TOWARDS THE NEXT GENERATION OF NEWLY INDUSTRIALIZING ECONOMIES:
THE ROLES FOR MACROECONOMIC POLICY AND THE MANUFACTURING SECTOR

Catherine L. Mann

ABSTRACT

In the 1970s, the Newly Industrializing Economies (NIEs) emerged from the pack of developing countries by exporting manufactured goods. Some succeeded and some did not. In this decade, another set of developing countries are poised to become the next generation of NIEs. Which have the prerequisites of stable macroeconomic policies and the foundation for further manufacturing development? A review of the Latin and Asian NIEs' experiences suggests criteria against which we can measure countries of the next generation.

Macroeconomic criteria include: the savings-investment imbalance, but also their levels; fiscal deficit and the sectoral allocation of government spending; the magnitude and change in domestic and external exposure to interest payments on debt; the variability, degree, and duration of misalignment of the real exchange rate. But macroeconomic stability, while necessary, is not sufficient for sustained growth and development.

A robust, competitive manufactured goods sector is also key. A growing manufactured goods sector increase the flexibility of the economy to respond to external and internal shocks and is associated with higher per capita income growth. World trade in manufactures is growing faster and at relatively better and less votatile terms of trade than trade in commodities. Criteria such as labor productivity in agriculture and manufacturing, population growth rates, and changes in the share of production and exports of manufactured goods provide evidence of which countries of the new generation can take advantage of the manufacturing dynamic.

Towards the Next Generation of Newly Industrializing Economies:
The Roles for Macroeconomic Policy and the Manufacturing Sector

Catherine L. Mann[1]

I. Introduction

In the 1970s, the Newly Industrializing Economies or NIEs
emerged from the pack of developing countries by exporting manufactured
goods. During the decade of the 1980s, the development trajectory of
some of these NIEs flattened as poor international conditions interacted
with faulty macroeconomic policy; remember that originally Argentina,
Brazil, and Mexico were designated NIEs, just as were Hong Kong,
Singapore, South Korea, and Taiwan. In this decade, another set of
developing economies stand apart as having the potential to become the
next generation of successful NIEs; in addition, some of the original
NIEs have corrected domestic policies and are poised for renewed growth.
Among these countries which appear to have the both the prerequisite of
stable macroeconomic policies and the foundations for further
manufacturing development? Of course there can be no conclusive answer
since the international environment remains in flux and domestic policies
can quickly unravel. But examining data for the successful and
unsuccessful original NIEs points to what combination of factors help
create an environment conducive to development success. Against this

backdrop we can examine data for the potential "next generation" countries and judge which might lead its peers into the 21st century.

The paper is in five parts: First the importance of and foundations for a stable macroeconomic environment will be illustrated using data for the Asian and Latin NIEs. Key also is the sectoral distribution of government spending as this supports infrastructure (human and otherwise) for technological advance and development of the manufacturing sector. The next section examines macroeconomic and sectoral policies in a sample of next generation countries in light of this analysis. Section IV discusses why manufacturing is critical to a sustained development path. Manufacturing creates complex linkages through the domestic economy and is a laboratory for human skill and technology acquisition and refinement. In addition, manufacturing diminishes the effects of international shocks by contributing to higher overall growth, although it does not eliminate economic cycles. Section V addresses some of the policy questions associated with a development strategy based on manufacturing. For example, should the government target manufactures, particularly exports? Could there be a negative impact in international goods markets from many manufacturing-based development strategies? Given the unfavorable environment of international finance and protectionism, how can a country succeed in manufacturing development?

The overall importance of macroeconomic stability is established doctrine by now, given the history of the 1980s. But what evidence is there for a pivotal role for manufacturing in the development process? Chart 1 shows annual average growth rates for several groups of developing economies for the decades of the 1960s, 1970s and 1980s. The

CHART 1

GDP GROWTH 1960-87
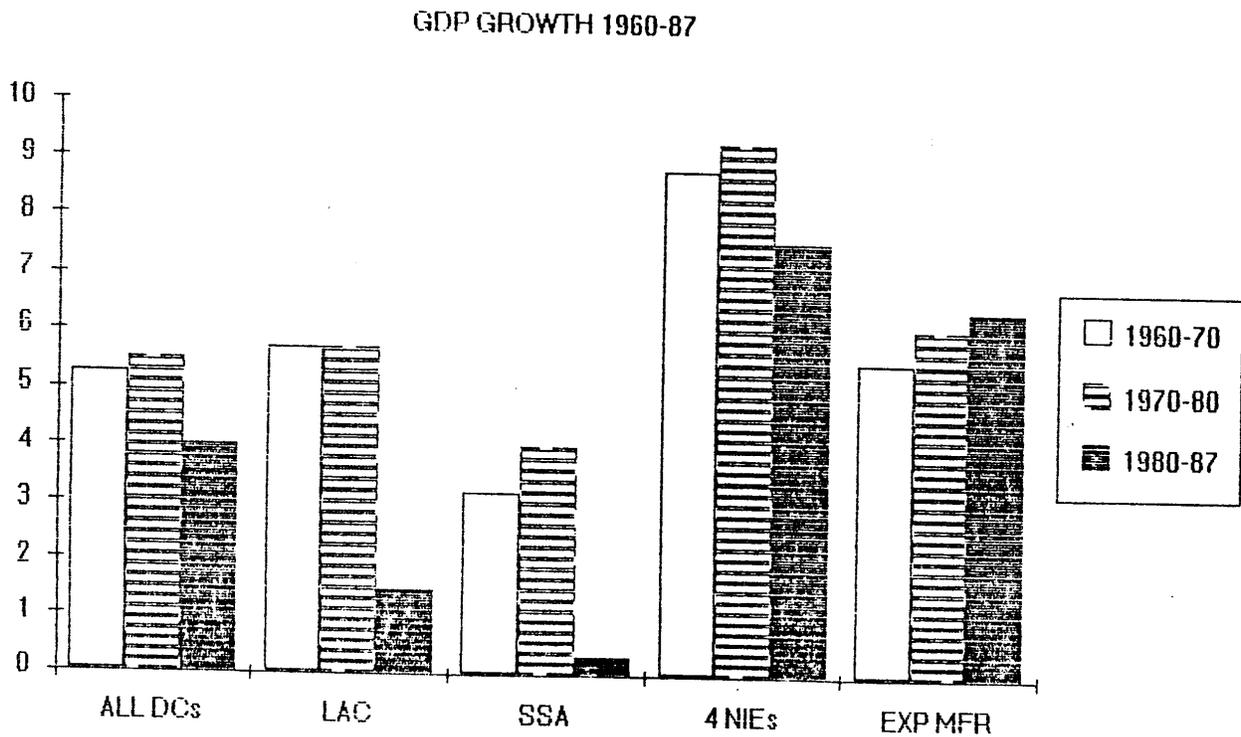
ALL DCs -- All developing countries
LAC -- Latin America and the Caribbean
SSA -- Sub-Saharan Africa
4 NIEs -- 4 Asian NIEs
EXP MFR -- Exporters of Manufactures

