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ABSTRACT

In each of three financial and exchange rate crises, Latin America in 1982, Mexico in 1994, and East Asia in 1997, direct investment inflows into the affected countries have behaved differently from other forms of investment, and U.S. manufacturing affiliates have behaved differently from other firms in their host countries. Inflows of direct investment into the crisis countries have been much more stable than inflows of portfolio or other forms of investment. U.S. manufacturing affiliates have switched their sales from host-country to export markets to a greater extent and for a longer period than other host-country firms. They have switched markets partly by more sharply curtailing their local sales, at least in terms of U.S. dollar values. In the cases where we have the data, U.S. affiliates have also tended to sustain their capital expenditure levels during the crises.

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Introduction

The share of direct investment in the world's total capital outflows has increased over the last 25 or 30 years and direct investment flows have generally been less volatile than other types of capital flows (Lipsey, 1999). One reason for the difference is that if the direct investment flow results in the ownership and operation of productive facilities, the flow is not easily reversible. The facilities cannot easily be disposed of by their owners or profitably taken over by others. That is more true of manufacturing than of resource investment; some of the major expropriations or forced disposals have been of crude petroleum production facilities. Manufacturing operations are more likely to be incorporated into a multinational firm's international division of labor, more likely to have their operations closely interlocked with those of other units of the same firm, and more likely to have absorbed some of the multinational firm's technology.

Thus, by comparison with portfolio and other types of investment flows, direct investment is likely to be a relatively steady source of funds. The investors' horizons are longer to begin with, and they are more deeply involved with the host economies after the investments have been made.

One implication of the longer horizon of direct investors is that they may be less influenced than portfolio investors or lenders by financial or monetary crises, less likely to withdraw capital and more likely to continue producing and investing. In this paper I first examine the behavior of direct investors in general after each of three financial crises in host countries, comparing inflows and outflows of direct investment with those of portfolio and other types of foreign investment. I then focus on the operations of the foreign-owned firms and establishments that are the tangible reflections of these flows. I ask whether foreign-owned firms, and particularly U.S.-owned firms, for which the most data are available, responded differently from domestically-owned firms, in their production, employment, exports, and the allocation of their sales between local markets and exports. The first of the three crises discussed is the Latin American crisis or crises after 1982, discussed in an earlier article (Blomström and Lipsey, 1993), for which we have the longest span of years to observe responses. The second is the Mexican crisis in 1994, for which the span of observations is still short, and the third is the Asian crisis, which we date at 1997, and for which data on responses are still fragmentary.

The Latin American Crisis of 1982

All types of inward investment into Latin America declined after the 1982 currency crisis. Direct investment inflows remained positive, although at a lower level than before. The gross inflow of direct investment in 1983 was more than a quarter below the 1980-82 average and the 1984 inflow, the low point, was 40 per cent lower (Table 1). Only in 1988 was the 1980-1982 average exceeded, and even that year's inflow was a little below that of 1981. The story was much the same for the net inflow of direct investment, since there was little outward direct investment from Latin America.

The net portfolio investment inflow responded much more sharply to the crisis. It fell to only a quarter of the 1980-82 average in 1983 and then turned negative. Outflows exceeded inflows for four years before net portfolio investment recovered, in 1988, almost to the 1982 level.

Net inflows of "Other investment," much of it short-term, were four times the net inflows of direct investment in 1980-82. They did not turn negative until long after the crisis, in 1988, but they fluctuated much more than inflows of direct investment. At their low point, in 1985, net "Other investment" inflows were only a fifth of the 1980-82 average.

The longer- term involvement of direct investors, as compared to portfolio investors and banks, means that the host country will be concerned with the behavior of the foreign operations long after the initial investment takes place. One feature of their behavior in the Latin American episode of the 1980s was the export performance of the U.S. affiliates, in particular their decisive shift from domestic sales to exporting after the crisis, discussed in an earlier paper by Blomström and Lipsey (1993). With the enormous currency devaluations that took place after 1982 (Table 2), manufactured exports of the host countries and of U.S. affiliates located in them grew rapidly, even in terms of U.S. dollars. Affiliate exports in five heavily indebted countries, Brazil, Chile, Colombia, Mexico, and Venezuela, taken as a group, grew less quickly than their countries' exports in 1983. They then jumped ahead of the rest of the host country exporters in the rate of export growth, although not by a large margin (Tables 3 and 4).

The five-country totals of affiliate exports are dominated by affiliates in Brazil and Mexico. The export orientation was very different for U.S. affiliates in the two countries. In 1982, those in Brazil sent only 22 per cent of their exports to the United States, while those in Mexico sent 70 per cent of their exports there (U.S. Department of Commerce, 1985 (Tables III.E4 and III.E5). That may be one reason for the apparently larger response on the part of affiliates in Mexico to the devaluations of the currency relative to the U.S. dollar. However, the rise in U.S. income after the 1982 recession may also have had a greater effect on Mexico because of its closer trade links with the United States.

One way that the affiliates achieved rapid export growth was by market switching. They responded to the devaluations by switching sales from host country markets to export markets, particularly between 1982 and 1984, in the immediate aftermath of the crisis. The share of exports in total affiliate sales in the five heavily indebted countries, taken as a group, rose from 10 per cent or less to about 18 per cent in two years (Table 5). Affiliates in these countries had been less export oriented than those in the rest of Latin America in 1977 and 1982, but came to more or less match the others in 1984 and thereafter.

Market switching was not confined to U.S. affiliates. The devaluations induced other firms in the affected countries to raise the share of exports in their sales. It is not possible to get good measures for the countries comparable to those for affiliates, but ratios of exports of goods and services to GDP show the direction of the aggregate shift. In one of the two countries for which we have precise measures of the affiliate export ratios in 1982 and 1984, Brazil, the ratios of exports to GDP grew faster than the export/sales ratios of affiliates in those two years (Tables 5 and 6). However, the national ratios did not keep up with the affiliate ratios afterwards. By 1988, the affiliate export ratios had grown by more in the three countries for which we could measure them, especially in Mexico (Tables 5 and 6).

