presence.

5. Conclusions

This paper began by asking how foreign MNCs have reacted to three major recent downturns in Asia's 14 largest economies and reviewing the distinctive characteristics of these downturns. The Asian financial crisis surrounding 1998 was by far the most severe for the region and was preceded by large current account deficits and high investment ratios in many of the most severely affected economies. Excess capacity and lax lending practices led to the creation of substantial bad debts in the financial systems. When the baht was finally devalued in July 1997, it opened the floodgates and several other currencies quickly depreciated very rapidly. Political uncertainty was also a particularly important factor in the run on the Indonesian rupiah, which was by far the most severe. The dot.com collapse in 2001 affected several of the region's economies, especially those specializing in exports of electronics, but was much milder. Finally, the subprime crisis led to a somewhat more severe and widespread downturn in 2009, but the region's economies were relatively strong before this downturn and recovered rather quickly in 2010.

During all of these downturns there was a tendency for MNCs to increase FDI stocks more

rapidly than GDP in most of the affected host economies. Especially in 1998, part of the increase in the ratio of FDI stocks to GDP is attributable to MNC decisions to keep FDI stocks at their previous levels or higher, while the U.S. dollar value of host economy GDP fell. However, there were a few notable cases such as Korea and Thailand after the Asian financial crisis where MNCs clearly viewed the downturn as a buying opportunity and new FDI flows also increased to what were then record levels. It is also important to recognize a relatively strong long-term trend toward higher FDI stock-GDP ratios in most of these economies. In other words, the portion of corporate finance measured by FDI is probably increasing more rapidly than GDP. To some extent this increase reflects increased MNC willingness to risk its investible funds by investing in these economies.

Data for Japanese and U.S. MNCs are useful because one can estimate ratios of affiliate sales to host economy GDP or affiliate shares of host economy employment, in addition to FDI stock-GDP ratios, for many host economies. During downturns, FDI stock-GDP ratios for Japanese and U.S. MNCs also tended to increase, though there were some more exceptions than for total FDI. For Japanese MNCs, sales-GDP ratios fell in a number of years when FDI stock-GDP ratios rose, however. In other words, sales of Japanese MNCs fell more than GDP, but they were still willing to increase FDI stocks relatively rapidly. Japanese MNC shares of host economy employment also tended to fall little or increase, despite declines in sales-GDP ratios. For U.S. affiliates, sales-GDP and FDI stock-GDP ratios increased more consistently in 1998 and 2001, but U.S. MNC shares of employment tended to increase relatively little and fell in some cases. In short, these three measures of MNC presence all suggest markedly different trends during these downturns. This should not be surprising because each of these indicators has a distinctly different economic meaning. However, the patterns illustrated in this paper do further illustrate the need to use indicators of MNC presence with much greater caution than is often exercised in the academic or popular literature.

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Appendix A: Data Sources for FDI estimates

As noted below, the estimates of FDI flows presented in this paper refer in principle to the most recent estimates of net inward FDI from foreign-domiciled companies 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 (2011) or more recent updates (and in some cases older data) taken from national sources. The national sources used are: Singapore, Ministry of Trade and Industry (2011), Bank of Japan (2011), Hong Kong, Census and Statistics Department (2011), Bank of Korea (2011), Central Bank of the Republic of China (1983, 2011), Bank Negara Malaysia (2011), Bank of Thailand (2011), China, National Bureau of Statistics (2011), Bank Indonesia (2011), Central Bangko Sentral ng Pilipinas (2011), General Statistics Office of Vietnam (2011), Reserve Bank of India (2011), State Bank

of Pakistan (2011), and Bangladesh Bank (2011). 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 2010. These data refer to "utilized FDI" and "registered capital of licensed FDI projects", respectively. In recent years, Chinese estimates of "utilized FDI" are much smaller than corresponding balance of payments estimates, though in previous years they were quite similar. 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 India and Bangladesh, 2010 estimates were only available for the first three quarters and the first half of the year, respectively. In these cases, the annual totals for 2010 were estimated by assuming that the annual growth rate equal that for the first three quarters and one half of the year, respectively, compared to the same periods in 2009.

Data from ADB (various years) and UNCTAD (2011) are sometimes used to estimate missing older observations when data are unavailable from IMF (2011) and national sources. In most cases, these data appear compatible and are similar, if not identical, to those reported in previous issues of IMF (2011), but omitted from more recent issues. However, I know of no balance of payments-based estimates for Hong Kong in 1980-1997 and Vietnam in 1980-1988 for which estimates are taken from UNCTAD (2011). For Vietnam, inward FDI was clearly

close to zero during this period and this is reflected in UNCTAD estimates. However, FDI in Hong Kong was clearly large and I suspect that the UNCTAD estimates used to estimate FDI stocks in Table 1 are subject to a large margin of error during this period.

Finally, I 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 identical merchandise trade flows by importers and exporters, for example. When estimating FDI stocks the problem is compounded because there is no practical way to account for asset inflation, which often results in overvaluing recently created FDI stocks compared to older FDI stocks. The bottom line is that FDI is difficult to measure and measurement methodologies often differ greatly among countries. Thus, comparisons or aggregations of FDI flows or stocks across economies should be interpreted with caution. In contrast, the FDI flow data probably reflect trends over time in single economies more accurately, though FDI flows are not a very meaningful economic indicator for most purposes.

Table 1: Growth Rates of Real GDP and Real GDP Per Capita (domestic currency, percent)

	Advanced economies					Developing economies								
Year	Singa-pore	Japan	Hong Kong	Korea	Tai-wan	Ma-lay-sia	Thai-land	China	Indo-nesia	Philip-pines	India	Viet-nam	Paki-stan	Ban-gla-desh
Economic growth rates (real GDP growth rates in domestic currency)														
1992	7.0	0.8	6.1	5.8	7.6	8.9	8.1	14.2	6.5	0.3	4.4	8.7	7.8	4.8
1993	11.5	0.2	6.0	6.3	6.7	9.9	8.3	14.0	6.8	2.1	4.9	8.1	1.3	4.3
1994	10.6	0.9	6.0	8.8	7.6	9.2	9.0	13.1	7.5	4.4	6.2	8.8	3.7	4.5
1995	7.3	1.9	2.3	8.9	6.4	9.8	9.2	10.9	8.2	4.7	7.4	9.5	5.0	4.8
1996	7.7	2.6	4.2	7.2	5.5	10.0	5.9	10.0	7.8	5.8	7.6	9.3	4.8	5.0
1997	8.6	1.6	5.1	5.8	5.5	7.3	-1.4	9.3	4.7	5.2	10.3	8.2	1.0	5.3
1998	-2.1	-2.0	-6.0	-5.7	3.5	-7.4	-10.5	7.8	-13.1	-0.6	5.3	5.8	2.6	5.0
1999	6.2	-0.1	2.6	10.7	6.0	6.1	4.4	7.6	0.8	3.4	3.3	4.8	3.7	5.4
2000	9.1	2.9	8.0	8.8	5.8	8.7	4.8	8.4	5.4	6.0	4.4	6.8	4.3	5.6
2001	-1.2	0.2	0.5	4.0	-1.7	0.5	2.2	8.3	3.6	1.8	3.9	6.9	1.9	4.8
2002	4.2	0.3	1.8	7.2	5.3	5.4	5.3	9.1	4.5	4.4	4.6	7.1	3.2	4.8
2003	4.6	1.4	3.0	2.8	3.7	5.8	7.1	10.1	4.8	4.9	6.9	7.3	4.9	5.8
2004	9.2	2.7	8.5	4.6	6.2	6.8	6.3	10.1	5.0	6.4	8.1	7.8	7.4	6.1
2005	7.4	1.9	7.1	4.0	4.7	5.3	4.6	11.3	5.7	5.0	9.2	8.4	7.7	6.3
2006	8.6	2.0	7.0	5.2	5.4	5.8	5.1	12.7	5.5	5.3	9.7	8.2	6.1	6.5
2007	8.5	2.4	6.4	5.1	6.0	6.5	4.9	14.2	6.3	7.1	9.9	8.5	5.6	6.3
2008	1.8	-1.2	2.2	2.3	0.7	4.7	2.5	9.6	6.0	3.7	6.4	6.3	1.6	6.0
2009	-1.3	-5.2	-2.8	0.2	-1.9	-1.7	-2.2	9.1	4.5	1.1	5.7	5.3	3.4	5.6
2010	15.0	2.8	6.0	6.1	9.3	6.7	7.5	10.5	6.0	7.0	9.7	6.5	4.8	5.8
2011	4.5	1.5	4.7	4.5	4.4	5.3	4.0	9.6	6.2	4.5	8.4	6.8	2.8	6.3
Growth rates of per capita GDP (real GDP growth rates less population growth rates)														
1992	3.97	0.46	4.84	4.72	6.60	6.81	7.05	13.03	4.76	-1.88	2.32	6.90	4.88	2.70
1993	8.88	-0.15	4.17	5.31	5.81	5.62	7.01	12.85	5.15	-0.21	2.90	6.33	-1.32	2.27
1994	7.44	0.59	4.00	7.76	6.72	6.41	7.68	11.97	5.91	1.94	4.21	7.14	1.20	2.49
1995	4.18	1.63	-0.17	7.92	5.53	6.96	8.63	9.84	6.62	3.44	5.41	7.89	2.47	2.78
1996	3.60	2.42	1.05	6.23	4.75	7.68	5.16	8.95	6.27	3.50	5.67	7.73	2.40	3.04
1997	5.15	1.33	4.28	4.82	4.46	4.98	-2.29	8.29	3.17	2.90	8.48	6.58	-1.39	3.36
1998	-5.56	-2.32	-7.04	-6.44	2.61	-9.73	-11.70	6.88	-14.64	-2.81	3.48	4.22	0.19	3.13
1999	5.40	-0.33	1.72	10.02	5.23	3.74	3.45	6.78	-0.70	1.21	1.51	3.26	1.36	3.55
2000	4.55	2.67	6.84	7.96	4.96	6.20	3.75	7.64	6.46	3.02	2.70	5.43	2.48	3.77
2001	-2.14	-0.05	0.23	3.23	-2.23	-2.65	1.31	7.59	2.28	-0.35	2.18	5.54	-0.19	3.04
2002	5.70	0.05	1.90	6.59	4.75	3.25	4.48	8.45	3.15	2.35	2.88	5.76	1.19	3.09
2003	3.34	1.23	2.44	2.31	3.30	3.89	6.28	9.50	3.44	2.86	5.21	5.87	2.36	4.07
2004	6.86	2.67	7.96	4.24	5.82	4.89	4.66	9.50	3.71	4.33	6.51	6.39	5.41	4.46
2005	4.22	1.92	6.49	3.75	4.35	3.43	4.56	10.70	4.09	2.92	7.61	7.13	5.75	4.71
2006	4.37	2.04	5.97	4.85	4.97	4.15	4.88	12.16	4.18	3.33	8.14	6.97	4.29	5.00
2007	3.09	2.35	5.76	4.78	5.63	4.78	4.23	13.67	5.05	5.10	8.39	7.27	3.84	4.83
2008	0.03	-1.15	1.36	1.99	0.39	3.01	1.58	9.09	4.71	1.72	4.93	5.11	-0.13	4.53
2009	-3.01	-5.11	-3.56	-0.11	-2.27	-3.41	-3.25	8.59	3.25	-0.90	4.24	4.12	1.63	4.25
2010	13.26	2.97	5.23	5.75	8.42	5.02	6.52	9.96	4.70	5.11	8.26	5.27	3.08	4.39
2011	2.80	1.64	3.88	4.16	3.51	3.60	3.00	9.09	4.90	2.52	7.00	5.62	1.07	4.83
a	*3.8*	*0.7*	*2.9*	*4.5*	*4.2*	*3.4*	*3.3*	*9.7*	*3.3*	*2.0*	*5.1*	*6.0*	*2.0*	*3.7*
*a-s*2*	*-4.6*	*-3.2*	*-4.4*	*-2.5*	*-1.3*	*-4.9*	*-6.0*	*5.6*	*-5.8*	*-2.4*	*0.5*	*3.5*	*-2.1*	*2.0*