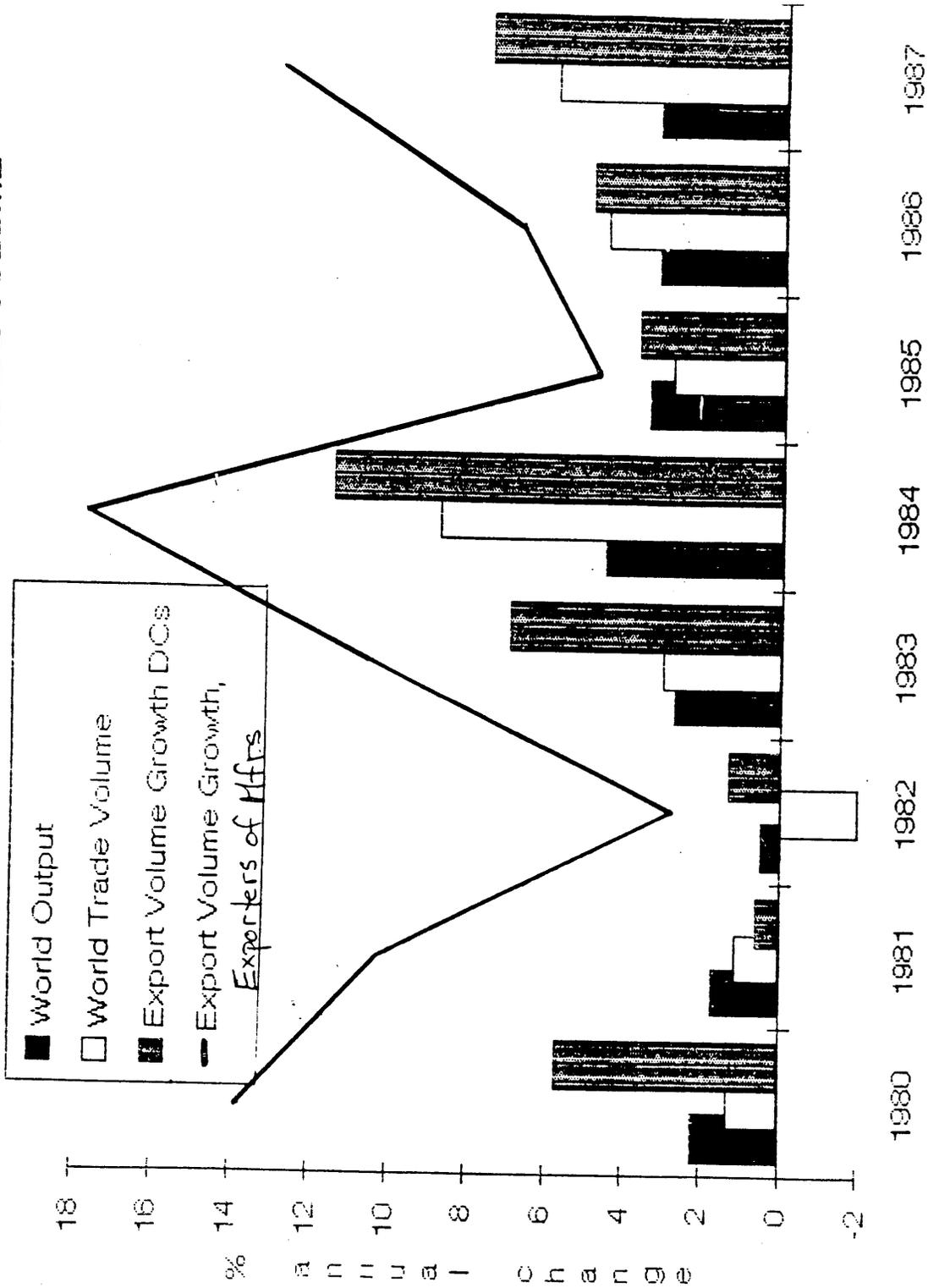See World Development Report 1988 for country classifications

four Asian NIEs, well known for their development strategy based on manufactured exports, have always out-paced the growth of other country groups. These data are most striking, but four countries are too few on which to base a policy recommendation. However, a much broader group of countries (the manufactures exporters, which includes countries with a share of manufactured goods in exports greater than 30 percent) also achieved high and increasing GDP growth rates in each decade. GNP growth rates increased for these countries even into the 1980s when the growth rates of all other country groups faltered. The exporters of manufactures is a diverse lot, including some countries such as Brazil (known more for its poor macroeconomic performance during the decade) and India (known more for its protection of domestic markets). Yet, the group as a whole did very well which suggests that a manufacturing base can partly compensate for failures in other areas of economic policy.

Chart 2 shows the relationship between growth rates of world output, world trade, export volume for all the developing countries, and export volume of the exporters of manufactures. Trade growth magnifies output growth; that is, trade growth rates evidence more cyclicality than domestic growth rates. Thus to a certain extent, the international environment introduces additional variability into domestic growth rates. Moreover, governments of the developing countries must deal with relatively more volatile trade growth than do the governments of the industrial countries.

Stressing manufactured exports does not insulate an economy from the cyclicality introduced through international trade. In fact, growth rates of manufactured exports are even more cyclical than are growth rates of total export volume. So why encourage trade in manufactures?

CHART 2

WORLD OUTPUT AND TRADE VOLUME

Legend:
- World Output
- World Trade Volume
- Export Volume Growth DCs
- Export Volume Growth, *Exporters of Mfrs*

Y-axis: % annual change
18, 16, 14, 12, 10, 8, 6, 4, 2, 0, -2

X-axis: 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987

The growth rate of manufacturing exports has been substantially greater, often twice as great, as growth rates of all trade. Thus, while trade in manufactures does not reduce "risk" (that is, volatility in growth rates), it increases "return" (growth rates). Completing the capital market analogy, a higher risk portfolio will dominate a lower risk one if the higher risk one has sufficiently higher average returns. Thus, manufacturing is beneficial not because it insulates a country from economic cycles, but because it generates higher growth overall. Higher growth creates the means for helping the economy through the cyclical downturns.

II. Macroeconomics and Manufacturing -- Lessons from the NIEs

The history of the 1980s shows that countries that maintained stable macroeconomic conditions, kept exchange rates competitive, used international borrowing for investment and not consumption, and applied government funds to human and capital infrastructure development enjoyed faster and more sustained growth. Exporters of manufactured goods had the additional benefit (which was perhaps critical given the otherwise poor international environment) of being positioned to respond to burgeoning international markets for these goods. A quick review of the economic data for the original NIEs will bolster this view.[2]

In many ways the structure of production and the macroeconomic characteristics of the Asian and the Latin NIEs were not that different in the 1970s. The share of manufacturing in gross domestic production was about 30 percent for both groups. Both savings and investment rates were about 5 percentage points higher in the Asian NIEs, although

---

2. The data shown in the text of the following paragraphs are in Tables presented later in the paper.

external borrowing as a share of GNP was about the same in both groups. However, significant differences in the characteristics of exports and in the borrowing instruments interacted with changes in the international environment to put the two groups on very different growth trajectories during the 1980s.

The Latin countries had the manufacturing capacity, but did not export manufactures. Primary commodity exports accounted for about 75 percent of total exports. In contrast, manufactured exports accounted for 90 percent of the exports of the less-well resource endowed Asian NIEs. During the 1980s, the terms of trade for manufactured goods improved by over 40 percent giving the Asian countries a massive terms of trade gain. Repaying external borrowing was easier and these countries could continue high rates of domestic investment without incurring additional debt. The Latin NIEs suffered a terms of trade loss making servicing debt that much more difficult. Why did the Latin NIEs not respond to the relative price change in favor of manufactured exports? These countries failed to maintain an exchange rate competitive enough to offset the less competitive industry that had developed in a protected environment; the Latin NIEs could not capture a piece of the rapidly expanding market for manufactures on their Northern doorstep (that is, the United States).

Compounding the terms of trade loss, the Latin NIEs took a further blow from the international environment. About 50 percent of the Latin debt was at variable rates, as compared to about 20 percent for the Asian NIEs. When LIBOR rose from 12 to 16 percent between 1979 and 1980, the debt service obligations for the Latin countries rose substantially more than did the external obligations facing the Asian NIEs, to about 30

percent of exports. Moreover, the relatively lower savings rates in the Latin countries meant that after paying debt service, there were few internally-generated funds to spur the investment needed to produce manufactures competitively.

International shocks combined with different domestic policies and borrowing strategies propelled these two groups of NIEs along different paths. One wonders how things might have been different if the Latin countries could have turned their manufacturing capacity to exports: The two international shocks would have worked against each other instead of together. In the event, only perfect foresight and very determined policy by the Latin governments could have righted their economies. Instead government spending expanded to try to minimize the effects of the international shocks. Consumption rose and savings and investment rates dropped precipitously to about 15 percent of GNP. Fiscal deficits were monetized, igniting inflation and further worsening the environment for investment. The result is the debt and growth crisis facing these countries.

Macroeconomic criteria

The experience of the Latin as compared to the Asian NIEs suggests criteria against which we can measure countries of the next generation. First the savings-investment balance is important, because of its implication for external indebtedness, but so are the levels. Sufficient domestic savings is an important buffer against changing availability of international finance. Robust private investment is important for manufacturing development that can respond flexibly to changing international product demand.