Market switching into export markets is a desired outcome from a devaluation, but there were some less desirable aspects. Immediately after the crisis, much of the gain in affiliate export propensities was achieved by reducing host country sales rather than by increasing exports. While affiliate exports, measured in U.S. dollars, rose in 1983 in the five countries as a group, and particularly in Brazil and Mexico (Table 3), affiliate local sales, also measured in U.S. dollars, fell sharply (Table 7). They fell by more than a quarter in Brazil, over a third in Venezuela, and by 40 per cent in Mexico, about a third for the five countries together. After that there was a slow recovery, but only in 1988 did local sales in dollar terms reach almost the 1982 level. Thus, especially in the years immediately after the crisis, much of the redirection of sales came more by reducing local sale than by increasing exports. The U.S. affiliates probably reduced domestic sales more drastically than local firms did, because they could more easily switch to exporting. The U.S. affiliates may also have been induced to reduce local sales by the depreciation of host country currencies, perhaps compounded by restrictions on converting local currency earnings to dollars.

The reductions in local sales were not completely offset by the increases in exports. In 1987, the sales levels of the U.S. affiliates, in U.S. dollar terms, were still below the 1982 levels in the five countries as a group and in four of the five individually (Table 8). Only in 1988 did the total sales of the U.S. affiliates pass the 1982 level for the five countries as a group and for each country individually, except for Venezuela.

Employment by U.S. affiliates, the only measure we have that is not plagued by currency translation problems and distortions from inflation and devaluation, did not decline as much as sales in U.S. dollars, and recovered more quickly (Table 9). In the five heavily indebted countries as a group it fell by almost 10 per cent in 1983, but regained the 1982 level by 1985 and then remained above it.

In general, direct investment inflows from the world survived the 1982 Latin American crisis fairly well. U.S. manufacturing affiliates contributed somewhat more than their share to the subsequent growth of exports and to their host countries' switching from local to export markets. However, they also moved further and faster than other host-country firms to abandon local, host country, markets until these had recovered.

The Mexican Crisis of 1994

Inflows of direct investment into Mexico in 1994 were more than double those in the two previous years, perhaps responding to Mexico's participation in NAFTA (Table 10). They fell by more than 15 per cent in the next two years, but then rebounded, and were close to or above the 1994 peak in 1997 and 1998. Net portfolio investment, in contrast, fell by almost three quarters between 1993 and 1994, then became negative in 1995, and stayed positive, but low in 1997 and 1998. Net "Other investment" turned negative in 1993 and then alternated between positive and negative, adding up to very little. The cumulative net inflows in the five years from 1994 through 1998 were, in millions of $US,

Direct investment	56,058
Portfolio investment	15,855
Other investment	- 2,472

Source: Table 10

Most of the inflow of foreign capital after the crisis was in the form of direct investment, which continued at almost the same rate as before after a brief dip. Net portfolio investment, which had been dominant before the crisis, faded in importance. Thus, as in the earlier crisis, direct investment was sustained much better than the other forms.

There are some indications, described in Table 11, of market switching by Mexican manufacturing affiliates of U.S. firms, along the same lines as in the 1980s. Between 1994 and 1996, the share of exports in Mexican manufacturing affiliate sales grew from 35 per cent to more than half, before receding but remaining well above the 1993 and 1994 levels. The fastest growth took place in sales to countries other than the United States, from 2&1/2 to 7&1/2 per cent of total sales in those two years, and rising further after that.

A major difference from the earlier episode is that the decline in total sales by U.S. manufacturing affiliates after 1994, even measured in U.S. dollars, was much milder, by only 5 per cent, and lasted only one year. By 1996, total affiliate sales were more than 25 per cent higher and by 1997, 70 per cent higher than in 1994. In the earlier episode, sales were still below the 1982 level five years later, by over 10 per cent for all Latin America and 5 per cent in Mexico.

The path of employment in U.S. manufacturing affiliates reflected that in their total sales. Employment increased slightly in 1995, stayed about the same in 1996, and then rose rapidly. Mexican national employment data are not available for 1994, but the rise from 1993 to 1995 was only 3 per cent (IMF 2000), as compared with 18 per cent in the U.S. manufacturing affiliates, another sign that the affiliates weathered the crisis better than the rest of the country's firms.

There was a reduction in the absolute amount of local sales by U.S. manufacturing affiliates in Mexico, measured in $US, by over 20 per cent in 1995. By 1996, local sales were only 5 per cent below the 1994 peak level and by 1997 well above it. In the 1980s, in contrast, local sales were, even in 1986, 25 per cent below the pre-crisis level in Latin America as a whole and 40 per cent lower in Mexico.

An indicator of the optimism of U.S. investors in the 1994 crisis was the behavior of their manufacturing affiliates' plant and equipment investment. Even measured in $ U.S. terms, it increased by about 20 per cent between 1995 and 1995. Then it continued to rise, with a particularly large jump in 1998, bringing U.S. manufacturing affiliates' plant and equipment investment to about twice the pre-crisis level. U.S. direct investors seemed able to look past the crisis, without waiting for it to end.

The response of the Mexican manufacturing sector as a whole to the devaluation of the Peso is summarized in Table 12. Exports grew by 30 per cent in 1995, even faster than in the U.S. affiliates. By 1996, they were 57 per cent above those of 1994 and by 1997, 83 per cent higher. However, export growth was faster after 1995 in the U.S. affiliates. By 1996 their exports were almost double the 1994 level and by 1997, and by 1997 120 per cent above.

The output of the Mexican manufacturing sector, measured in U.S. dollars, fell more sharply than did the output of the U.S. affiliates in that sector in 1995. By 1998, however affiliate output was more than 25 per cent above the 1994 level, while Mexican manufacturing output was still only 7 per cent above the earlier peak. However, the swing to exporting between 1994 and 1997 in Mexican manufacturing as a whole, as measured by the ratio of exports to gross output, was not far below that in U.S. affiliates in Mexico.

Both the earlier Latin American and the later Mexican episodes point to the flexibility of multinationals in responding to economic crises by increasing exports and by switching sales from local to export markets. However, the rest of Mexican manufacturing, aside from the U.S. affiliates, seemed much more resilient in the recent period than in the earlier crisis.