Note: Estimates or forecasts as of October 2010; *a* =mean growth rate for 1992-2011, *a-s*2* =*a* less 2 standard deviations; cells shaded in grey indicate years of economic downturns, which are defined as years when real per capita GDP growth was negative or less than *a-s*2* .

Source: International Monetary Fund (2010).

Table 2: Inward FDI flows and stocks (US$ billions)

	Advanced economies					Developing economies								
Year	Singa-pore	Japan	Hong Kong	Korea	Tai-wan	Ma-lay-sia	Thai-land	China	Indo-nesia	Philip-pines	India	Viet-nam	Paki-stan	Ban-gla-desh
FDI flows														
1992	2.20	2.76	3.89	0.73	0.88	5.18	2.11	11.16	1.78	0.23	0.28	0.26	0.34	0.00
1993	4.69	0.12	6.93	0.59	0.92	5.01	1.80	27.52	2.00	1.24	0.55	0.30	0.35	0.01
1994	8.55	0.91	7.83	0.81	1.38	4.34	1.37	33.79	2.11	1.59	0.97	1.05	0.42	0.01
1995	11.54	0.04	6.21	1.78	1.56	4.18	2.07	35.85	4.35	1.48	2.14	1.78	0.72	0.00
1996	9.68	0.21	10.46	2.33	1.86	5.08	2.34	40.18	6.19	1.52	2.43	2.40	0.92	0.01
1997	13.75	3.20	11.37	2.84	2.25	5.14	3.89	44.24	4.68	1.22	3.58	2.22	0.72	0.14
1998	7.31	3.27	14.77	5.41	0.22	2.16	7.31	43.75	-0.24	2.29	2.63	1.67	0.51	0.19
1999	16.58	12.31	24.58	9.33	2.93	3.90	6.10	38.75	-1.87	1.25	2.17	1.41	0.53	0.18
2000	16.48	8.23	61.92	9.28	4.93	3.79	3.37	38.40	-4.55	2.24	3.58	1.30	0.31	0.28
2001	15.09	6.19	23.78	3.53	4.11	0.55	5.07	44.24	-2.98	0.20	5.47	1.30	0.38	0.08
2002	6.40	9.09	9.68	2.39	1.45	3.20	3.34	49.31	0.15	1.54	5.63	1.40	0.82	0.05
2003	11.94	6.24	13.62	3.53	0.45	2.47	5.23	47.08	-0.60	0.49	4.32	1.45	0.53	0.27
2004	21.03	7.81	34.03	9.25	1.90	4.62	5.86	54.94	1.90	0.69	5.77	1.61	1.12	0.45
2005	15.46	3.21	33.62	6.31	1.63	3.97	8.06	79.13	8.34	1.85	7.61	1.95	2.20	0.81
2006	29.06	-6.78	45.05	3.59	7.42	6.08	9.45	78.09	4.91	2.92	20.34	2.40	4.27	0.70
2007	37.03	22.18	54.37	1.78	7.77	8.59	11.32	138.41	6.93	2.92	25.48	6.70	5.59	0.65
2008	8.59	24.55	59.61	3.31	5.43	7.23	8.53	147.79	9.32	1.54	41.32	9.58	5.44	1.01
2009	15.28	11.83	52.39	2.25	2.81	1.43	4.98	78.19	4.88	1.96	35.60	7.60	2.39	0.67
2010	38.64	-1.63	68.90	-0.15	2.48	8.58	6.67	91.84	12.74	1.71	23.49	8.01	2.01	1.08
FDI Stocks (cumulative flows since 1980)														
1992	32	8	30	6	8	21	12	34	7	3	0	1	2	0
1993	36	8	36	7	9	26	13	61	9	5	1	1	2	0
1994	45	9	44	8	10	31	15	95	12	6	2	2	3	0
1995	57	9	50	10	12	35	17	131	16	8	4	4	3	0
1996	66	9	61	12	14	40	19	171	22	9	6	6	4	0
1997	80	12	72	15	16	45	23	215	27	10	10	8	5	0
1998	87	15	87	20	16	47	30	259	27	13	13	10	6	0
1999	104	28	112	30	19	51	37	298	25	14	15	12	6	1
2000	120	36	174	39	24	55	40	336	20	16	18	13	6	1
2001	135	42	197	42	28	55	45	380	17	16	24	14	7	1
2002	142	51	207	45	30	59	48	430	17	18	30	16	8	1
2003	154	57	221	48	30	61	54	477	17	18	34	17	8	1
2004	175	65	255	58	32	66	59	532	19	19	40	19	9	2
2005	190	68	288	64	34	70	67	611	27	21	47	21	11	3
2006	219	62	333	67	41	76	77	689	32	24	68	23	16	3
2007	256	84	388	69	49	84	88	827	39	27	93	30	21	4
2008	265	108	447	73	54	91	97	975	48	28	134	39	27	5
2009	280	120	500	75	57	93	102	1,053	53	30	170	47	29	6
2010	319	119	569	75	60	101	108	1,145	66	32	193	55	31	7

Note: Estimates or forecasts as of October 2010; cells shaded in grey indicate years in which real GDP growth was less than one standard deviation below the 1990-2010 average.

Sources: IMF (2011), ADB (various years), UNCTAD (2011), and national sources; see Appendix A for details.