Second, while fiscal imbalance does represent a drag on savings, zero balance should not necessarily be the objective. Both the size of the fiscal deficit and the use to which government spending is put are key determinants of whether a budget deficit is sustainable. Moreover how the deficit is financed has implications for inflation and determines the environment for private investment.

Third, the dynamics of interest payments means it is much harder to get out of a deficit once you are in it. Interest payments, especially those on external debt, rob the country of foreign currency resources. Interest payments on domestic debt magnify difficulties of achieving fiscal balance and distort domestic capital markets. In addition, highly variable payment streams probably contributes to macroeconomic instability. On the other hand, it is clear that productive use of borrowed funds can generate sufficient flow to repay debt. The moral is to use borrowed funds wisely, not to avoid borrowing.

Fourth, avoiding exchange rate misalignment is critical. Properly aligned and reasonably stable exchange rates are a barometer of macroeconomic policy, bolstering private domestic and foreign investment, as well as encouraging foreign lending. Misaligned exchange rate contribute to resource misallocation; even if manufacturing develops it will likely be inefficient and uncompetitive compared to international products. Since misaligned exchange rates ultimately cannot be maintained, additional resources will have to be expended to restructure those industries that developed behind the protective wall; these resources could be better put to new development, not restructuring. Moreover, competitive exchange rates give the proper incentives to domestic consumers and help keep public industry efficient.

Sectoral criteria

Another lesson learned from the decade of the 1980s is that overall macroeconomic stability is a necessary but not sufficient condition for sustained growth and manufactures development. There are prerequisites for growth and spending in certain sectors that link into the macroeconomic objectives. First, development of the manufactured goods sector cannot come at the expense of agriculture. Agriculture must be efficient enough to release resources (both physical in the form of labor and financial in the form of savings) to support manufactures development. Thus, relative prices that promote balanced growth in both agriculture and manufactures yields superior growth in each and of the overall economy.

Second, one reason why a zero fiscal deficit may be an undesirable policy target is because the government should play a role in fostering an educated, healthy, orderly society, all prerequisites for overall growth and manufacturing development. Moreover, infrastructure with beneficial externalities for the manufacturing sector is a logical outlet for productive government spending.

Third, the financial system has the very important role in allocating borrowing and savings to projects in either the public or the private sector that will yield the highest return. But financial systems in many developing countries frequently are not independent of government or industry and may therefore be unable to efficiently allocate funds. (In some cases, banks are required to finance the government deficit; in other cases, banks are captive of industry.) Some countries have successfully intervened into the financial marketplace to allocate credit. However, the record shows more failures from directed credit

than successes. An important ingredient in the successes was allowing a competitive fringe market, through a curb market or other forms of marketplace financing, as a necessary adjunct to targeted credit.

How do countries of the next generation compare when examined in light of the lessons learned from the NIEs? The countries designated "next generation" are a somewhat eclectic group which have shown development promise over the years (see Keesing, 1979; Balassa, 1971; and Bradford, 1987). Among this group, some will encounter development difficulties, while others not placed in this sample will undoubtedly emerge as successful manufacturers with fast, sustained growth. But looking at data for a subset of this sample will help focus on what are the key economic variables and, more importantly, why.

III. Macroeconomic Performance in the Next Generation

One of the first lessons of the NIEs in the 1980s was that both the investment-savings balance mattered (because of its consequences for external borrowings) and their levels (because low levels might imply insufficient internally generated funds for development or insufficient investment to support manufacturing). Table 1 shows the average investment and savings shares of GNP for three time periods -- 1965-1973, 1973-1980, and 1980-1987.

Data for selected NIEs are shown in the upper part of the Table. Korea's development strategy, one of the most successful of the original NIEs, depended initially on external finance. In the 1965-1973 period, investment outstripped savings, although savings rates were not particularly low. Over the course of the 1970s, both investment and savings shares rose dramatically, although external borrowing remained a a high share of GNP until the late 1980s. During the 1980s, productive

TABLE 1

Investment and Savings
(annual averages, percent of GNP)

	Gross Domestic Investment			Gross National Savings		
	1965-1973	1973-1980	1980-1987	1965-1973	1973-1980	1980-1987
Selected Original NIEs						
Brazil	21.3	23.9	19.7	19.1	19.3	17.0
India	18.4	22.5	24.5	16.9	22.2	22.8
Korea	23.9	31.0	30.4	17.6	25.7	30.0
Mexico	20.6	24.2	23.4	14.9	20.5	22.1
Selected Next Generation						
Africa						
Kenya	22.6	26.2	25.1	17.2	16.4	18.3
Senegal	14.7	17.5	15.5	n.a.	4.2	-2.8
South Asia						
Pakistan	16.1	17.5	17.5	n.a.	11.6	13.7
Sri Lanka	15.8	20.6	27.3	11.2	13.4	16.2
Mediterranean						
Morocco	15.0	25.6	22.7	13.6	16.4	14.7
Tunisia	23.3	29.9	29.1	17.8	23.6	22.1
East Asia						
Thailand	24.3	26.9	25.2	22.1	21.9	20.7
Indonesia	15.8	24.5	28.0	13.7	24.6	24.9
Malaysia	22.3	28.7	32.9	22.6	29.4	28.1
Latin America						
Chile	14.3	17.3	17.4	11.9	12.1	7.7
Colombia	18.9	18.8	19.9	15.8	19.0	16.0
Costa Rica	21.8	25.5	25.4	13.0	13.8	15.0
Uruguay	12.0	15.7	12.8	12.0	11.3	9.7
Venezuela	31.1	34.2	21.4	31.9	35.8	24.2

Data Source: World Bank, World Development Report, various years.

investment in place contributed to a rising savings rate which allowed Korea to repay the debt borrowed earlier and still invest. The less successful development programs of Brazil, Mexico, and India had systematically lower savings and investment rates. As a share of GNP, the savings-investment imbalance was smaller for these countries, so that external borrowing was not so large. But it appears that investment was either insufficient or inefficient and thus has failed to create the additional savings needed to repay the debt.

Looking at the bottom panel, the next generation countries fall into three groups: (1) those with high saving and investment, with a moderate gap to be filled by international debt (the East Asian countries); (2) those basing their development strategy squarely on external finance with robust investment but lower rates of domestic savings (Kenya, Sri Lanka, Morocco, Costa Rica); (3) those avoiding borrowing or borrowing but not investing (Senegal, Pakistan, Chile, Uruguay). The first group is basically following the pattern of the successful NIEs, although with less reliance on external funding. Given the cost of international borrowing, this probably makes sense. The second group is much more dependent on external borrowing to finance investment. This puts a premium on investing in sectors and enterprises that can generate the surpluses to finance repayment. In the third group, the low levels of investment should cause some concern. How can these countries create the surplus to repay debt if they do not invest?

One determination of the gross domestic savings rate is the size of the fiscal deficit. The righthand set of columns in Table 2 show the central government deficit as a share of GNP for two years, 1972 and 1987. For some of the group (2) countries, a key reason for the dearth

TABLE 2

Government Spending

| | Share of Central Gov't Expenditure | | | | Share of GNP | |
| | Education | | Health | | Deficit | |
	1972	1987	1972	1987	1972	1987
Selected Original NIEs						
Brazil	8.3	n.a.	6.7	n.a.	-0.3	-13.3
Korea	15.8	18.3	1.2	2.3	-3.9	0.5
India	2.3	2.7	1.5	1.9	-3.4	-8.1
Mexico	16.4	8.7	5.1	1.3	-2.9	-9.5
Singapore	15.7	18.2	7.8	4.1	1.3	1.4
Selected Next Generation						
Africa						
Kenya	21.9	23.1	7.9	6.6	-3.9	-4.6
Mauritius	13.5	12.4	10.3	7.6	-1.2	0.2
South Asia						
Pakistan	1.2	1.6	1.1	0.9	-6.9	-8.2
Sri Lanka	13.0	7.8	6.4	5.4	-5.3	-8.9
Mediterranean						
Morocco	19.2	16.9	4.8	2.9	-3.9	-9.3
Tunisia	30.5	n.a.	7.4	n.a.	-0.9	n.a.
East Asia						
Thailand	19.9	19.3	3.7	6.1	-4.2	-2.3
Indonesia	7.4	8.8	1.4	1.5	-2.5	-0.9
Malaysia	23.4	n.a.	6.8	n.a.	-9.4	-8.2
Latin America						
Chile	14.3	12.5	8.2	6.0	-13.0	0.1
Costa Rica	28.3	16.2	16.2	19.3	-4.5	-4.8
Uruguay	9.5	7.1	1.6	4.8	-2.5	-0.7
Venezuela	18.6	19.6	11.7	10.0	-0.2	-2.1
All Developing	12.2	10.4	5.9	4.6	-3.5	-7.7

Data Source: World Bank, _World Development Report_, various years.

of domestic savings and the greater dependence on external finance is the size of the fiscal deficit -- see Kenya and Sri Lanka for example. On the other hand, Pakistan and Malaysia, countries with very different savings and investment profiles, also have high fiscal deficits, suggesting that the link between external borrowing and fiscal spending is not immutable.