While it is not yet possible to follow this recovery from the Mexican crisis in U.S. affiliate data for as long a period as the earlier one, there are signs that the recovery and growth of exports have continued. Mexican exports are predicted to surpass the levels of Korea, Taiwan, and Hong Kong this year, with much of the growth attributed to Mexican, rather than U.S. multinationals ("The World's New Export Tiger Isn't Asian—It's Mexico," Wall Street Journal, May 9, 2000.).

The East Asian Crisis

The difference in volatility between direct investment and other investment flows has again shown up in the aftermath of the Asian financial crisis. Gross direct investment inflows to Developing Asia, after having quadrupled since 1990, fell by 5 to 7 per cent between 1997 and

1998. By 1999 they were back above the earlier peak. Net inflows of direct investment, which had been multiplied tenfold between 1990 and 1997, continued to rise, and by 1999 were 25 per cent above the 1997 level. (Table 13). Thus, outward FDI flows from Developing Asia were more affected by the crisis than inward flows into the area.

Net inflows of portfolio capital to Developing Asia, which had also grown rapidly after turning positive in 1991, fell by over 70 per cent from 1996 to 1997, and then turned to a net outflow in 1998. That was a total swing of over 180 per cent of the 1996 level in just two years.

The swing in investment inflows other than direct and portfolio investment was even larger: from an inflow of over $40 billion in 1996 to an outflow of almost $40 billion in 1997 and $60 billion in 1998. The total swing in this category of investment in two years was over 250 per cent (Table 13).

In general, direct investors in Developing Asia have proved to be much less skittish than other investors in responding to the crisis. In four of the individual countries most severely affected by the crisis, Indonesia, Korea, Malaysia, and Thailand, only in Indonesia did direct investment inflows fall in 1997, turn negative in 1998, and continue negative in early 1999. In Malaysia, the 1996, 1997, and 1998 levels were almost identical, and about the same as in 1992-93. In Korea and Thailand, FDI inflows were higher in 1997 than earlier, almost doubled in 1998, and seem to be remaining high, to judge by the first quarters of 1999 and 2000 (World Bank, 2000, Table 3.9).

The relatively mild effects of the financial crisis on direct investment were mirrored to some extent in the data on exports. Exports by developing Asia as a whole, measured in $US, reached a peak in 1997, fell by less than five per cent in 1998, and returned to their 1997 level in 1999 (Table 14). Some of that mildness was attributable to China, which suffered only a slow rate of growth in exports in 1998. It then resumed export growth at more than 5 per cent per annum in the next two years, ending with a 1999 level 30 per cent above that of 1995. Judging by the first six months of 2000, another large growth in exports is in process.

The other eight countries all showed stronger impacts of the crisis. All of them had enjoyed increasing exports in 1996 and 1997, and all suffered declines in 1998, a little larger for the NIEs than for the other ASEAN countries. The recovery in 1999 was also less rapid for the NIEs, perhaps partly because of the sluggishness in their other ASEAN markets, but the first three months of 2000 suggest a rapid growth of exports for the NIEs, to levels above those of 1997.

Little is available on the role of U.S. manufacturing affiliates after the crisis, because of the lag in publishing survey results. Their output, after growing by almost a third between 1995 and 1997 in the region as a whole, especially in China, fell by over 10 per cent in 1998. It fell in all the NIEs and in two of the ASEAN 4, and rose only in Thailand and China (Table 15).

The U.S. manufacturing affiliates' shares in aggregate output in these countries increased more often than not between 1995 and 1997. That was the case in three out of four of the NIEs, two out of four of the other ASEAN countries, and China (Table 16). In 1998, their shares increased in some cases and decreased in others, indicating that the output of U.S. affiliates was growing at about the same rate as output by others.

Exports by U.S. manufacturing affiliates in East Asia had been growing rapidly before the crisis, rising by over 40 per cent between 1995 and 1997 (Table 17), much faster than their countries' exports in general (Table 14). In 1998, we have data on total exports by the host countries, but not manufactured exports alone. In that year, when total exports of the region fell, exports by U.S. manufacturing affiliates continued to rise, overall and in almost all of the nine individual countries. As a result, the share of U.S. affiliates in their host countries' exports, which had been rising gradually, jumped in 1998 to 6&1/2 per cent, 50 per cent above the 1995 share (Table 18).

For Japanese affiliates, our data do not extend beyond 1997. Exports by Japanese manufacturing affiliates in the ASEAN 8 countries grew more rapidly than the manufactured exports of their host countries from 1995 to 1997, by 29 per cent as compared with their host countries' 3 per cent (Table 19). The Japanese manufacturing affiliate share of host country exports rose from 7.4 to 9.3 percent. This estimate may be exaggerated by problems of exchange rate translation during these years. The data on total country exports (Table 14) suggest a smaller increase in the Japanese affiliate share, from a little under 7 per cent to a little over 8 per cent. In any case, up to the time of the crisis at least, Japanese affiliates were contributing substantially to export growth, as were U.S. affiliates. In fact, the export growth in these two years from the U.S. and Japanese manufacturing affiliates exceeded that of their host countries' manufacturing sectors, according to Table 20, but were only about half the growth in total exports according to Table 14.

Once the crisis began, the market switching by U.S. manufacturing affiliates, observed in the two earlier crises, was repeated in Asia. Total sales of U.S. manufacturing MOFAs in the NIEs fell by about 6 per cent in $U.S., and rose only slightly in the ASEAN 4 countries (Table 21). Local sales declined sharply, by 20 per cent in the NIEs and by a third in the ASEAN 4 (Table 22). The affiliates were quick to redirect their sales away from their host country markets in 1998.

As a result of this redirection of sales, ratios of exports to total sales of U.S. manufacturing MOFAs jumped in every country except China (Table 23). The largest changes were in Hong Kong, Indonesia, and Malaysia. Affiliates in Singapore, Taiwan, and China, the countries less affected by the crisis, did not have major shifts in the importance of exports.