Table 3: Per capita GDP and GDP in Asia's Large Economies in U.S. Dollars

	Advanced economies					Developing economies								
Year	Singa-pore	Japan	Hong Kong	Korea	Tai-wan	Ma-lay-sia	Thai-land	China	Indo-nesia	Philip-pines	India	Viet-nam	Paki-stan	Ban-gla-desh
Per capita GDP (current US$)														
1992	16,099	30,408	17,666	7,730	10,573	3,200	1,899	417	822	823	325	144	521	261
1993	18,240	34,791	20,001	8,422	11,029	3,471	2,088	517	923	825	311	189	537	268
1994	21,420	38,196	22,149	9,757	11,932	3,759	2,442	467	1,017	949	346	230	528	285
1995	24,702	41,969	23,003	11,779	12,865	4,358	2,826	601	1,144	1,105	386	289	602	309
1996	25,930	36,930	24,583	12,587	13,376	4,836	3,038	699	1,264	1,206	390	338	614	318
1997	26,158	33,821	27,056	11,582	13,740	4,693	2,496	771	1,184	1,170	429	362	591	326
1998	21,647	30,527	25,353	7,724	12,546	3,303	1,829	817	516	910	425	361	575	330
1999	21,441	34,512	24,600	9,907	13,535	3,538	1,985	861	746	1,019	445	375	527	337
2000	22,791	36,800	25,199	11,347	14,641	4,030	1,967	946	807	987	460	402	539	334
2001	21,001	32,214	24,753	10,655	13,108	3,864	1,836	1,038	773	906	463	413	515	329
2002	22,028	30,756	24,351	12,094	13,370	4,112	1,999	1,132	928	958	477	440	508	340
2003	23,029	33,134	23,443	13,451	13,738	4,409	2,229	1,270	1,100	973	543	489	569	367
2004	26,419	36,059	24,403	15,029	14,986	4,898	2,479	1,486	1,188	1,040	620	554	655	392
2005	28,498	35,633	25,998	17,551	16,023	5,319	2,709	1,726	1,300	1,159	716	637	719	399
2006	31,616	34,150	27,489	19,707	16,451	5,951	3,174	2,064	1,636	1,351	791	724	821	419
2007	36,527	34,268	29,783	21,653	17,123	6,967	3,759	2,645	1,916	1,624	989	835	905	469
2008	39,266	38,271	30,696	19,162	17,480	8,143	4,108	3,404	2,238	1,848	1,066	1,048	1,018	528
2009	36,379	39,740	29,803	17,074	16,372	6,950	3,941	3,735	2,329	1,748	1,032	1,068	989	583
2010	42,653	42,325	31,799	20,165	18,304	7,755	4,621	4,283	2,963	2,011	1,176	1,156	1,049	641
2011	44,968	44,682	33,870	21,529	19,348	8,239	4,888	4,764	3,270	2,219	1,297	1,272	1,123	691
GDP (current US$ billions)														
1992	52	3,782	104	338	220	60	109	488	153	53	292	10	59	31
1993	60	4,341	120	372	232	68	122	613	175	54	285	13	63	33
1994	73	4,779	136	436	253	76	144	559	195	64	324	16	63	36
1995	87	5,264	144	531	275	90	168	728	223	76	368	21	74	40
1996	95	4,643	159	573	288	102	182	856	251	84	379	25	77	42
1997	99	4,262	176	532	299	102	151	953	238	84	424	27	76	43
1998	85	3,857	167	358	275	73	112	1,019	105	67	428	27	76	45
1999	85	4,369	163	462	299	80	123	1,083	155	76	457	29	71	47
2000	94	4,667	169	533	326	94	123	1,198	166	76	480	31	74	47
2001	88	4,095	167	505	294	93	116	1,325	161	71	491	33	72	47
2002	91	3,918	164	576	301	101	127	1,454	196	77	514	35	73	50
2003	96	4,229	159	644	311	110	143	1,641	235	80	595	40	84	54
2004	113	4,606	166	722	340	125	161	1,932	257	87	690	45	98	59
2005	125	4,552	178	845	365	138	176	2,257	286	99	810	53	110	61
2006	145	4,363	190	952	376	157	207	2,713	364	118	908	61	127	65
2007	177	4,378	207	1,049	393	187	247	3,494	432	144	1,152	71	143	74
2008	193	4,887	215	931	403	222	272	4,520	511	167	1,261	90	164	84
2009	182	5,069	211	833	379	193	264	4,985	539	161	1,237	93	162	95
2010	217	5,391	226	986	427	219	313	5,745	695	189	1,430	102	175	105
2011	233	5,683	243	1,056	455	237	334	6,422	777	213	1,598	114	190	115

Note: Estimates or forecasts as of October 2010; cells shaded in grey indicate years of economic downturns (see Table 1).
Source: International Monetary Fund (2010).

Table 4: Per capita GDP and GDP in Asia's Large Economies in International (PPP-Adjusted) Dollars

	Advanced economies					Developing economies								
Year	Singa-pore	Japan	Hong Kong	Korea	Tai-wan	Ma-lay-sia	Thai-land	China	Indo-nesia	Philip-pines	India	Viet-nam	Paki-stan	Ban-gla-desh
Per capita GDP (International dollars)														
1992	20,332	20,661	19,719	9,432	11,886	5,905	3,520	1,026	1,795	1,769	943	773	1,430	569
1993	22,575	21,085	20,979	10,147	12,848	6,361	3,847	1,182	1,928	1,804	991	839	1,442	595
1994	24,716	21,655	22,259	11,157	13,992	6,900	4,226	1,350	2,083	1,877	1,054	917	1,490	622
1995	26,257	22,464	22,685	12,282	15,067	7,521	4,684	1,513	2,265	1,981	1,133	1,009	1,557	652
1996	27,680	23,445	23,354	13,288	16,078	8,239	5,018	1,678	2,450	2,088	1,219	1,106	1,624	684
1997	29,569	24,174	24,777	14,169	17,085	8,793	4,990	1,848	2,572	2,185	1,344	1,199	1,630	719
1998	28,295	23,882	23,308	13,413	17,726	8,047	4,463	1,996	2,226	2,149	1,405	1,263	1,652	750
1999	30,252	24,154	24,057	14,964	18,919	8,463	4,684	2,162	2,243	2,206	1,447	1,322	1,698	787
2000	32,251	25,334	26,240	16,495	20,280	9,169	4,962	2,376	2,441	2,320	1,518	1,423	1,777	834
2001	32,281	25,892	26,891	17,408	20,278	9,135	5,140	2,613	2,552	2,365	1,585	1,535	1,814	879
2002	34,702	26,325	27,848	18,849	21,580	9,579	5,456	2,878	2,674	2,458	1,657	1,648	1,865	920
2003	36,618	27,222	29,137	19,697	22,769	10,159	5,920	3,217	2,825	2,582	1,779	1,781	1,949	977
2004	40,330	28,703	32,298	21,138	24,942	10,902	6,350	3,614	3,005	2,764	1,942	1,949	2,083	1,051
2005	43,976	30,315	35,550	22,783	26,657	11,610	6,838	4,103	3,207	2,935	2,153	2,143	2,231	1,134
2006	47,319	31,943	38,877	24,662	28,888	12,478	7,404	4,749	3,449	3,130	2,402	2,365	2,401	1,229
2007	50,130	33,657	42,310	26,597	31,405	13,449	7,942	5,553	3,727	3,383	2,677	2,609	2,564	1,325
2008	51,247	33,996	43,816	27,716	32,215	14,149	8,243	6,188	3,985	3,515	2,868	2,801	2,617	1,414
2009	50,180	32,554	42,653	27,938	31,776	13,800	8,051	6,778	4,151	3,516	3,015	2,942	2,683	1,487
2010	57,238	33,828	45,277	29,791	34,743	14,603	8,644	7,518	4,380	3,726	3,291	3,123	2,790	1,566
2011	59,582	34,832	47,635	31,404	36,420	15,304	9,009	8,304	4,648	3,868	3,563	3,339	2,856	1,662
GDP (International dollars, billions)														
1992	66	2,569	116	413	247	111	203	1,203	334	114	847	53	163	69
1993	75	2,631	126	448	270	124	224	1,401	365	119	909	58	169	73
1994	85	2,709	136	498	296	139	250	1,618	400	127	985	65	179	78
1995	93	2,818	142	554	322	156	279	1,832	442	135	1,080	73	192	84
1996	102	2,947	151	605	346	174	301	2,054	486	146	1,184	81	205	89
1997	112	3,046	161	651	371	190	302	2,284	518	156	1,329	89	210	96
1998	111	3,017	153	621	389	178	273	2,490	455	157	1,415	95	218	102
1999	120	3,058	160	698	418	192	289	2,719	465	165	1,483	101	229	109
2000	133	3,213	176	775	452	213	310	3,011	501	179	1,582	110	244	117
2001	135	3,292	181	824	454	219	324	3,334	531	186	1,681	121	255	126
2002	143	3,354	187	898	486	235	346	3,697	564	197	1,786	131	267	134
2003	153	3,474	197	943	515	254	379	4,158	603	211	1,949	144	286	145
2004	172	3,666	220	1,015	566	278	413	4,698	650	231	2,162	160	312	158
2005	194	3,873	243	1,097	607	301	445	5,364	705	250	2,434	178	340	174
2006	217	4,081	269	1,191	661	329	483	6,242	768	272	2,756	199	373	191
2007	243	4,300	294	1,289	721	361	522	7,338	841	300	3,118	222	406	209
2008	252	4,341	307	1,347	742	386	547	8,217	911	318	3,390	241	421	226
2009	251	4,152	301	1,362	735	383	539	9,047	961	324	3,615	257	439	241
2010	292	4,309	322	1,457	810	412	585	10,084	1,027	350	4,001	276	465	258
2011	309	4,430	342	1,541	857	439	616	11,195	1,104	371	4,393	298	484	277

Note: Estimates or forecasts as of October 2010; cells shaded in grey indicate years of economic downturns (see Table 1).
Source: International Monetary Fund (2010).