Some of the next generation and several of the original NIEs have experienced rather unstable fiscal shares, starting out with large deficits in the 1970s that have been reduced over the period. See Brazil, India, Mexico, Sri Lanka, Morocco, Chile, for example. While controlling budget deficits is laudable, where the budget gets cut is also important. Comparing the two lefthand columns to the righthand column in the Table suggest that countries that have had unstable fiscal shares may have more difficulty in maintaining investment programs in human capital with long-term payback -- in health and education, for example. Mexico, Sri Lanka, Morocco, and Chile have cut back substantially on the share of central government spending on health and eduction. The foundation for any development strategy, although particularly one based on manufacturing, is education and health. (Notice that these shares rose for Korea and Singapore.) So a drop in government spending in these two areas could be a bad harbinger. On the other hand, the efficiency of government spending cannot be discerned from these data. It is quite conceivable that lower rates of spending could be better targeted and yield superior health and educational delivery systems.

Just as human capital investment helps prepare the labor force for manufacturing employment, government spending on capital

infrastructure can be part of industrial development. Research by Shah (1988) suggests that profitability of private manufacturing investment in Mexico is positively associated with moderate government investment in infrastructure. Kahn and Reinhart (1989) emphasize that there are limits to the benefits of government investment. For a set of 24 developing economies, they show that real economic growth is positively correlated with the share of private investment to total investment. But their data also show that even countries with the highest growth have had at least 20 percent of total investment accounted for by government investment. Moreover, a high share of private investment does not guarantee high growth. Clearly, efficient allocation of funds to private industry as well as efficient construction and operation of those firms are key. Thus, providing an economic environment conducive to investment and assuring that private and public investment is responding to the proper pricing and allocative signals is important.

External debt service obligations can impact the domestic environment for investment and can affect the allocative signals of the real exchange rate and real interest rate. To repay international debt and stay on a postive growth trajectory, countries must affect two reallocations -- one internal between consumption and savings and one external between domestic demand and exports -- while at the same time maintaining investment. For different countries, one or the other (or both) transfers has been the more difficult. Table 3 shows external debt service obligations as a share of GNP (as a measure of the internal transfer) and as a share of exports (as a measure of the external transfer) for three years, 1970, 1980, and 1987.

TABLE 3

External Debt Service Obligations
% of GNP, % of Exports

	1970		1980		1987	
	% of GNP	% of Exports	% of GNP	% of Exports	% of GNP	% of Exports
Selected Original NIEs						
Brazil	0.9	12.5	3.5	34.6	2.4	26.7
India	0.9	21.5	0.6	7.1	1.3	16.9
Korea	3.0	19.5	4.6	12.3	10.4	26.9
Mexico	1.9	23.6	4.2	32.1	6.4	30.1
Singapore	0.7	0.6	2.3	1.0	2.4	1.4
Selected Next Generation						
Africa						
Kenya	2.0	6.0	3.7	12.3	6.5	28.8
Senegal	0.8	2.9	6.2	19.8	6.1	21.2
Mauritius	1.4	3.2	3.0	5.8	4.3	6.2
South Asia						
Pakistan	1.9	21.2	2.5	12.5	3.4	17.4
Sri Lanka	2.1	10.8	2.1	5.7	5.2	16.1
Mediterranean						
Morocco	1.6	8.0	6.8	27.1	8.1	23.4
Tunisia	4.7	18.1	5.0	10.9	9.9	24.1
East Asia						
Thailand	0.6	3.3	1.4	5.0	4.2	13.6
Indonesia	0.9	7.0	2.4	7.9	8.2	27.9
China	n.a.	n.a.	0.3	4.6	1.0	7.1
Malaysia	1.7	3.8	1.6	2.5	10.2	14.3
Latin America						
Chile	3.1	19.2	5.2	21.9	8.0	21.1
Colombia	1.7	11.6	1.6	8.9	7.0	30.7
Costa Rica	2.9	10.0	4.5	16.8	4.5	12.1
Uruguay	2.7	21.7	2.0	12.4	5.6	24.4
Venezuela	0.7	2.9	5.0	13.3	7.4	22.4

Data Source: World Bank, World Debt Tables.

For countries where external debt service is a high share of exports (for example, Brazil, Mexico, Kenya, Senegal, and Colombia) the external transfer problem is the more acute and may affect government policies toward the exchange rate which then affects investment. When external transfer requirements are high, the foreign currency constraint binds and governments try to avoid exchange depreciations. But exchange rate overvaluation makes investment in export industries look unprofitable, thus exacerbating the foreign currency constraint and encourages inefficient investment in import-competing industries. Finally, overvaluation may create expectations of a devaluation and put pressure on domestic inflation, leading to greater uncertainty in the environment for domestic investment.

For some countries, in addition to the foreign currency transfer problem, there is the problem of raising sufficient funds through domestic savings to finance debt service. A high debt service to GNP ratio implies a need to reduce consumption so that domestic savings can be transferred to external creditors. To maintain investment rates implies a still greater contraction in consumption. Korea, Morocco, Tunisia, Indonesia, Malaysia, and most of the Latin American group have a dual problem of affecting both internal and external transfers. It appears that Korea, Malaysia, and maybe Indonesia and Tunisia have increased savings sufficiently to affect the internal transfer, and exported enough to affect the external transfer while still maintaining investment rates.

The burden of external debt increased much more quickly for some of the next generation countries than for the others. Rapid changes in debt burdens make it more difficult to keep macroeconomic policy on

track. The external transfer problem worsened quickly for Korea, Kenya,
Tunisia, Indonesia, Malaysia, Colombia, Venezuela. The change in the
internal transfer burden was striking for Korea, Mexico, Senegal,
Morocco, Indonesia, Colombia, Venezuela. Reducing consumption to affect
the internal transfer is difficult, and countries may borrow instead,
which worsens both problems. This might have been the case for Mexico,
Colombia, Venezuela.

The real exchange rate is one of the key allocative mechanisms
for investment and consumption. Chart 3 shows real exchange rates for
several regions of the developing world. Given the behavior of growth
rates across the regions (Chart 1) it appears that the level of the real
exchange rate, the duration of misalignment, and perhaps also short-term
volatility matters for growth. Africa was misaligned for longest and
subsequently sustained the largest real depreciation, although the change
for Western Hemisphere (predominantly Latin American countries) is on the
same order of magnitude. Clearly, producers, investors, and consumers in
these two regions faced very large relative price changes during the
1980s. For investors, choosing product type or plant location was
difficult. For firms operating under the conditions of an appreciated
exchange rate in the early 1980s, the transition to the lower exchange
rate required substantial restructuring or resulted in bankruptcy.
Consumers saw living standards plummet. Moreover, the massive
realignment of exchange rates is unlikely to yield immediate results. It
takes time for investors to recognize what industries are competitive at
the new exchange rate, even more so as investors are likely to wait to
see whether policies and lower real rates prevail. The Western
Hemisphere real exchange rate dipped and bobbed several times during the