Employment by U.S. manufacturing MOFAs, the one variable not affected by currency translation problems, decreased in 1998, by about 8 per cent for the NIE and ASEAN 4 countries as a group (Table 24). That was about the same decline as in Latin American countries in 1983 (Table 9). The fall was quite general, aside from China, taking place in six of the other eight countries. It is hard to be sure how much the decline was a response to the crisis since the employment numbers moved so erratically in the previous years.

If we compare U.S. manufacturing affiliate employment with national totals, the small role of these affiliates as employers is notable. Only in Singapore did U.S. manufacturing affiliates account for as much as four per cent of total employment (Table 26). Aside from that location, the share was above one per cent only in Hong Kong and Malaysia. After the crisis, the share of U.S. manufacturing affiliates fell in four cases and was virtually unchanged in three. It rose only in Korea, after earlier declines, and in China, as part of an apparent upward trend. On the whole, U.S. manufacturing affiliates' employment fell relative to other firms' employment. That may be because the affiliates contracted more than other firms, although that is not evident in output data, or because manufacturing was more severely affected than other sectors.

The forecasts by the U.S manufacturing affiliates or their parent firms of the future prospects of the East Asian region after the crisis may be best reflected in their plant and equipment expenditures. In the eight countries other than China, these grew by about 6 per cent in 1998, despite the crisis and despite the decline in local currency values, which must have made capital formation at least a little cheaper (Table 27). Affiliates in China increased their expenditures much faster. The growth of capital formation in the other countries varied considerably, presumably reflecting different prospects. There were large declines in Hong Kong, Indonesia, and Malaysia, and substantial increases in Singapore, Taiwan, and the Philippines. The optimism represented by these increases in capital expenditures is similar to that of U.S. manufacturing affiliates in Mexico in 1995, but we do not have data to make a comparison with the 1982 Latin American episode.

Another forward-looking measure, R&D expenditures by U.S. manufacturing affiliates, presents a less optimistic view. They fell in every country except China, by over 20 per cent for the eight countries as a group (Table 28). By far the largest cut was in Hong Kong, by more than half, accounting for well over half of the decline in the region outside China, but the high 1997 figure for Hong Kong appears to be an anomaly. The 1998 R&D expenditures were well above those of 1995 and 1996. The contrast between the apparent increases in plant and equipment expenditures and the declines in R&D expenditures may partly reflect a difference in price movements for these two categories of future-oriented expenditures. If equipment for capital expenditure is mainly imported, it would not fall in price as local currencies were devalued. R&D expenditures, on the other hand, are largely for personnel and largely in local currencies. R&D may have fallen in price because of the devaluations, and the value of expenditures in $US may have fallen, even if there had been no reduction in local currency or in real R&D expenditures. Deflators for R&D are not readily available, but in most of the countries – all except Hong Kong and Singapore- local currency expenditures on R&D by U.S. manufacturing affiliates rose in 1998.

Summary

In three financial crises, direct investment has differed from other forms of capital flow in its behavior, and foreign-owned firms, the progeny of direct investment, have behaved differently from domestically-owned firms in their response to these crises.

While direct investment inflows to Latin America fell after 1982, inflows of other types of investment fell much more or even reversed direction. In Mexico, in 1995, direct investment inflows declined, but not by as much as other investment inflows, they never turned negative, as the others did, and they rebounded much more quickly. And in East Asia, gross inflows of direct investment fell only slightly in 1998, and were back above the previous peak level by 1999. Net inflows of direct investment did not fall at all, while net inflows in other forms fell sharply and turned into net outflows.

The most consistent feature of the responses to the crises by U.S. manufacturing affiliates was the rapid growth in their exports and the shifts from host-country sales to export sales. The shifts were responses to both the host country currency devaluations and the stagnation in host country markets.

In Latin America after 1982, both the U.S. affiliates and other firms increased exports substantially. The U.S. affiliates exports lagged a little at first, but later rose more than those of other firms. Both U.S. affiliates and other firms increased the shares of their sales that were exported, but the change in direction of sales by affiliates outlasted that of other firms. Much of the market switching in this episode involved large declines in local sales measured in $U.S. terms, and total sales remained lower than before the crisis for several years.

In Mexico, after 1994, U.S. affiliates again switched the destination of their sales toward foreign markets, especially markets outside the United States. Other firms outpaced the affiliates in export growth in the first year after the crisis, but the affiliates' export growth was greater after that. In this episode, the decline in local sales was much smaller than in the earlier episode, and total sales dipped below the peak level only slightly and for only one year. Other firms outpaced the affiliates in export growth in the first year, or responded more to the devaluation of the currency, but the affiliates' export growth was greater after that. Affiliate employment did not decline at all and their share of national employment rose as a result.

The Asian crisis is too recent to supply the full range of observations possible for the earlier crises. The stability of inward flows of direct investment relative to other types of investment was again conspicuous, but only one year of data is available for U.S. affiliates operations. Production by U.S. manufacturing affiliates seemed to move with that of other host country firms. Export growth was considerably faster for the affiliates, so that their shares in host country exports increased. The market switching observed in the earlier crises was repeated, with not only growth in exports, but also sharp declines in local sales, and therefore increases in the shares of exports in their total sales.

U.S. firms seemed to take an optimistic view of long-run prospects for the region, to judge from the fact that plant and equipment expenditures by manufacturing affiliates in East Asia, even measured in U.S. dollars, continued to rise after the crisis.

The most consistent feature of the behavior of direct investment inflows into the crisis countries was their stability relative to other forms of investment. The most consistent aspect of the behavior of U.S. manufacturing affiliates was their extensive switching of sales from host-country to export markets, usually accompanied by large declines in local sales. For the host countries as a whole, the extent of their shift to exporting, in the first year of the crisis, at least, was partly explained by the extent of their exchange rate devaluations, and even better by the size of declines in their real GDP. The market switching by U.S. manufacturing affiliates was more idiosyncratic. In the earlier crises, however, the shifts to exporting by the affiliates were typically larger than those of their host countries after a few years.