Table 5: Consumer Price Inflation and Currency Appreciation/Depreciation Rates (percent)

	Advanced economies					Developing economies								
Year	Singa-pore	Japan	Hong Kong	Korea	Tai-wan	Ma-lay-sia	Thai-land	China	Indo-nesia	Philip-pines	India	Viet-nam	Paki-stan	Ban-gla-desh
Consumer price inflation (percentage change of consumer prices in domestic currency)														
1992	2.3	1.6	9.5	6.2	4.5	4.8	4.2	6.4	7.5	8.9	11.8	37.7	4.9	3.6
1993	2.3	1.3	8.8	4.8	2.9	3.5	3.3	14.7	9.7	7.6	6.4	8.4	9.8	3.0
1994	3.1	0.6	8.8	6.3	4.1	3.7	5.1	24.1	8.5	9.0	10.2	9.5	11.3	6.2
1995	1.7	-0.1	9.0	4.5	3.7	3.5	5.8	17.1	9.4	8.1	10.2	16.9	13.0	10.1
1996	1.4	0.1	6.3	4.9	3.1	3.5	5.9	8.3	7.0	9.1	9.0	5.6	10.8	2.5
1997	2.0	1.9	5.8	4.4	0.9	2.7	5.6	2.8	6.2	5.8	7.2	3.1	11.8	5.0
1998	-0.3	0.6	2.8	7.5	1.7	5.3	8.1	-0.8	58.0	9.7	13.2	8.1	7.8	8.6
1999	0.0	-0.3	-3.9	0.8	0.2	2.7	0.3	-1.4	20.8	6.4	4.7	4.1	5.7	6.2
2000	1.3	-0.8	-3.7	2.3	1.3	1.6	1.5	0.4	3.8	4.0	4.0	-1.8	3.6	2.5
2001	1.0	-0.7	-1.6	4.1	-0.0	1.4	1.6	0.7	11.5	6.8	3.8	-0.3	4.4	1.9
2002	-0.4	-0.9	-3.0	2.8	-0.2	1.8	0.7	-0.8	11.8	3.0	4.3	4.1	2.5	3.7
2003	0.5	-0.3	-2.6	3.5	-0.3	1.1	1.8	1.2	6.8	3.5	3.8	3.3	3.1	5.4
2004	1.7	0.0	-0.4	3.6	1.6	1.4	2.8	3.9	6.1	6.0	3.8	7.9	4.6	6.1
2005	0.5	-0.3	0.9	2.8	2.3	3.0	4.5	1.8	10.5	7.6	4.2	8.4	9.3	7.0
2006	1.0	0.3	2.0	2.2	0.6	3.6	4.6	1.5	13.1	6.2	6.2	7.5	7.9	6.8
2007	2.1	0.0	2.0	2.5	1.8	2.0	2.2	4.8	6.0	2.8	6.4	8.3	7.8	9.1
2008	6.6	1.4	4.3	4.7	3.5	5.4	5.5	5.9	9.8	9.3	8.3	23.1	12.0	8.9
2009	0.6	-1.4	0.5	2.8	-0.9	0.6	-0.8	-0.7	4.8	3.2	10.9	6.7	20.8	5.4
2010	2.8	-1.0	2.7	3.1	1.5	2.2	3.0	3.5	5.1	4.5	13.2	8.4	11.7	8.5
2011	2.4	-0.3	3.0	3.4	1.5	2.1	2.8	2.7	5.5	4.0	6.7	8.0	13.5	6.9
Currency appreciation (+) or depreciation (-) (percentage change of domestic currency per US$)														
1992	6.1	6.4	0.4	-6.1	6.6	8.0	0.7	-3.5	-3.9	7.7	-12.3	-10.4	-8.9	-6.0
1993	0.8	13.9	0.1	-2.7	-4.6	-1.0	-0.5	-4.3	-2.7	-5.9	-15.0	5.3	-4.3	-1.6
1994	5.8	8.8	0.1	-0.1	-0.3	-1.9	3.3	-33.1	-3.4	2.7	-2.8	-3.0	-13.9	-1.6
1995	7.8	8.7	-0.1	4.2	-0.1	4.8	0.9	3.2	-3.9	4.7	-3.2	-0.3	-2.2	-0.2
1996	0.5	-13.5	0.0	-4.1	-3.5	-0.5	-1.7	0.4	-4.2	-2.0	-8.5	-0.1	-8.1	-3.6
1997	-5.0	-10.1	-0.1	-15.4	-4.3	-10.6	-19.2	0.3	-19.3	-11.2	-2.4	-5.5	-13.9	-4.8
1998	-11.3	-7.6	-0.0	-32.1	-14.2	-28.3	-24.2	0.1	-70.9	-27.6	-12.0	-12.0	-9.7	-6.4
1999	-1.3	14.9	-0.2	17.9	3.7	3.3	9.4	0.0	27.5	2.4	-4.3	-4.9	-14.5	-4.4
2000	-1.7	5.7	-0.4	5.1	3.3	-0.0	-5.7	-0.0	-6.4	-11.5	-4.1	-1.6	-2.9	-5.9
2001	-3.8	-11.3	-0.1	-12.4	-7.6	0.0	-9.7	0.0	-18.1	-13.3	-4.8	-4.3	-11.3	-6.6
2002	0.1	-3.1	-0.0	3.2	-2.2	-0.0	3.4	0.0	10.0	-1.2	-2.9	-3.1	-4.9	-3.6
2003	2.8	8.2	0.2	5.0	0.4	-0.0	3.6	-0.0	8.6	-4.8	4.4	-1.5	4.9	-0.5
2004	3.1	7.2	-0.0	4.0	3.0	0.0	3.1	0.0	-4.0	-3.3	2.8	-1.5	1.5	-2.3
2005	1.6	-1.8	0.1	11.8	3.9	0.4	0.0	1.0	-8.0	1.7	2.7	-0.7	-3.0	-7.5
2006	4.7	-5.2	0.1	7.3	-1.1	3.5	6.2	2.8	5.9	7.3	-2.7	-0.8	-0.8	-5.6
2007	5.4	-1.2	-0.4	2.7	-0.9	6.5	9.7	4.8	0.3	11.2	9.5	-0.6	-1.3	-1.1
2008	6.5	13.9	0.2	-15.7	4.1	3.0	3.6	9.5	-5.6	4.1	-5.0	-2.2	-3.1	0.2
2009	-2.7	10.5	0.5	-13.7	-4.6	-5.4	-2.8	1.7	-7.0	-7.0	-9.5	-7.6	-20.5	-0.4
2010	5.5	5.7	-0.3	9.1	3.5	3.6	6.8	0.8	14.6	5.0	-2.9	-6.2	-6.3	-0.5
2011	0.5	5.1	-0.0	-1.1	1.5	-0.0	0.9	-1.2	-0.2	3.5	-3.4	-4.0	-6.7	-2.2

Note: Estimates or forecasts as of October 2010; cells shaded in grey indicate years of economic downturns (see Table 1).

Source: International Monetary Fund (2010).

Table 6: Fiscal and External Balances Relative to GDP (percent of GDP)