CHART 3

REAL EFFECTIVE EXCHANGE RATES

DEVELOPING COUNTRIES
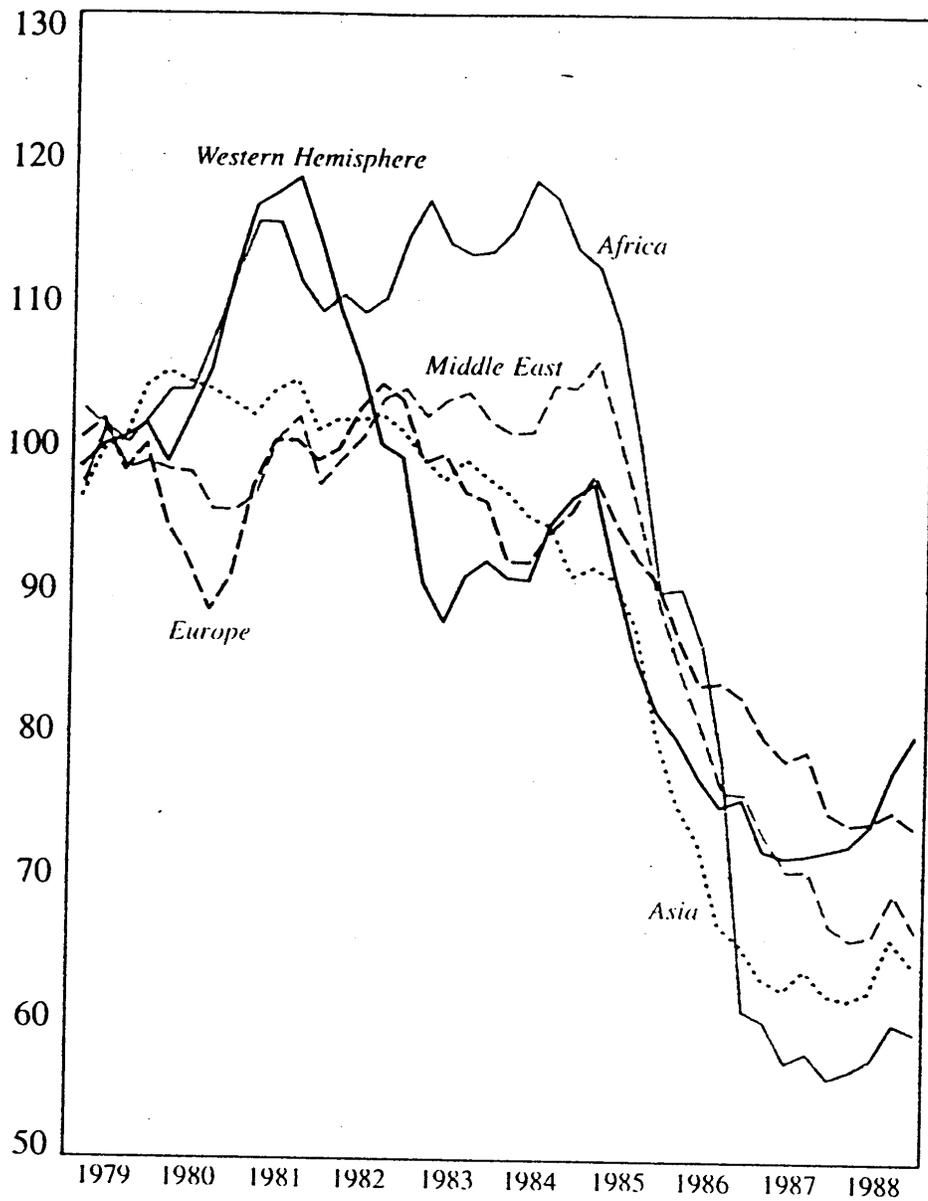
¹ Real effective exchange rates are calculated on the basis of consumer price indices.

SOURCE: IMF, World Economic Outlook, April 1989

1980s, for example. Overall, it is not surprising that investment and growth rates in the 1980s were lowest in in Africa and Latin America.

One indication of whether the environment is conducive to domestic investment is whether foreign investors find it attractive. Foreign investors respond to the same allocative signals and are as concerned about the long-term health of the economy as are domestic entrepreneurs. While foreign investors may face relatively more government interference, they may have a more ready source of financing. Table 4 shows the pattern of net private direct investment. In most of the NIEs, foreign direct investment increased even as the current accounts started heading into surplus. Two exceptions however point to the importance of the regulatory environment (India) and the macro environment (Brazil) for discouraging direct investment flows.

The data for the next generation countries also show how direct investment inflows mirror other policies. Some of the more stable next generation countries show increased net direct investment inflows and increased reliance on foreign direct investment to finance external deficits. See particularly Indonesia, Thailand, Colombia, Costa Rica. In other countries, such as Morocco, Tunisia, Kenya, Malaysia, direct investment increases until the mid 1980s when macroeconomic imbalances started to derail economic growth and net direct investment flows fell. Some of these countries are back on track and direct investment has picked up again. In all cases, direct investment flows are an important source of external financing.

The quality of the labor force is one factor that contributes to the investment environment. This is particularly difficult to measure and its relationship to government policies in the sectors of education

TABLE 4

Net Private Direct Investment
(millions of U.S. dollars)
Level and percent of current account before official transfers.

	1970 level	1970 %	1975 level	1975 %	1980 level	1980 %	1983 level	1983 %	1985 level	1985 %	1987 level	1987 %
Selected Original NIEs												
Brazil	407	47.3	1190	17.0	1544	12.0	1374	20.2	1267	464.0	582	45.6
Hong Kong	n.a.	n.a.	n.a	n.a	250	19.9	200	35.9	251	13.8	282	+ 24.
India	0	0.0	0	0.0	8	0.	63	2.4	160	3.0	253	6.2
Korea	66	9.3	53	2.8	-7	-	-57	-	200	22.6	418	+ 4
Mexico	323	29.4	610	15.0	2186	26.3	490	+9.3	492	+91.1	3248	+ 93.
Singapore	93	15.9	249	42.6	1138	72.9	924	159.3	891	594.0	982	+182.
Selected Next Generation												
Africa												
Kenya	14	2.2	16	7.2	78	7.8	50	28.7	12	6.3	27	1.4(86)
Senegal	5	7.5	16	18.6	13	2.3	-36	-	-3	-	-50	-
Mauritius	2	+20.	2	+11.	1	0.	2	9.1	8	26.7	44	+ 61.
South Asia												
Pakistan	23	3.3	11	1.0	72	6.2	29	15.4	78	6.2	62	8.7
Sri Lanka	0	0.	69	62.5	43	5.4	38	6.0	25	4.4	29	5.1
Mediterranean												
Morocco	20	12.4	0	0.	89	5.8	46	5.1	20	2.2	57	+ 34.8
Tunisia	16	18.2	45	26.5	236	76.1	223	37.0	140	23.8	92	92.9
East Asia												
Thailand	43	14.5	22	3.5	186	8.4	348	12.1	160	10.3	270	37.3
Indonesia	83	22.1	476	42.9	180	6.4	292	4.6	310	16.1	425	20.3
China	n.a.	n.a.	n.a.	n.a.	57	1.8	543	16.1	1031	9.0	1669	+976.
Malaysia	94	+1175.	351	70.8	934	304.0	1261	36.1	695	94.7	575	+ 27.
Latin America												
Chile	-79	-	50	10.2	170	8.4	152	11.8	62	4.7	97	11.1
Colombia	39	11.7	33	19.2	51	24.6	514	17.1	1016	56.2	349	+137.
Costa Rica	26	33.7	69	31.7	48	7.3	55	16.7	65	21.3	65	17.2
Uruguay	n.a.	n.a	n.a.	n.a.	290	40.4	-6	-	-8	-	-5	-
Venezuela	-23	-	418	+19.	55	+ 1.	86	+2.	106	+3.	21	1.9

- Negative net flows worsen negative current account balance.
+ Positive net flows augment positive current account balance.
Data Source: World Bank, World Tables.

and health is difficult to discern. One economic measure is labor productivity. Table 5 shows labor productivity in the agriculture and manufacturing sectors. Increasing productivity in both sectors go hand in hand and are good signs of economic vitality. Korea, India, Pakistan, Thailand, and Indonesia have quickly rising productivity in both agriculture and manufacturing. In contrast, stagnant agricultural productivity seems associated with stagnant productivity in manufacturing as in the case of Kenya, Mauritius, Tunisia, Brazil, and Mexico. These data suggest that manufacturing productivity depends on a robust agricultural sector which in turn suggests that government incentives should be balanced and not favor one sector at the expense of the other.