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Table 1. Inward Investment in the Western Hemisphere, 1980-88
(Million US $)

Year	Gross Direct Investment	Net Direct Investment	Net Portfolio Investment	Net Other Investment
1980-82 (ave.)	7,281	6,979	2,600	30,892
1981	8,613	8,471	2,274	42,331
1982	6,803	6,406	4,344	24,155
1983	5,333	5,034	645	7,455
1984	4,362	4,258	-139	12,251
1985	5,694	5,574	-1,620	6,146
1986	4,944	4,287	-3,060	10,034
1987	5,300	5,091	-1,943	8,612
1988	8,417	8,105	4,266	-7,192

Source: IMF (1998a)

Table 2. Local Currency Exchange Rates in Latin America, 1977 and 1982-88

	Brazil cruzado per $	Chile pesos per $	Colombia pesos per $	Mexico pesos per $	Venezuela bolivares per $
1977	0.014	21.54	36.77	22.57	4.293
1982	0.179	50.91	64.08	56.40	4.293
1983	0.577	78.79	78.85	120.09	4.297
1984	1.843	98.48	100.82	167.83	7.017
1985	6.188	160.86	142.31	256.87	7.500
1986	13.640	192.93	194.26	611.80	8.083
1987	39.215	219.41	242.61	1,378.20	14.500
1988	261.993	245.01	299.17	2,273.10	14.500

Souce: IMF (1998)

Table 3. Exports by U.S. Majority-owned Manufacturing Affiliates in Latin America, 1977 and 1982-88
(Million US $)

	1977	1982	1983	1984	1985	1986	1987	1988
Latin America	2,341	4,692	4,541	5,574	6,161	6,482	7,382	9,465
Brazil	994	2,106	2,066	2,497	2,648	2,760	2,745	3,734
Chile	32	48 - 109	75 - 100	82 - 119	108	7 - 240	162	343
Colombia	39	60	60	29 - 129	58	54	89	110
Mexico	488	1,024	1,223	1,848	2,258	2,644	3,487	3,970
Venezuela	10	3 - 47	30	32	14	25	27	22
Five Countries	1,563	3,241 -3,346	3,454 -3,479	4,488 -4,625	5,086	5,490 -5,723	6,510	8,179

Source: Tables 7 and 8

Table 4. Manufactured Exports by Latin America Countries, 1977 and 1982-88
(Million US $)

	1977	1982	1983	1984	1985	1986	1987	1988
Latin America	20,878	33,690	36,895	39,996	43,990	44,156	52,293	69,969
Brazil	6,340	13,818	16,645	17,252	18,250	17,314	20,220	27,132
Chile	1,755	2,513	2,585	2,457	2,495	2,867	3,659	5,005
Colombia	600	933	701	664	740	968	1,159	1,364
Mexico[a]	4,753	6,079	7,898	9,687	10,259	11,653	15,509	19,535
Venezuela	175	747	659	1,070	2,941	1,344	1,571	1,718
Four Countries[b]	7,283	10,271	11,843	13,878	16,435	16,832	21,899	27,623
Five Countries	13,623	24,089	28,488	31,130	34,686	34,146	42,118	54,755

[a] Mexico exports = Mexico exports (Feenstra,2000) - Mexico exports to U.S. (Feenstra,2000) + U.S. imports from Mexico (Feenstra,1996)

[b] Excluding Brazil

Source: Feenstra (1996) and (2000)

Table 5. Exports as Per Cent of Sales by U.S. Majority-owned Manufacturing Affiliates in Latin America, 1977 and 1982-88
(Percentage)

	1977	1982	1983	1984	1985	1986	1987	1988
Latin America	9.7	11.9	15.3	17.9	18.8	20.0	21.1	22.2
Brazil	8.9	12.4	15.9	19.2	18.7	16.9	16.4	18.7
Chile	16.1	12.5 - 28.5	19.8 - 26.5	20.0 - 29.0	27.8	NA	32.1	50.7
Colombia	3.9	3.3	3.5	1.7-7.5	3.7	4.1	5.7	5.5
Mexico	10.4	10.8	19.8	22.9	24.1	34.5	38.8	33.9
Venezuela	0.4	0.1 - 1.0	1.0	1.4	0.6	1.4	1.1	0.7
Five Countries	7.9	9.7 - 10.0	14.2 - 14.3	17.6 - 18.2	18.3	20.0 - 20.8	21.5	21.8

Source: Tables 3 and 8

Table 6. Exports of Goods and Services as Per Cent of GDP, 1982-88
(Percentage)

	1982	1983	1984	1985	1986	1987	1988
Brazil	7.7	11.7	14.2	12.2	8.8	9.5	10.9
Chile	19.4	24.0	24.2	29.1	30.6	33.5	37.4
Colombia	10.4	11.9	13.8	18.8	17.0	16.1	17.8
Mexico	15.3	19.0	17.4	15.4	17.3	19.5	16.8
Venezuela	25.8	25.5	26.8	24.1	19.8	21.4	20.6

Souce: IMF (1995)

Table 7. Local Sales by U.S. Majority-owned Manufacturing Affiliates in Latin America, 1977 and 1982-88
(Million US $)

	1977	1982	1983	1984	1985	1986	1987	1988
Latin America	21,876	34,814	25,100	25,541	26,531	25,995	27,626	33,247
Brazil	10,224	14,932	10,943	10,524	11,514	13,609	14,031	16,242
Chile	167	274 - 335	278 - 303	291 - 328	280	139 - 372	343	333
Colombia	953	1,786	1,661	1,585 -1,685	1,514	1,262	1,481	1,882
Mexico	4,191	8,414	4,965	6,234	7,114	5,012	5,505	7,743
Venezuela	2,783	4,801 -4,845	3,038	2,175	2,234	1,718	2,346	3,108
Five Countries	18,318	30,207 -30,312	20,885 -20,910	20,809 -20,946	22,656	21,740 -21,973	23,706	29,308

Source:
U.S. Dept. of Commerce (1981), Table F5.
U.S. Dept. of Commerce (1985), Table D3.
U.S. Dept. of Commerce (1986), Table D3.
U.S. Dept. of Commerce (1987), Table D3.
U.S. Dept. of Commerce (1988), Table D3.
U.S. Dept. of Commerce (1989), Table D3.
U.S. Dept. of Commerce (1990), Table D3.
U.S. Dept. of Commerce (1991), Table D3.