	Advanced economies					Developing economies								
Year	Singa-pore	Japan	Hong Kong	Korea	Tai-wan	Ma-lay-sia	Thai-land	China	Indo-nesia	Philip-pines	India	Viet-nam	Paki-stan	Ban-gla-desh
General government net lending(+) or borrowing(-)														
1992	11.9	0.8	3.0	-	-5.2	0.4	-	-2.3	-	-1.9	-6.9	-	-	-4.5
1993	17.1	-2.4	2.3	-	-6.0	2.2	-	-1.8	-	-1.4	-7.3	-	-7.1	-4.4
1994	18.3	-3.7	1.1	-	-5.7	4.9	-	-2.6	-	-1.5	-7.0	-	-5.3	-4.5
1995	16.4	-4.6	-0.3	2.4	-6.3	1.2	3.1	-2.0	-	-1.2	-6.3	-	-5.7	-5.2
1996	14.4	-5.1	2.2	2.6	-6.8	1.4	2.7	-1.5	-	-0.4	-6.4	-	-6.0	-4.3
1997	18.2	-4.0	6.7	2.3	-6.0	3.7	-1.7	-1.7	-	-0.7	-6.7	-	-5.3	-4.0
1998	9.4	-5.6	-1.7	0.9	-5.6	0.3	-6.3	-2.8	-	-2.7	-7.8	-1.6	-6.0	-3.5
1999	10.6	-7.4	0.8	0.5	-7.2	-1.2	-9.0	-3.7	-	-4.3	-9.0	-3.3	-3.9	-3.8
2000	10.0	-7.6	-0.6	3.4	-6.0	-4.4	-1.8	-3.3	-2.0	-4.5	-9.3	-4.3	-4.1	-5.1
2001	4.0	-6.3	-4.7	1.7	-8.7	-4.5	-1.8	-2.8	-2.7	-4.5	-9.5	-3.8	-2.9	-5.0
2002	3.4	-8.0	-4.7	2.2	-5.4	-4.5	-6.7	-3.0	-0.9	-5.3	-9.3	-3.3	-3.8	-4.6
2003	2.0	-8.0	-3.1	2.2	-3.5	-5.1	2.1	-2.4	-1.4	-4.8	-8.7	-4.8	0.1	-3.4
2004	2.9	-6.2	-0.3	2.3	-3.8	-3.7	1.2	-1.5	-0.6	-4.0	-7.2	-1.8	-2.3	-3.1
2005	5.7	-4.8	1.1	2.1	-1.8	-3.0	1.5	-1.4	0.6	-3.0	-6.4	-3.7	-4.2	-3.3
2006	5.3	-4.0	4.3	2.4	-1.6	-2.1	2.2	-0.7	0.2	-1.4	-5.3	-0.4	-4.8	-3.2
2007	10.0	-2.4	8.1	4.2	-1.4	-2.6	0.2	0.9	-1.2	-1.5	-4.0	-1.9	-5.5	-3.2
2008	5.2	-4.1	0.1	1.7	-2.4	-3.2	0.1	-0.4	-0.0	-1.3	-7.4	-0.9	-7.3	-5.1
2009	-0.8	-10.2	1.6	0.0	-5.8	-5.5	-3.2	-3.0	-1.6	-3.9	-9.6	-8.9	-4.9	-3.7
2010	2.4	-9.6	1.6	1.4	-3.8	-4.6	-2.7	-2.9	-1.5	-3.9	-9.2	-6.0	-6.2	-2.7
2011	1.5	-8.9	1.8	2.0	-2.5	-5.5	-2.3	-1.9	-1.7	-3.5	-8.5	-4.2	-3.6	-3.3
sum	168	-112	19	34	-95	-36	-22	-41	-13	-56	-152	-49	-89	-80
General government gross debt(-) or credit(+)														
2011	-95	-234	-1	-31	-38	-57	-45	-19	-26	-46	-71	-52	-57	-
Current account balance														
1992	11.3	3.0	3.0	-1.2	3.9	-3.7	-5.5	1.3	-2.0	-1.9	-1.1	-0.1	-1.8	-0.4
1993	6.9	3.0	4.8	0.2	3.0	-4.5	-5.0	-1.9	-1.3	-5.5	-0.6	-10.6	-5.3	-0.4
1994	15.5	2.7	-0.8	-0.9	2.6	-7.4	-5.4	1.4	-1.5	-4.4	-0.5	-11.5	-2.6	-0.9
1995	16.4	2.1	-6.3	-1.6	2.0	-9.6	-7.9	0.2	-3.0	-2.6	-1.5	-1.2	-2.9	-2.3
1996	14.7	1.4	-2.5	-4.0	3.8	-4.4	-7.9	0.8	-2.9	-4.6	-1.6	-8.2	-5.4	-2.4
1997	15.4	2.3	-4.4	-1.6	2.4	-5.8	-2.1	3.9	-1.6	-5.2	-0.7	-5.7	-4.7	-1.5
1998	21.7	3.1	1.5	11.3	1.2	13.0	12.8	3.1	3.8	2.3	-1.6	-3.9	-2.2	-1.1
1999	17.0	2.6	6.3	5.3	2.7	15.7	10.2	1.4	3.7	-3.8	-0.7	4.1	-2.6	-0.9
2000	10.8	2.6	4.1	2.3	2.7	9.0	7.6	1.7	4.8	-2.9	-1.0	3.5	-0.3	-1.4
2001	12.8	2.1	5.9	1.6	6.4	7.9	4.4	1.3	4.3	-2.4	0.3	2.1	0.5	-0.9
2002	12.9	2.9	7.6	0.9	8.8	8.0	3.7	2.4	4.0	-0.4	1.4	-1.7	3.9	0.3
2003	22.8	3.2	10.4	1.9	9.8	12.0	3.4	2.8	3.5	0.4	1.5	-4.9	4.9	0.3
2004	17.1	3.7	9.5	3.9	5.8	12.1	1.7	3.6	0.6	1.9	0.1	-3.5	1.8	-0.3
2005	21.3	3.6	11.4	1.8	4.8	15.0	-4.3	7.1	0.1	2.0	-1.3	-1.1	-1.4	0.0
2006	24.2	3.9	12.1	0.6	7.0	16.4	1.1	9.3	3.0	4.5	-1.0	-0.3	-3.9	1.2
2007	26.7	4.8	12.3	0.6	8.9	15.9	6.3	10.6	2.4	4.9	-0.7	-9.8	-4.8	1.1
2008	18.5	3.2	13.6	-0.6	6.8	17.5	0.6	9.6	0.0	2.2	-2.0	-11.9	-8.5	1.9
2009	17.8	2.8	8.7	5.1	11.3	16.5	7.7	6.0	2.0	5.3	-2.9	-8.0	-5.7	3.3
2010	20.5	3.1	8.3	2.6	10.0	14.7	3.6	4.7	0.9	4.1	-3.1	-8.3	-2.0	2.5
2011	18.4	2.3	8.3	2.9	9.5	13.8	2.5	5.1	0.1	3.4	-3.1	-8.1	-3.1	1.1
sum	343	59	114	31	114	152	27	74	21	-3	-20	-89	-46	-1

Note: Estimates or forecasts as of October 2010; cells shaded in grey indicate years of economic downturns (see Table 1).

Source: International Monetary Fund (2010).

Table 7: Ratios of fixed investment and FDI flows to GDP (percent)