Perhaps least amenable to government intervention but most important for the economic prospects of developing countries is population growth. Table 6 shows average population growth rates for two periods (1965-1980 and 1980-1987) for the NIEs and next generation countries. All of the NIEs had population growth rates that declined between the two periods. Some of the next generation countries have rising population growth rates.

Population growth rates as well as their direction over time are important harbingers of development prospects for several reasons. First, growth in GNP per capita is often used to gauge the current stage and degree of success of a development strategy. Simple mathematics shows that two countries with the same rate of GNP growth will appear to be headed along very different development paths because of their population growth rates. For example, a GNP growth rate of 6 percent per year is a quite respectable 4 percent per capita GNP growth if population growth is 2 percent. If population growth is 4 percent, that same GNP

TABLE 5

Labor Productivity

| | In Agriculture
Food Production
Per Capita
1979 - 1981 = 100
1985-1987 | In Manufacturing | | |
| | | Real Gross Ouput per Employee
1980 = 100 | | |
		1970	1984	1985	1986
Selected Original NIEs					
Brazil	107	71	68	70	78
India	109	95	142	153	164
Korea	100	40	139	141	158
Mexico	97	77	111	109	104
Singapore	94	73	114	114	126
Selected Next Generation					
Africa					
Kenya	93	38	93	94	96
Senegal	105	n.a.	96	102	103
Mauritius	103	139	96	80	74
South Asia					
Pakistan	105	51	150	164	179
Sri Lanka	--	70	111	135	n.a.
Mediterranean					
Morocco	109	n.a.	n.a.	n.a.	n.a.
Tunisia	114	95	91	87	83
East Asia					
Thailand	107	68	133	138	140
Indonesia	117	42	138	157	186
China	124	n.a.	n.a.	--	--
Malaysia	126	n.a.	n.a.	--	--
Latin America					
Chile	104	60	n.a.	--	--
Colombia	97	84	110	126	140
Costa Rica	92	n.a.	174	155	144
Uruguay	100	n.a.	112	108	107
Venezuela	93	118	111	109	106

Data Source: World Bank, World Development Report, various years.

TABLE 6

Population Growth Rates

	1965-1980	1980-1987
Selected Original NIEs		
Brazil	2.4	2.2
Hong Kong	2.0	1.6
India	2.3	2.1
Korea	2.0	1.4
Mexico	3.1	2.2
Singapore	1.6	1.1
Selected Next Generation		
Africa		
Kenya	3.6	4.1
Senegal	2.5	2.9
Mauritius	1.6	1.0
South Asia		
Pakistan	3.1	3.1
Sri Lanka	1.8	1.5
Mediterranean		
Morocco	2.5	2.7
Tunisia	2.1	2.6
East Asia		
Thailand	2.9	2.0
Indonesia	2.4	2.1
China	2.2	1.2
Malaysia	2.5	2.7
Latin America		
Chile	1.7	1.7
Colombia	2.2	1.9
Costa Rica	2.7	2.3
Uruguay	0.4	0.5
Venezuela	3.5	2.8
All Developing	2.3	2.0

Data Source: World Bank, *World Development Report*, various years.

growth rate turns into a much less impressive 2 percent growth in GNP per capita. Gross savings rates apparently are lower at low rates of growth in GNP per capita, in part because private savings is lower and in part because social spending is higher. High rates of population growth squander gains made in the economy as a whole and push the country toward a low-level development path.

Several of the next generation countries have a serious problem with population growth rates. Kenya is a particular example, but Senegal, Morocco, Tunisia, and Malaysia have high and more importantly increasing population growth rates. In contrast, other next generation countries have made substantial progress in bringing population growth rates down to reasonable levels, most of the Latin countries for example. Some of these countries have struggled with macroeconomic imbalances; the lower population growth rates have helped solidify gains made in GNP growth rates to the overall benefit of the development strategy.

In summary, the record suggests that successful development depends on a stable macroeconomic environment where there is sufficient domestic savings to keep external borrowing within reasonable bounds; where the rate of investment is high enough and invested efficiently so as to provide a high enough return to both repay debt and reinvest; where relative prices, particularly the exchange rate, are "correct" and play an important allocative role; and where government spending on social and physical infrastructure supports private investment, not competes with it. But how does manufacturing play an important role in the development strategy? And does this mean that manufacturing development should be fostered at all costs?

IV. Manufacturing and the importance of international markets.

A development strategy should be balanced across sectors, particularly including agriculture. As noted by the labor productivity measure, manufacturing is not likely to be robust if the agricultural sector is not healthy. But manufacturing does play a key role in development and productivity in primary commodities is not enough for development success. Research suggests that manufacturing encourages complex internal linkages through the domestic economy. The ensuing dynamic increases skill levels and encourages further investment in flexible technology. These are honed and strengthened by manufacturing for export to international markets. Another important feature of international markets is that relative prices of manufactured exports are less volatile, world demand for manufactures is more robust in the face of recessions, and world trade in manufactured goods is increasing in value as compared to the markets for primary commodities.

The foundation of the manufacturing dynamic is "learning by doing". Amsden's research (1983, 1986) suggests that the NIEs created a comparative advantage in skill-intensive goods partly by educating the labor force and partly by allowing small private enterprise to flourish. Skill-intensive goods are relatively labor intensive, but lie somewhere between rote assembly and automated output. Production may be introduced via licensing, joint ventures, or foreign direct investment, or home-originated based on a perceived market need. Even if initially foreign, domestic producers tailor the products and production technology to best fit local conditions. In this tailoring process, workers improve skills in production, engineers learn about product design and production technology, and managers learn about marketing and plant organization;

all of these improve the competitiveness of the next generation of products produced by the firm. Moreover, these operational and organizational skills learned in the skill-intensive sector diffuse through the economy as auxiliary enterprises develop.

The manufacturing dynamic is important regardless of the level of development or the endowment of resources. In fact, research presented in Figure 3.7 of the World Development Report 1987 indicates that the positive relationship between rate of growth of GNP per capita and valued added in manufacturing is highest at lowest levels of income per head. This suggests that the poorer countries have the most to gain, in terms of GNP per capita growth rates, from the process of industrialization. Moreover, research presented in Box 3.3 in the same Report shows that countries of similar size and similar levels of resource endowments have systematically higher per capita GNP levels if the country pursues an industrialization strategy instead of relying on primary commodity wealth for growth.

Amsden suggests that the most important international markets for skill-intensive goods are the developing country markets. This may be because, in comparison to goods traded between the industrial and the developing country markets, product demand characteristics (product type, quality, after-sales-service) in developing country markets are relatively similar. Linder (1961) originated this hypothesis to explain patterns of trade in similar products between the industrial countries. He suggested that countries with similar factor endowments and level of development have broadly similar tastes and trade differentiated products because local firms cannot satisfy minority tastes efficiently.

There are two rationales for an international focus for any development strategy incorporating manufactures -- price efficiency and production efficiency. Competing against international prices encourages proper resource allocation and relative price efficiency across sectors within an economy. This is true whether products are exports competing outside the domestic market or domestic goods competing against freely-traded imports to the domestic market. Second, since many developing economies are small, tapping international demand through exports encourages efficient scale of production. Expanding the scale and scope of production furthers the diffusion of skills throughout the economy and contributes to the manufacturing dynamic.

However, integrating into international markets can magnify domestic business cycles. Chart 2 noted the greater cyclicality of international trade volume. Another source of international variability is changes in the international terms of trade. Chart 4 shows changes in the terms of trade for developing countries according to different classifications of exports: non-oil, manufactures, primary commodities. Also shown is the terms of trade for the Asian NIEs.

Primary commodity exporters faced massive changes in their terms of trade over the 1980s. Even without the other events of the 1980s, it would have been very difficult for government policies or the private sector to smooth such big swings. Of course the more common experience was that windfalls accompanying a boom financed new programs which were not cut back when the boom faded; they instead became key components of the fiscal deficits. Volatility in the international terms of trade makes the challenges to government policy and the costs of policy failure that much greater.