Table 8. Sales by U.S. Majority-owned Manufacturing Affiliates in Latin America, 1977 and 1982-88
(Million US $)

	1977	1982	1983	1984	1985	1986	1987	1988
Latin America	24,217	39,506	29,641	31,115	32,692	32,477	35,008	42,712
Brazil	11,218	17,038	13,009	13,021	14,162	16,369	16,776	19,976
Chile	199	383	378	410	388	379	505	676
Colombia	992	1,846	1,721	1,714	1,572	1,316	1,570	1,992
Mexico	4,679	9,438	6,188	8,082	9,372	7,656	8,992	11,713
Venezuela	2,793	4848	3,068	2,207	2,248	1,743	2,373	3,130
Five Countries	19,881	33,553	24,364	25,434	27,742	27,463	30,216	37,487

Source:
U.S. Dept. of Commerce (1981), Table F5.
U.S. Dept. of Commerce (1985), Table D3.
U.S. Dept. of Commerce (1986), Table D3.
U.S. Dept. of Commerce (1987), Table D3.
U.S. Dept. of Commerce (1988), Table D3.
U.S. Dept. of Commerce (1989), Table D3.
U.S. Dept. of Commerce (1990), Table D3.
U.S. Dept. of Commerce (1991), Table D3.

Table 9. Employment by U.S. Majority-owned Manufacturing Affiliates in Latin America, 1977 and 1982-88
(Thousands)

	1977	1982	1983	1984	1985	1986	1987	1988
Latin America	710	724	662	678	701	704	702	696
Brazil	296	306	282	290	306	328	323	299
Chile	3	6	5	5	5	5	5	6
Colombia	27	27	24	23	23	18	20	23
Mexico	171	228	209	215	237	232	235	252
Venezuela	48	43.1	35	37	37	33	37	32
Five Countries	546	609	555	571	609	617	620	613

Source:
U.S. Dept. of Commerce (1981), Table G3.
U.S. Dept. of Commerce (1985), Table F3.
U.S. Dept. of Commerce (1986), Table F3.
U.S. Dept. of Commerce (1987), Table F3.
U.S. Dept. of Commerce (1988), Table F3.
U.S. Dept. of Commerce (1989), Table F3.
U.S. Dept. of Commerce (1990), Table F3.
U.S. Dept. of Commerce (1991), Table F3.

Table 10. Inward Investment in Mexico, 1992-98
(Million US $)

Year	Gross Direct Investment	Net Direct Investment	Net Portfolio Investment	Net Other Investment
1992	4,393	5,123	19,206	2,868
1993	4,389	4,405	28,355	-159
1994	10,973	12,031	7,415	-3,800
1995	9,526	9,263	-10,377	16,323
1996	9,186	9,224	13,961	-19,071
1997	12,831	13,939	4,330	-1,393
1998	10,238	11,601	526	5,469

Source: IMF (1998a) and (1999)

Table 11. Gross Product, Sales, Employment and Plant and Equipment Expenditure of U.S. Manufacturing MOFAs in Mexico, 1993-98
(Million US $)

	Manufacturing					
	1993	1994	1995	1996	1997	1998
Total Sales	27,267	30,873	29,294	39,800	47,216	52,537
Local	18,507	20,033	15,854	18,670	23,325	27,446
Export	8,760	10,840	13,440	21,129	23,891	25,091
To U.S.	8,039	9,966	12,347	18,099	19,693	20,638
Other	721	874	1,093	3,030	4,198	4,453
Gross Product	7,660	8,104	6,642	8,862	10,242	11,407
P & E Expenditure		1,460	1,757	1,882	1,922	2,662
Employment (Thousands)	357.7	415.2	423.3	424.1	451.5	530.4
Exports / Gross Product (%)	1.1	1.3	2.0	2.4	2.3	2.2
	Distribution of Sales (%)					
Local	67.9	64.9	54.1	46.9	49.4	52.2
Export	32.1	35.1	45.9	53.1	50.6	47.8
To U.S.	29.5	32.3	42.1	45.5	41.7	39.3
Other	2.6	2.8	3.7	7.6	8.9	8.5

Source: Mataloni (1995); U.S. Department of Commerce (1996), (1998a), (1998b), (1999), (2000a) and (2000b)

Table 12. Manufactured Exports and Manufacturing Gross Product of Mexico, 1993-97
(Million US $)

	Manufacturing				
	1993	1994	1995	1996	1997
Exports	43,372	54,132	70,408	85,047	98,808
Gross Product	70,591	72,594	54,547	65,074	77,770
Exports/ Gross Product	0.61	0.75	1.29	1.31	1.27

Source: Feenstra (2000) and data directly from OECD

Table 13. Capital Inflows into Developing Asia, 1990-99
(Million US $)

	Direct Investment[a]				Net Portfolio Investment[b]	Net Other Investment[b]
	Gross		Net			
	IMF&UN	UN	IMF&UN	UN		
1990	21,479		4,479		-2,327	13,172
1991	22,588		12,952		2,605	31,612
1992	28,416		10,001		9,132	12,248
1993	49,854		19,126		17,349	11,362
1994	65,142		29,698		14,933	12,026
1995	70,269		27,735		15,972	32,826
1996	84,164		36,677		23,308	42,427
1997	93,134	101,575	47,602	54,157	6,357	-38,857
1998	86,419	96,504	51,312	73,686	-19,464	-60,269
1999		105,621		68,382		

[a] Including Hong Kong and Taiwan

[b] Excluding Hong Kong and Taiwan

Source: IMF (1996), (1999) and United Nations (1996), (1997), (1998), (1999) and (2000).