	Advanced economies					Developing economies								
Year	Singa-pore	Japan	Hong Kong	Korea	Tai-wan	Ma-lay-sia	Thai-land	China	Indo-nesia	Philip-pines	India	Viet-nam	Paki-stan	Ban-gla-desh
Ratios of Fixed Investmet to GDP														
1992	35.5	30.5	27.0	36.0	25.2	36.6	39.3	31.6	25.8	20.9	21.7	16.7	18.7	17.3
1993	34.7	29.4	26.9	35.4	26.2	38.9	39.6	37.7	26.3	23.8	22.7	21.8	19.2	17.9
1994	33.6	28.4	29.2	35.5	25.7	40.2	40.0	35.9	27.6	23.6	24.1	24.3	18.0	18.4
1995	33.4	27.9	30.0	36.4	26.1	43.6	41.1	34.4	28.4	22.2	24.0	25.4	17.0	19.1
1996	38.3	28.3	30.8	36.6	23.8	42.5	41.1	33.8	29.6	23.4	25.0	26.3	17.4	20.0
1997	39.0	27.7	33.1	34.6	24.1	43.1	33.8	32.9	28.3	24.4	24.4	26.7	16.3	20.7
1998	37.9	25.9	30.1	29.3	25.0	26.8	22.4	33.8	25.4	21.1	23.4	27.0	15.0	21.6
1999	34.1	25.5	25.7	28.6	24.4	21.9	20.8	34.0	20.1	19.1	24.0	25.7	13.9	22.2
2000	30.6	25.2	26.4	30.0	24.8	25.3	22.0	34.1	19.9	21.2	23.6	27.6	15.9	23.0
2001	29.9	24.7	25.6	28.8	20.5	25.1	23.0	34.4	19.7	17.9	22.9	29.2	15.7	23.1
2002	25.3	23.3	22.4	28.6	19.8	23.5	22.8	36.3	19.4	17.6	24.4	31.1	15.3	23.1
2003	23.8	22.8	21.2	29.3	19.8	22.4	24.1	39.4	19.5	16.8	26.6	33.4	15.1	23.4
2004	23.2	22.7	21.3	29.2	22.8	21.0	25.9	40.7	22.4	16.1	30.0	33.3	15.0	24.0
2005	21.1	23.3	20.9	28.9	22.4	20.5	28.9	40.1	23.6	14.4	31.5	32.9	17.5	24.5
2006	22.0	23.3	21.9	28.7	22.3	20.8	28.1	40.7	24.1	14.0	32.1	33.4	20.5	24.7
2007	23.7	22.9	20.1	28.5	22.0	21.6	26.4	39.1	24.9	14.7	34.2	38.3	20.9	24.5
2008	27.9	23.3	19.9	29.3	21.1	19.5	27.4	40.8	27.7	14.7	33.6	34.6	20.5	24.2
2009	28.7	20.6	20.9	29.3	18.7	20.1	24.4	45.6	31.1	14.7	33.7	34.5	17.4	24.4
a	30.2	25.3	25.2	31.3	23.0	28.5	29.5	37.0	24.7	18.9	26.8	29.0	17.2	22.0
s	5.9	2.8	4.2	3.3	2.3	9.3	7.5	3.7	3.8	3.7	4.4	5.4	2.1	2.5
Ratios of FDI flows to GDP														
1992	4.2	0.1	3.7	0.2	0.4	8.6	1.9	2.3	1.2	0.4	0.1	2.6	0.6	0.0
1993	7.7	0.0	5.8	0.2	0.4	7.4	1.5	4.5	1.1	2.3	0.2	2.3	0.6	0.0
1994	11.7	0.0	5.8	0.2	0.5	5.7	0.9	6.0	1.1	2.5	0.3	6.4	0.7	0.0
1995	13.2	0.0	4.3	0.3	0.6	4.6	1.2	4.9	1.9	2.0	0.6	8.6	1.0	0.0
1996	10.2	0.0	6.6	0.4	0.6	5.0	1.3	4.7	2.5	1.8	0.6	9.7	1.2	0.0
1997	13.9	0.1	6.4	0.5	0.8	5.1	2.6	4.6	2.0	1.5	0.8	8.3	0.9	0.3
1998	8.6	0.1	8.8	1.5	0.1	3.0	6.5	4.3	-0.2	3.4	0.6	6.1	0.7	0.4
1999	19.5	0.3	15.1	2.0	1.0	4.8	5.0	3.6	-1.2	1.6	0.5	4.9	0.7	0.4
2000	17.5	0.2	36.6	1.7	1.5	4.0	2.7	3.2	-2.7	3.0	0.7	4.2	0.4	0.6
2001	17.2	0.2	14.3	0.7	1.4	0.6	4.4	3.3	-1.9	0.3	1.1	4.0	0.5	0.2
2002	7.1	0.2	5.9	0.4	0.5	3.2	2.6	3.4	0.1	2.0	1.1	4.0	1.1	0.1
2003	12.4	0.1	8.6	0.5	0.1	2.2	3.7	2.9	-0.3	0.6	0.7	3.7	0.6	0.5
2004	18.7	0.2	20.5	1.3	0.6	3.7	3.6	2.8	0.7	0.8	0.8	3.5	1.1	0.8
2005	12.3	0.1	18.9	0.7	0.4	2.9	4.6	3.5	2.9	1.9	0.9	3.7	2.0	1.3
2006	20.0	-0.2	23.7	0.4	2.0	3.9	4.6	2.9	1.3	2.5	2.2	3.9	3.4	1.1
2007	21.0	0.5	26.3	0.2	2.0	4.6	4.6	4.0	1.6	2.0	2.2	9.4	3.9	0.9
2008	4.4	0.5	27.7	0.4	1.3	3.3	3.1	3.3	1.8	0.9	3.3	10.6	3.3	1.2
2009	8.4	0.2	24.9	0.3	0.7	0.7	1.9	1.6	0.9	1.2	2.9	8.2	1.5	0.7
2010	17.8	-0.0	30.4	-0.0	0.6	3.9	2.1	1.6	1.8	0.9	1.6	7.9	1.2	1.0
a	12.7	0.1	14.7	0.7	0.8	4.1	3.2	3.7	0.7	1.7	1.1	5.8	1.3	0.5
s	5.4	0.2	10.0	0.6	0.6	2.0	1.6	1.1	1.5	0.9	0.9	2.7	1.1	0.4

Note: GDP data are estimates or forecasts as of October 2010; cells shaded in grey indicate years of economic downturns (see Table 1); *a* =mean for 1992-2009; *s* =standard deviation for 1992-2009.

Sources: IMF (2010, 2011), ADB (various years), UNCTAD (2011), and national sources; see Appendix A for details on FDI sources.

Table 8: Ratios of FDI Stocks to GDP (percent)

	Advanced economies					Developing economies								
Year	Singa-pore	Japan	Hong Kong	Korea	Tai-wan	Ma-lay-sia	Thai-land	China	Indo-nesia	Philip-pines	India	Viet-nam	Paki-stan	Ban-gla-desh
Ratios of FDI stocks to GDP														
1992	61.0	0.2	28.4	1.9	3.7	35.2	10.6	6.9	4.9	6.5	0.1	7.6	3.2	0.1
1993	60.2	0.2	30.4	1.9	3.9	38.5	11.0	10.0	5.4	8.6	0.3	8.0	3.6	0.1
1994	61.4	0.2	32.7	1.8	4.2	40.4	10.3	17.0	5.9	9.8	0.6	12.9	4.2	0.1
1995	64.9	0.2	35.0	1.8	4.4	38.5	10.1	18.0	7.1	10.3	1.1	18.7	4.6	0.1
1996	69.5	0.2	38.3	2.1	4.8	38.8	10.6	20.0	8.8	11.0	1.7	25.4	5.6	0.1
1997	80.5	0.3	41.0	2.8	5.4	44.2	15.3	22.6	11.2	12.5	2.4	31.6	6.6	0.5
1998	102.6	0.4	52.2	5.7	6.0	64.2	27.2	25.4	25.1	19.2	3.0	37.3	7.3	0.9
1999	122.3	0.6	68.4	6.4	6.5	63.4	29.8	27.5	15.9	18.4	3.2	40.3	8.6	1.2
2000	127.6	0.8	102.6	7.3	7.4	58.4	32.5	28.1	12.1	21.4	3.8	41.3	8.6	1.8
2001	154.4	1.0	118.5	8.4	9.7	59.6	38.9	28.7	10.7	23.1	4.9	43.6	9.4	2.0
2002	156.4	1.3	126.4	7.8	9.9	58.0	38.1	29.6	8.8	23.4	5.7	44.4	10.5	2.0
2003	160.2	1.4	139.2	7.5	9.7	55.3	37.5	29.1	7.1	23.2	5.7	43.0	9.7	2.3
2004	155.1	1.4	153.5	8.0	9.5	52.6	36.8	27.5	7.2	22.1	5.7	41.0	9.4	2.9
2005	151.7	1.5	162.2	7.6	9.3	50.4	38.3	27.1	9.4	21.3	5.8	38.9	10.5	4.1
2006	151.2	1.4	175.5	7.1	10.9	48.2	37.1	25.4	8.7	20.4	7.4	37.7	12.3	4.9
2007	145.0	1.9	187.2	6.6	12.5	45.0	35.7	23.7	9.0	18.7	8.1	41.8	14.9	5.2
2008	137.0	2.2	207.9	7.8	13.5	41.2	35.5	21.6	9.4	17.0	10.7	43.5	16.3	5.8
2009	153.8	2.4	237.3	9.0	15.1	48.1	38.5	21.1	9.8	18.8	13.7	50.3	18.0	5.9
2010	146.7	2.2	251.1	7.6	14.0	46.4	34.7	19.9	9.5	17.0	13.5	53.8	17.8	6.3
Changes in (First Differences of) Ratios of FDI stocks to GDP														
1993	-0.8	-0.0	2.0	-0.0	0.2	3.3	0.4	3.1	0.5	2.1	0.2	0.4	0.4	0.0
1994	1.2	0.0	2.3	-0.1	0.2	1.8	-0.8	7.0	0.5	1.2	0.3	4.9	0.6	0.0
1995	3.5	-0.0	2.3	0.0	0.2	-1.9	-0.2	1.0	1.2	0.5	0.5	5.8	0.4	-0.0
1996	4.6	0.0	3.3	0.3	0.4	0.4	0.5	2.0	1.7	0.7	0.6	6.8	1.0	0.0
1997	11.0	0.1	2.7	0.7	0.6	5.3	4.8	2.6	2.4	1.5	0.7	6.2	1.0	0.3
1998	22.1	0.1	11.2	2.9	0.5	20.1	11.9	2.8	13.9	6.7	0.6	5.7	0.7	0.4
1999	19.7	0.2	16.2	0.7	0.5	-0.8	2.6	2.1	-9.2	-0.8	0.3	3.0	1.2	0.4
2000	5.3	0.1	34.3	0.9	1.0	-5.1	2.7	0.6	-3.8	3.0	0.6	1.0	0.1	0.6
2001	26.8	0.3	15.8	1.1	2.2	1.2	6.4	0.7	-1.5	1.7	1.0	2.3	0.7	0.2
2002	2.1	0.3	7.9	-0.6	0.2	-1.6	-0.8	0.8	-1.8	0.3	0.9	0.8	1.1	0.0
2003	3.8	0.1	12.7	-0.3	-0.2	-2.7	-0.5	-0.5	-1.7	-0.2	-0.1	-1.3	-0.7	0.3
2004	-5.1	0.1	14.4	0.5	-0.3	-2.7	-0.7	-1.5	0.1	-1.2	0.1	-2.0	-0.3	0.6
2005	-3.4	0.1	8.6	-0.4	-0.2	-2.2	1.4	-0.5	2.2	-0.8	0.1	-2.1	1.0	1.2
2006	-0.5	-0.1	13.3	-0.5	1.7	-2.2	-1.1	-1.7	-0.7	-0.9	1.6	-1.2	1.9	0.8
2007	-6.2	0.5	11.7	-0.5	1.5	-3.1	-1.4	-1.7	0.2	-1.7	0.6	4.0	2.5	0.3
2008	-8.0	0.3	20.7	1.2	1.1	-3.9	-0.2	-2.1	0.4	-1.7	2.6	1.7	1.4	0.5
2009	16.7	0.2	29.4	1.2	1.6	7.0	3.0	-0.4	0.4	1.8	3.1	6.8	1.7	0.1
2010	-7.1	-0.2	13.7	-1.4	-1.1	-1.8	-3.9	-1.2	-0.4	-1.9	-0.2	3.5	-0.2	0.4
a	*4.8*	*0.1*	*12.4*	*0.3*	*0.6*	*0.6*	*1.3*	*0.7*	*0.3*	*0.6*	*0.7*	*2.6*	*0.8*	*0.3*
s	*10.5*	*0.2*	*9.1*	*1.0*	*0.8*	*5.8*	*3.6*	*2.3*	*4.3*	*2.1*	*0.9*	*3.1*	*0.8*	*0.3*