CHART 4

Terms of Trade
Developing Countries

percent in U.S. dollars

□ non-oil   ◇ primary   △ NIEs

            + mfg
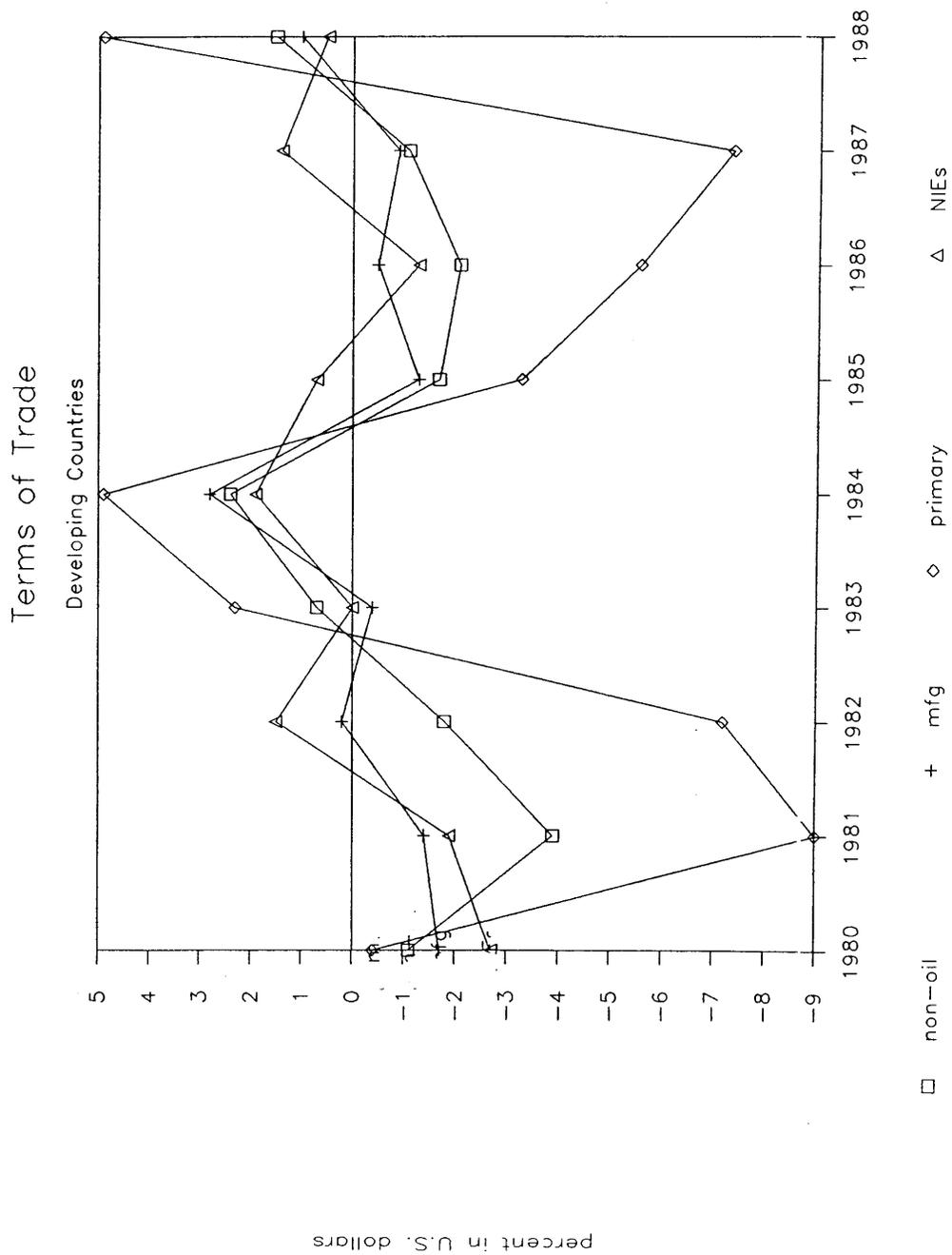
The substantially smaller swings in the international terms of trade facing manufactures exporters were an important element aiding policy stability and growth in these countries. Moreover just as Chart 2 noted an overall increase in the growth rate of international demand for manufactured products, there was also an overall improvement in the manufacturing terms of trade during the 1980s.

To take advantage of domestic and international demand for manufactured goods, the composition of production and trade in a country needs to be increasingly industrial. Successful industrialization, the diffusion of the skill-intensive learning process throughout the economy, seems to be associated with increasing shares of more complex and higher-valued added products -- from lower-technology textiles to higher-technology machinery. This transition shows evidence of production flexibility, that labor and capital are mobile or can be retrained and reinvested. Production is not rigid but can be shifted to meet changing product demands. Countries evidencing changing patterns of production and export would seem to be in a good position to exploit international markets.

Both the composition of production and of trade are important. Countries whose industries have developed in an environment of international competition are likely to show structural change in both the composition of production and of trade. Countries following an inward-looking development strategy based on protected industrialization might show the transition to an increasing share of manufactured goods in total production but will not likely show any increase in the share of manufactured goods in exports. These data would not indicate successful manufacturing development since protected industry is less conducive to

fostering skill development and the manufacturing dynamic. Countries that show structural change primarily in exports could be seeking to redress the inward-focus of an earlier industrialization strategy.

Table 7 shows the composition of manufacturing production for 1965 and 1987. Table 8 shows the composition of merchandise exports for 1970 and 1987. As expected, the NIEs to a greater or lesser degree show increasing shares in the production and export of high-value-added products such as machinery and transport. Virtually all of the next generation countries show substantially increased shares of other-manufactures in exports (after all, this is partly the basis for the sample of countries). But only some of the countries show changes in domestic production patterns consistent with balanced industrialization for domestic and export markets. Mauritius, Thailand, and Malaysia have undergone substantial restructuring of domestic production from agriculture into textiles and clothing and even into machinery and transport over this 16 year period. Most of the Latin countries have had little change in the structure of production over the 16 year period, but have altered the pattern of exports to focus increasingly on manufactured exports. This may indicate internal restructuring within the manufacturing sector from inefficient, inwardly directed production to more efficient, outwardly directed exports. Such restructuring uses investment funds that could have been used to create higher-valued added production, increasing the skill level of the economy. Nevertheless, there is learning in the restructuring. Once completed, these countries will be better able to compete in international markets.

Since the international markets can play such a major role in the industrialization process, an important question facing exporters of

TABLE 7

Composition of Manufacturing Production
(share of value added; current prices)

	Food & Agriculture		Textiles & Clothing		Machinery & Transport		Chemicals	
	1970	1986	1970	1986	1970	1986	1970	1986
Selected Original NIEs								
Brazil	16	15	13	12	22	24	10	9
India	13	11	21	16	20	26	14	15
Hong Kong	4	6	41	40	16	20	2	2
Korea	26	15	17	17	11	24	11	9
Mexico	28	24	15	12	13	14	11	12
Singapore	12	6	5	5	28	46	4	8
Selected Next Generation								
Africa								
Kenya	31	35	9	12	18	14	7	9
Senegal	51	48	19	15	2	6	6	7
Mauritius	75	35	6	39	5	3	3	4
South Asia								
Pakistan	24	34	38	21	6	8	9	12
Sri Lanka	26	-	19	-	10	-	11	-
Mediterranean								
Morocco	-	26	-	16	-	10	-	11
Tunisia	29	17	18	19	4	7	13	13
East Asia								
Thailand	43	30	13	17	9	14	6	6
Indonesia	-	23	-	11	-	10	-	10
China	-	13	-	13	-	26	-	10
Malaysia	26	21	3	5	8	23	9	14
Latin America								
Chile	17	27	12	7	11	4	5	8
Colombia	31	34	20	14	8	8	11	13
Costa Rica	48	47	12	10	6	6	7	10
Uruguay	34	29	21	18	7	8	6	10
Venezuela	30	23	13	8	9	9	8	11

Data Source: World Bank, World Development Report, various years.