Table 14. Total Exports of Nine Asian Developing Countries, 1995-2000
(Billion US $)

	1995	1996	1997	1998	1999	2000
NIE 4	529	551	570	527	555	610
Hong Kong	174	181	188	174	174	185 [a]
Korea	125	130	136	132	145	166 [a]
Singapore	118	125	125	110	115	127 [a]
Taiwan	112	116	121	111	121	132 [b]
ASEAN 4	193	204	214	206	228	
Indonesia	45	50	53	49	49	
Malaysia	74	78	79	73	84	89 [b]
Philippines	18	20	25	29	37	33 [b]
Thailand	56	56	57	54	58	66 [a]
8 Countries	722	755	785	733	783	
China	149	151	183	184	195	229 [a]
9 Countries	871	907	968	916	978	

[a] First six months of 2000 x 2
[b] First three months of 2000 x 4

Source: IMF (2000)

Table 15. Gross Products of U.S. Manufacturing MOFAs in East Asia, 1995-98
(Million US $)

	1995	1996	1997	1998
NIE 4	8,599	10,610	10,692	8,708
Hong Kong	1,365	1,292	1,434	1,157
Korea	933	1,227	947	839
Singapore	4,628	6,676	6,753	5,286
Taiwan	1,673	1,415	1,558	1,426
ASEAN 4	4,427	4,844	5,560	5,250
Indonesia	267	315	363	310
Malaysia	1,981	2,204	2,965	1,795
Philippines	1,175	1,247	1,189	1,189
Thailand	1,004	1,078	1,043	1,956
8 Countries	13,026	15,454	16,252	13,958
China	921	1,375	2,116	2,311
9 Countries	13,947	16,829	18,368	16,269

Source: U.S. Department of Commerce (1998b), (1999), (2000a) and (2000b)

Table 16. Gross Product of U.S. MOFAs in East Asia as Per Cent of GDP, 1995-98
(Percentage)

	1995	1996	1997	1998
NIE 4				
Hong Kong	4.1	4.2	4.1	4.5
Korea	0.4	0.5	0.5	0.5
Singapore	8.8	10.6	9.7	9.2
Taiwan	1.2	1.0	1.0	1.0
ASEAN 4				
Indonesia	2.6	2.5	2.5	4.2
Malaysia	4.9	4.6	5.0	4.2
Philippines	2.8	2.6	2.6	3.2
Thailand	2.0	1.9	2.3	2.4
China	0.2	0.2	0.4	0.3

Source: Mataloni (1998), (1999) and (2000); Republic of China (1999)

Table 17. Exports of U.S. Manufacturing MOFAs in East Asia, 1995-98
(Million US $)

	1995	1996	1997	1998
NIE 4	27,018	33,106	34,609	35,679
Hong Kong	3,255	3,545	4,173	5,734
Korea	644	735	681	669
Singapore	19,808	25,708	26,704	25,889
Taiwan	3,311	3,118	3,051	3,387
ASEAN 4	9,582	11,734 -12,615	14,556	18,587
Indonesia	170	244	242	265
Malaysia	4,899	6,535	8,388	10,859
Philippines	1,584	1,910	2,304	2,678
Thailand	2,929	3,045 -3,926	3,622	4,785
8 Countries	36,600	44,840 -45,721	49,165	54,266
China	837	2,571	3,774	4,933
9 Countries	37,437	47,411 -48,292	52,939	59,199

Source: Tables 21 and 22

Table 18. U.S. Manufacturing MOFAs Exports as Per Cent of Total Exports, East Asia, 1995-98
(Percentage)

	1995	1996	1997	1998
NIE 4	5.11	6.01	6.07	6.77
Hong Kong	1.87	1.96	2.22	3.30
Korea	0.51	0.57	0.50	0.51
Singapore	16.75	20.56	21.37	23.56
Taiwan	2.97	2.69	2.52	3.06
ASEAN 4	4.96	5.74 - 6.18	6.79	9.02
Indonesia	0.37	0.49	0.45	0.54
Malaysia	6.63	8.34	10.65	14.81
Philippines	9.05	9.36	9.26	9.10
Thailand	5.19	5.46 - 7.05	6.31	8.79
8 Countries	5.07	5.94 - 6.05	6.27	7.41
China	0.56	1.70	2.06	2.69
9 Countries	4.30	5.23 - 5.33	5.47	6.46

Source: Tables 14 and 17.

Table 19. Exports by Japanese Manufacturing Affiliates, 1995 and 1997
(Millions US $)

Value of Exports	1995	1997
Asia		72,232
NIE 4	26,618	30,558
ASEAN 4	22,583	33,005
8 Countries	49,201	63,563
China		7,974
9 Countries		71,537
Per Cent of Host Countries, Manufactured Exports:		
8 Countries	7.4	9.3
China		4.7
9 Countries		8.4

Source: Table 28 and Japan, MITI (1998)

Table 20. Total Manufactured Exports of Nine East Asian Developing Countries, 1995-97
(Million US $)

	1995	1996	1997
NIE 4	511,557	540,137	518,942
Hong Kong	168,287	176,469	183,186
Korea	121,396	127,865	103,586
Singapore	104,182	111,696	111,338
Taiwan	117,692	124,107	120,832
ASEAN 4	153,985	170,188	165,940
Indonesia	29,201	33,036	30,423
Malaysia	64,678	70,435	70,222
Philippines	9,328	19,421	13,317
Thailand	50,778	47,295	51,979
China	135,127	143,615	170,800
9 Countries	800,669	853,940	855,683

Source: Feenstra (2000)

Table 21. Sales of U.S. Manufacturing MOFAs in East Asia, 1995-98
(Million US $)

	1995	1996	1997	1998
NIE 4	46,054	53,577	58,996	55,293
Hong Kong	7,654	8,479	10,472	9,796
Korea	4,042	4,505	4,318	3,503
Singapore	26,410	33,177	36,665	33,930
Taiwan	7,948	7,416	7,541	8,064
ASEAN 4	18,266	21,082	24,283	25,052
Indonesia	999	1,264	1,403	823
Malaysia	8,288	9,779	12,225	12,721
Philippines	3,893	4,325	4,892	4,933
Thailand	5,086	5,714	5,763	6,575
8 Countries	64,320	74,659	83,279	80,345
China	3,409	5,851	8,347	11,050
9 Countries	67,729	80,510	91,626	91,395

Source: U.S. Department of Commerce (1998b), (1999), (2000a) and (2000b)