Note: GDP data are estimates or forecasts as of October 2010; cells shaded in grey indicate years of economic downturns (see Table 1); *a* =mean change and *s* =standard deviation of change in 1993-2010.

Sources: IMF (2010, 2011), ADB (various years), UNCTAD (2011), and national sources; see Appendix A for details on FDI sources.

Table 9: Ratios of Japanese FDI Stocks and Affiliate Sales to Host Economy GDP in Large Asian Recipients (percent)

	Advanced economies				Developing economies								
Year	Singa-pore	Hong Kong	Korea	Tai-wan	Ma-lay-sia	Thai-land	China	Indo-nesia	Philip-pines	India	Viet-nam	Paki-stan	Ban-gla-desh
Ratios of FDI Stocks (including finance) to GDP													
1996	12.0	5.9	0.6	1.4	5.6	8.7	0.9	6.9	3.4	0.2	-	-	-
1997	11.1	4.7	1.7	1.7	4.6	3.8	2.2	3.3	2.5	0.2	-	-	-
1998	11.1	5.5	1.1	1.5	6.0	5.1	1.8	10.9	3.6	0.2	-	-	-
1999	9.9	3.8	0.6	1.3	4.5	3.8	0.7	2.9	2.6	0.2	-	-	-
2000	9.4	3.9	0.8	1.1	4.3	3.9	0.7	2.9	2.7	0.2	-	-	-
2001	11.6	3.3	0.9	1.2	4.6	5.3	0.8	3.1	2.9	0.2	-	-	-
2002	11.5	3.3	0.9	1.2	3.9	4.9	0.8	2.8	3.9	0.3	-	-	-
2003	10.2	3.6	0.8	1.4	3.6	5.4	0.9	2.9	4.0	0.3	-	-	-
2004	9.9	3.8	0.9	1.6	3.3	6.1	1.0	2.5	3.8	0.3	1.3	-	-
2005	9.4	3.8	1.0	1.6	3.5	6.6	1.1	2.7	3.5	0.2	1.4	-	-
2006	9.8	4.1	1.1	1.7	4.9	7.2	1.1	2.0	3.6	0.3	2.0	-	-
2007	9.9	4.4	1.1	2.0	4.3	7.9	1.1	1.9	4.0	0.4	2.4	-	-
2008	10.0	5.4	1.3	2.2	3.5	7.5	1.1	1.7	4.6	0.7	3.6	-	-
2009	13.0	6.2	1.5	2.5	4.2	8.6	1.1	1.8	5.1	0.7	3.6	-	-
2010	12.6	6.6	1.4	2.2	4.1	8.0	1.1	1.4	4.6	0.8	4.0	-	-
Ratios of Affiliate Sales (excluding finance, adjusted to account for non-reporters) to GDP													
1995	92.2	48.4	3.9	13.1	38.2	34.6	2.1	8.8	8.6	1.0	0.6	0.4	0.1
1996	90.3	44.7	3.8	11.8	37.3	33.8	2.3	7.1	10.6	1.3	1.7	0.7	0.3
1997	81.9	38.7	3.8	12.1	34.8	30.9	2.8	7.5	13.1	1.2	2.8	0.6	0.3
1998	74.5	33.8	4.4	11.4	36.0	30.7	2.7	10.4	13.3	1.1	4.3	0.6	0.2
1999	80.3	36.7	5.0	12.6	40.4	34.4	3.1	13.8	15.0	1.5	6.3	0.7	0.2
2000	89.8	43.8	5.6	12.8	42.1	37.9	3.3	12.8	16.3	1.2	7.8	0.8	0.2
2001	81.3	41.1	4.2	11.4	35.8	36.5	3.2	12.4	19.9	1.2	7.4	0.8	0.1
2002	81.1	42.6	4.0	11.4	30.9	37.2	3.3	9.9	18.7	1.2	7.8	0.8	0.1
2003	76.9	50.2	4.1	11.5	33.5	38.4	3.9	9.1	19.2	1.5	8.8	0.9	0.1
2004	77.6	53.9	4.1	12.1	32.0	44.6	4.4	10.9	17.5	1.5	10.0	1.7	0.1
2005	81.5	54.6	4.6	12.1	27.3	48.2	4.6	11.9	16.2	1.6	10.1	1.9	0.1
2006	72.9	46.5	4.2	13.1	21.7	47.1	5.0	9.2	12.0	1.8	10.3	1.7	-
Ratios of Affiliate Sales (excluding finance, unadjusted estimates) to GDP													
2006	75.8	48.2	4.9	14.0	22.2	48.0	5.2	9.4	12.3	1.8	10.9	-	-
2007	61.6	46.4	4.5	11.3	18.0	50.5	5.3	9.4	10.3	1.7	12.5	-	-
2008	56.2	43.0	4.4	9.7	15.2	43.9	4.9	9.3	11.4	1.4	11.8	-	-
2009	45.6	37.6	3.8	9.6	14.8	41.2	5.0	10.5	10.4	1.9	13.1	-	-

Note: GDP data are estimates or forecasts as of October 2010; cells shaded in grey indicate years of economic downturns (see Table 1); FDI stock estimates for 2010 and for Vietnam in 2004-2006 are extrapolated from 2009 and 2007 stock estimates by adding or subtracting FDI flow estimates; FDI stocks include finance but affiliate sales exclude finance; -=not available or not disclosed.

Sources: International Monetary Fund (2010), Bank of Japan (2011), Japan, METI (various years), Research Institute for Economy Trade and Industry (2011).

Table 10: Ratios of U.S. FDI Stocks and Affiliate Sales to Host Economy GDP in Large Asian Recipients (percent)