Table 22. Local Sales of U.S. Manufacturing MOFAs in East Asia, 1995-98
(Million US $)

	1995	1996	1997	1998
NIE 4	19,036	20,471	24,387	19,614
Hong Kong	4,399	4,934	6,299	4,062
Korea	3,398	3,770	3,637	2,834
Singapore	6,602	7,469	9,961	8,041
Taiwan	4,637	4,298	4,490	4,677
ASEAN 4	8,684	8,467 -9,348	9,727	6,465
Indonesia	829	1,020	1,161	558
Malaysia	3,389	3,244	3,837	1,862
Philippines	2,309	2,415	2,588	2,255
Thailand	2,157	1,788 -2,669	2,141	1,790
8 Countries	27,720	28,938 -29,819	34,114	26,079
China	2,572	3,280	4,573	6,117
9 Countries	30,292	32,218 -33,099	38,687	32,196

Source: U.S. Department of Commerce (1998b), (1999), (2000a) and (2000b)

Table 23. U.S. Manufacturing MOFA Exports as Per Cent of Sales, East Asia, 1995-98
(Percentage)

	1995	1996	1997	1998
NIE 4	58.67	61.79	58.66	64.53
Hong Kong	42.53	41.81	39.85	58.53
Korea	15.93	16.32	15.77	19.10
Singapore	75.00	77.49	72.83	76.30
Taiwan	41.66	42.04	40.46	42.00
ASEAN 4	52.46	55.66 - 59.84	59.94	74.19
Indonesia	17.02	19.30	17.25	32.20
Malaysia	59.11	66.83	68.61	85.36
Philippines	40.69	44.16	47.10	54.29
Thailand	57.59	53.29 - 68.71	62.85	72.78
8 Countries	56.90	60.06 - 61.24	59.04	67.54
China	24.55	43.94	45.21	44.64
9 Countries	55.27	58.89 - 59.98	57.78	64.77

Source: Tables 17 and 21.

Table 24. Employment of U.S. Manufacturing MOFAs in East Asia, 1995-98
(Thousands)

	1995	1996	1997	1998
NIE 4	191.0	166.2	193.8	168.0
Hong Kong	57.1	37.2	59.0	43.7
Korea	18.6	17.9	16.8	16.8
Singapore	76.1	77.4	83.4	75.1
Taiwan	39.2	33.7	34.6	32.4
ASEAN 4	269.4	238.5	262.4	252.5
Indonesia	17.7	20.6	21.1	20.7
Malaysia	124.3	98.9	115.3	108.7
Philippines	60.9	50.7	45.0	46.3
Thailand	66.5	68.3	81.0	76.8
8 Countries	460.4	404.7	456.2	420.5
China	72.8	86.4	115.1	142.4
9 Countries	533.2	491.1	571.3	562.9

Source: U.S. Department of Commerce (1998b), (1999), (2000a) and (2000b)

Table 25. Total Employment in Nine East Asian Developing Countries, 1995-98
(Thousands)

	1995	1996	1997	1998
NIE 4	34,097	34,588	35,200	34,286
Hong Kong	2,971	3,008	3,145	3,201
Korea	20,379	20,764	21,048	19,926
Singapore	1,702	1,748	1,831	1,870
Taiwan	9,045	9,068	9,176	9,289
ASEAN 4	147,893	153,776	156,669	156,672
Indonesia	82,038	85,702	87,050	87,672
Malaysia	7,645	8,400	8,569	8,600
Philippines	25,698	27,442	27,888	28,262
Thailand	32,512	32,232	33,162	32,138
8 Countries	181,990	188,364	191,869	190,958
China	679,470	688,500	696,000	699,570
9 Countries	861,460	876,864	887,869	890,528

Source: IMF (2000)

Table 26. Employment in U.S. Manufacturing MOFAs as Per Cent of Total Employment in Nine East Asian Countries, 1995-98

	1995	1996	1997	1998
NIE 4	0.560	0.481	0.551	0.490
Hong Kong	1.922	1.237	1.876	1.365
Korea	0.091	0.086	0.080	0.084
Singapore	4.471	4.428	4.555	4.016
Taiwan	0.433	0.372	0.377	0.349
ASEAN 4	0.182	0.155	0.167	0.161
Indonesia	0.022	0.024	0.024	0.024
Malaysia	1.626	1.177	1.346	1.264
Philippines	0.237	0.185	0.161	0.164
Thailand	0.205	0.212	0.244	0.239
8 Countries	0.253	0.215	0.238	0.220
China	0.011	0.013	0.017	0.020
9 Countries	0.062	0.056	0.064	0.063

Source: Tables 24 and 25

Table 27. Capital Expenditure of U.S. Manufacturing MOFAs in East Asia, 1995-98
(Million US $)

	1995	1996	1997	1998
NIE 4	1,750	1,970	1,951	2,139
Hong Kong	231	195	217	136
Korea	189	315	234	223
Singapore	1,109	1,263	1,270	1,503
Taiwan	221	197	230	277
ASEAN 4	1,585 -1,818	1,841	1,703	1,738
Indonesia	140	157	115	77
Malaysia	755 -988	1,050	997	810
Philippines	385	319	267	531
Thailand	305	315	324	320
8 Countries	3,335 -3,568	3,811	3,654	3,877
China	566	831	911	1,156
9 Countries	3,901 -4,134	4,642	4,565	5,033

Source: U.S. Department of Commerce (1998b), (1999), (2000a) and (2000b)

Table 28. R&D Expenditure of U.S. Manufacturing MOFAs in East Asia, 1995-98
(Million US $)

	1995	1996	1997	1998
NIE 4	149	178	226	174
Hong Kong	24	23	63	28
Korea	22	27	30	26
Singapore	58	74	67	56
Taiwan	45	54	66	64
ASEAN 4	57	48	53	46
Indonesia	9	6	5	3
Malaysia	21	23	32	30
Philippines	22	14	11	9
Thailand	5	5	5	4
8 Countries	206	226	279	220
China	11	24	33	50
9 Countries	217	250	312	270

Source: U.S. Department of Commerce (1998b), (1999), (2000a) and (2000b)