	Advanced economies					Developing economies								
Year	Singa-pore	Japan	Hong Kong	Korea	Tai-wan	Ma-lay-sia	Thai-land	China	Indo-nesia	Philip-pines	India	Viet-nam	Paki-stan	Ban-gla-desh
Ratios of FDI Stocks (including depository institutions) to Host Economy GDP														
1992	12.9	0.7	8.4	0.9	1.3	2.7	0.5	0.5	2.9	3.1	0.2	0.0	0.4	-
1993	14.7	0.7	8.4	0.9	1.3	2.9	0.8	0.5	2.8	3.6	0.2	0.0	0.4	-
1994	14.9	0.7	8.2	1.0	1.5	4.2	1.8	0.6	3.3	3.9	0.3	0.1	0.6	0.1
1995	13.9	0.7	8.2	1.0	1.6	4.7	1.6	0.6	3.0	3.6	0.3	-0.1	0.6	0.1
1996	15.7	0.7	9.1	1.1	1.6	5.5	2.1	0.6	3.3	4.2	0.4	0.1	0.6	0.1
1997	18.2	0.8	9.8	1.2	1.7	6.4	3.4	0.5	2.8	3.8	0.4	0.1	0.7	0.2
1998	20.6	1.1	10.5	2.1	2.3	7.7	5.7	0.5	7.7	5.9	0.4	-	0.7	0.4
1999	24.3	1.3	13.9	1.6	2.3	7.7	7.7	0.5	5.4	4.6	0.5	0.6	0.8	0.4
2000	25.6	1.2	16.2	1.7	2.4	8.4	9.1	0.5	5.4	4.8	0.5	0.5	0.6	0.4
2001	46.5	1.4	19.5	2.0	3.2	8.1	10.5	0.5	6.5	7.6	0.5	0.5	0.7	0.4
2002	56.2	1.7	24.6	2.1	3.4	7.0	8.3	0.5	-	7.8	0.8	0.5	0.8	0.4
2003	53.2	1.4	23.0	2.0	3.9	6.4	7.9	0.4	-	8.0	0.8	0.6	0.9	0.3
2004	54.2	1.5	19.7	2.5	-	7.1	10.9	0.4	-	7.1	1.1	0.5	0.9	0.6
2005	60.9	1.8	20.5	2.3	3.9	8.0	10.8	0.5	3.0	6.6	0.9	0.5	1.0	0.3
2006	56.4	1.9	20.9	2.9	4.5	7.1	12.8	0.4	2.6	5.9	1.1	0.4	0.9	0.6
2007	52.9	1.9	19.7	2.2	4.0	6.5	12.0	0.3	3.5	4.8	1.3	0.6	-	0.3
2008	44.5	2.1	18.6	2.4	4.5	5.5	19.3	0.2	3.2	3.3	1.3	0.5	-	0.3
2009	42.2	2.0	24.0	3.2	5.2	7.0	18.7	0.2	3.0	3.6	1.5	0.6	0.3	0.3
2010	41.0	2.0	23.0	3.0	5.1	8.0	16.6	0.3	2.2	3.6	1.7	-	-	-
Ratios of Affiliate Sales (excluding depository institutions) to Host Economy GDP														
1992	66.5	4.3	22.7	3.5	4.8	15.1	7.8	0.5	5.4	10.2	0.6	-	-	0.1
1993	64.4	4.1	22.4	3.5	5.0	14.5	7.7	0.4	4.7	10.5	0.6	-	-	0.1
1994	65.7	4.2	22.9	3.4	6.1	16.0	7.9	0.8	4.5	10.3	-	0.0	-	0.1
1995	71.5	4.1	26.7	3.9	6.7	16.2	8.6	1.0	4.1	10.3	0.9	0.0	1.6	0.1
1996	80.7	4.4	27.3	3.9	5.9	16.4	9.0	1.3	4.2	10.3	1.0	0.0	1.8	0.2
1997	83.6	4.8	27.8	4.2	5.9	19.2	10.1	1.8	4.3	10.5	1.1	0.1	-	0.3
1998	88.5	4.7	27.3	4.9	6.3	27.0	15.2	1.4	7.1	11.5	1.2	0.2	1.7	0.3
1999	96.0	4.5	29.8	5.2	7.1	29.1	19.1	1.6	6.9	11.9	1.4	-	-	0.3
2000	104.4	5.3	34.7	6.3	8.4	29.9	24.4	1.8	7.7	14.2	1.7	-	2.4	0.3
2001	99.8	6.2	31.7	5.9	9.2	30.9	31.6	1.7	9.3	15.5	2.0	-	2.6	0.4
2002	98.3	6.5	31.7	5.7	9.1	30.8	36.8	1.5	7.3	15.8	2.0	-	3.1	0.6
2003	108.0	6.6	35.8	6.3	9.1	31.8	39.7	1.4	6.9	15.4	1.9	-	2.9	-
2004	126.2	6.6	38.9	7.1	9.8	31.5	45.2	1.6	6.5	14.2	2.2	-	2.5	-
2005	138.3	7.2	42.5	7.6	10.4	32.5	52.5	1.7	6.4	13.7	2.5	-	2.8	-
2006	143.8	6.8	44.5	8.4	10.9	31.3	55.7	1.6	6.5	13.3	2.7	-	2.8	-
2007	139.4	6.8	45.3	9.5	11.2	25.9	56.4	1.3	6.3	11.5	2.9	-	-	-
2008	148.3	6.6	41.6	11.3	11.0	23.5	63.0	1.2	5.5	10.2	3.3	-	-	0.8

Note: GDP data are estimates or forecasts as of October 2010; cells shaded in grey indicate years of economic downturns (see Table 1); FDI stock estimates for 2010 are extrapolated from 2009 stock estimates by adding 2010 FDI flows; -=not disclosed.

Sources: International Monetary Fund (2010), United States, Bureau of Economic Analysis, International Investment Division (2011).

Table 11: Ratios of Employment in Japanese and U.S. Affiliates to Host Economy Employment (percent)

	Advanced economies					Developing economies								
Year	Singa-pore	Japan	Hong Kong	Korea	Tai-wan	Ma-lay-sia	Thai-land	China	Indo-nesia	Philip-pines	India	Viet-nam	Paki-stan	Ban-gla-desh
Japanese Affiliates (excluding finance, adjusted to account for non-reporters)														
1995	4.36	-	2.32	0.28	1.04	2.50	0.71	0.03	0.21	0.26	-	0.02	0.01	-
1996	4.53	-	2.79	0.30	1.22	2.79	0.93	0.05	0.26	0.35	-	0.04	0.01	0.01
1997	4.12	-	2.46	0.27	1.25	2.69	0.94	0.06	0.28	0.43	-	0.05	0.01	-
1998	3.94	-	2.83	0.28	1.24	2.70	1.01	0.07	0.28	0.50	-	0.08	0.01	-
1999	3.98	-	3.29	0.31	1.21	2.92	1.07	0.07	0.31	0.53	-	0.10	0.01	-
2000	3.72	-	3.50	0.32	1.22	2.94	1.15	0.08	0.35	0.54	0.02	0.11	0.01	0.01
2001	3.57	-	4.42	0.30	1.30	2.72	1.14	0.09	0.35	0.51	-	0.13	0.01	-
2002	3.48	-	4.93	0.31	1.07	2.55	1.28	0.11	0.36	0.60	-	0.15	0.01	-
2003	3.55	-	5.51	0.32	1.09	2.64	1.36	0.14	0.36	0.60	-	0.18	0.01	0.01
2004	3.22	-	6.05	0.32	1.10	2.46	1.50	0.16	0.38	0.63	-	0.22	0.02	-
2005	2.91	-	6.61	0.31	1.08	2.42	1.60	0.18	0.39	0.62	0.02	0.26	0.02	-
2006	2.31	-	5.22	0.24	0.91	2.02	1.45	0.16	0.33	0.48	-	0.28	0.02	-
Japanese Affiliates (excluding finance, unadjusted)														
2006	2.86	-	5.43	0.27	1.02	2.07	1.49	0.17	0.34	0.51	-	0.29	0.00	0.00
2007	3.08	-	5.37	0.26	0.94	1.86	1.57	0.19	0.34	0.45	-	0.37	0.00	-
2008	2.94	-	4.42	0.29	0.94	1.63	1.47	0.17	0.30	0.51	-	0.35	0.00	-
2009	2.72	-	4.12	0.31	0.99	1.49	1.44	0.18	0.30	0.45	-	0.39	0.00	-
U.S. Affiliates (excluding depository institutions)														
1992	5.77	0.62	3.12	0.31	0.66	1.19	0.24	0.00	0.06	0.37	-	0.00	-	-
1993	6.14	0.64	3.25	0.30	0.65	1.15	0.25	0.01	0.07	0.35	-	-	-	-
1994	6.19	0.66	3.92	0.31	0.73	1.69	0.33	0.01	0.07	0.37	0.02	-	0.02	-
1995	6.40	0.66	4.24	0.31	0.78	1.88	0.37	0.02	0.07	0.41	-	-	0.02	-
1996	6.57	0.63	3.59	0.31	0.73	1.42	0.38	0.02	0.07	0.36	-	-	0.02	-
1997	6.76	0.62	3.76	0.28	0.76	1.62	0.42	0.03	0.08	0.35	-	0.00	0.03	-
1998	5.99	0.60	3.25	0.29	0.75	1.49	0.43	0.03	0.07	0.27	-	0.00	0.02	-
1999	6.38	0.62	3.14	0.37	0.88	1.45	0.42	0.04	0.08	0.31	-	0.01	0.02	-
2000	5.89	0.69	3.12	0.44	0.92	1.43	0.43	0.04	0.08	0.31	0.03	0.02	0.02	0.00
2001	5.61	0.82	2.80	0.38	0.93	1.37	0.41	0.04	0.09	0.28	-	0.01	0.02	-
2002	5.13	0.80	3.09	0.44	0.86	1.11	0.41	0.05	0.09	0.31	-	0.01	0.02	-
2003	4.83	0.79	3.52	0.46	0.79	0.96	0.35	0.05	0.08	0.28	-	0.01	0.02	-
2004	5.86	0.85	3.76	0.50	0.85	1.15	0.41	0.07	0.08	0.28	-	0.01	-	-
2005	5.82	0.97	3.60	0.52	0.93	1.26	0.42	0.08	0.13	0.29	0.06	0.01	0.03	-
2006	5.13	0.93	3.65	0.54	0.94	1.27	0.41	0.09	0.11	0.32	-	0.01	0.03	0.00
2007	4.72	0.97	3.57	0.52	1.02	1.06	0.43	0.10	0.11	0.35	-	0.01	-	-
2008	4.59	0.91	-	0.52	0.99	1.01	0.46	0.12	0.11	0.37	-	0.01	0.02	-

Note: Cells shaded in grey indicate years of economic downturns (see Table 1); -=not available, not disclosed, or not relevant.

Sources: Asian Development Bank (various years), Japan, METI (various years), Research Institute for Economy Trade and Industry (2011), United States, Bureau of Economic Analysis, International Investment Division (2011).