TABLE 8

Composition of Merchandise Exports

	Machinery & Transport		Other Manufacturing		of which Textiles	
	1965	1987	1965	1987	1965	1987
Selected Original NIEs						
Brazil	2	17	7	28	1	3
Hong Kong	6	22	81	70	44	34
India	1	10	48	59	36	16
Korea	3	33	56	59	27	25
Mexico	1	28	15	19	3	2
Singapore	11	43	24	29	6	6
Selected Next Generation						
Africa						
Kenya	0	2	6	15	0	na
Senegal	1	4	2	11	1	na
Mauritius	0	2	0	38	0	na
South Asia						
Pakistan	1	3	35	64	29	41
Sri Lanka	0	2	1	38	0	25
Mediterranean						
Morocco	0	1	5	48	1	16
Tunisia	0	6	19	55	2	29
East Asia						
Thailand	0	12	4	41	0	18
Indonesia	3	3	1	24	0	5
China	3	4	43	66	na	na
Malaysia	2	27	4	13	0	3
Latin America						
Chile	1	3	4	6	0	0
Colombia	0	1	6	20	2	4
Costa Rica	1	7	15	33	2	na
Uruguay	0	3	5	41	2	17
Venezuela	0	2	2	6	0	na
All Developing Countries	2	16	17	41	5	11

Data Source: World Bank, _World Development Report_, various years.

manufactured goods is how receptive the international marketplace is for their exports. Table 9 shows income and price elasticities for exports (total and manufactures only) of different developing country groups to different regions of the world. The income elasticity of developing-country manufactures exports to the industrial world (line 1) is greater than that for all exports to any group (2.91 on line 1a), and compares favorably to income elasticities for trade between the industrial countries (which are in general around and below 2.0; see for example in Marquez, 1988). Looking at individual markets (line 2), except for the Japanese market, the income elasticity for developing-country manufactured exports is well above 2.0. These elasticity estimates imply that a 1 percent increase in GNP of these industrial countries yields a 2 percent increase in export volume of the developing countries. Moreover, since income elasticities for industrial country and developing country exports to the industrial markets are overall similar, it suggests that the developing-country manufactured exports are not inferior goods and are not obviously discriminated against in the industrial-country markets.

However, the income elasticity of developing-country manufactured exports to the developing world is low -- below 1.0 (line 1b). As developing countries grow, they import proportionately less from other developing countries as compared to how much the developed countries import as they grow -- this is after correcting for different GNP values. This is opposite to what Amsden suggests should be the case to achieve maximum "learning by doing". Two possible explanations for the lower income elasticity both suggest that developing countries can benefit from increased trade among themselves. The type of manufactured

TABLE 9

Estimates of Price and Income Elasticities
for Exports of Developing Countries
to Regions of the World

Developing Country Exporting Group to Importing Group	Price Elasticity	Income Elasticity
1. Manufactures Exporters		
a. to Industrial	-0.83**	2.91**
b. to Non-oil Developing	-0.37	0.85**
2. Developing countries manufactures		
to Canada	-3.06*	2.06*
to Germany	-0.84*	3.38**
to Japan	-2.36*	0.74
to U.K.	-0.53	2.70**
to U.S.	-1.26**	2.96**
3. Asia manufactures		
to World	0.00	1.35**
Europe manufactures to World	-0.25*	2.32**
Western Hemisphere to World	-0.61*	4.54**

* significant at the 10%, ** at the 5% confidence interval.

Source: 1) Bond, M., "Export Demand and Supply for Groups of Non-Oil Developing Countries," *IMF Staff Papers*, 32:1 (1985).
2) Marquez, J. and C. McNeilly, "Income and Price Elasticities for Exports of Developing Countries," *Review of Economics and Statistics*, forthcoming.
3) Bond, M., "An Econometric Study of Exports of Manufactures from Developing Countries," IMF Working Papers WP/87/55, *International Monetary Fund*, 1987.

goods that developing countries trade with each other may have lower income elasticities than the goods they trade with the developed world. Diffusion of manufacturing skills through auxiliary units in the domestic economy is aided by producing for both domestic consumption and for export; producing goods that only developed countries can (or want to) purchase limits this diffusion. The lower income elasticity may also reflect import protection in the developing countries against just the kinds of manufactured goods that are most suitable for developing country markets. Tariff rates in the developing countries are much higher than in the industrial countries and the developing countries also use quantitative restraints. Protecting against manufactured imports leads to production inefficiencies within the country and also chokes-off opportunities for the developing countries to grow and prosper together through intra-industry trade in manufactures.

Price elasticities for some of these directions-of-trade indicate the importance of keeping the real exchange rate competitive. A price elasticity of -1 indicates that a 1 percent increase in export prices would yield a 1 percent decline in export volume, so no change in nominal exports. Non-zero price elasticities mean that a country could vary the international price of the product without an offsetting change in volume. The point is not that countries should strategically change prices, but that these empirical estimates suggest that misaligned exchange rates (which are a determinant of export prices) can have important consequences for export demand and external balance.

How much do the developing countries as a group lose by limiting trade among themselves in manufactured products? Trade patterns can be

crudely divided into two types -- Heckscher-Ohlin trade and intra-industry trade. Heckscher-Ohlin trade is the familiar trade pattern generated by a trade theory based on differences in endowments. Products embody the factor resources of the economy and dissimilar products are traded for each other by economies of dissimilar factor endowments. By contrast, intra-industry trade is in products with similar factor embodiments. It is generated by economies of scale in production and taste differences within a country. Intra-industry trade is primarily in manufactured goods and is observed particularly between countries with relatively small-scale markets. Intra-industry trade has expanded faster as a share of total trade beginning at least in the 1950s. Countries pursuing strategies of producing for domestic and export markets in manufactured products have risen the tide of increased world demand for differentiated manufactures.

Table 10 shows estimates of the importance of Heckscher-Ohlin type variables and intra-industry type variables for total trade of the industrial and the developing countries. Three trade directions are shown: trade between the industrial countries (column 1), trade between the developing countries (column 2), and trade between the industrial and the developing countries (column 3). The Heckscher-Ohlin type variables proxy for differences in factor endowments (physical capital intensity, human capital intensity) and similarities in "tastes" (per capital income, inequality in per capita income). The intra-industry type variables proxy for characteristics of product and production (product differentiation, marketing costs, economies of scale, industry concentration, off-shore assembly). Other variables proxy for conditions of the trading environment (trade protection, trade area, language).

TABLE 10

Heckscher-Ohlin Trade and Intra-Industry Trade
in Manufactured Goods
(regression coefficients, all significant at 1%)

Variable	Trade Among Developed Countries	Trade Among Developing Countries	Trade Between the Two Groups
Physical capital intensity	0.178	0.051	0.392
Human capital intensity	-0.126	0.233	0.123
Per capital income	1.712	2.041	2.100
Per capital income inequality	-1.157	2.056	-2.115
Income	2.204	2.874	-2.813
Income inequality	-3.158	-2.310	-3.235
Product differentiation	1.204	0.727	1.121
Marketing costs	20.000	29.494	23.127
Economies of scale	-9.070	-14.974	-12.757
Industry concentration	-8.929	-12.831	-11.196
Off-shore assembly	--	--	0.451
Trade orientation	2.100	2.393	2.137
Trade area*	EEC, EFTA	LAFTA	
Language*	English, French, German, Scandinavian	English, French, Spanish, Portuguese	English

* Indicates significant coefficient trade area or language, as noted.

Source: Adopted from Balassa and Bauwens, Changing Trade Patterns in Manufactured Goods, Table 9.1.

Comparing the coefficients on the Heckscher-Ohlin proxies between the three columns indicates that many of the Heckscher-Ohlin factors are relatively more important in trade between the industrial and the developing countries than they are for trade within either of the two groups -- physical capital intensity and degree of income inequality, for example. This is as expected according to the basis of the Heckscher-Ohlin theory.

Intra-industry trade factors are important determinants of trade patterns within each group. Note particularly the importance of intra-industry factors for trade between the developing countries. The coefficients on economies of scale and off-shore assembly are greatest for trade between the developing countries. Product differentiation is somewhat less important in intra-developing country trade than it is in intra-industrial country trade. These estimates support the hypothesis that developing countries can gain from trade in manufactured goods, and particularly so with their own neighbors.

Protection contracts trade and trade openness increases trade regardless of the direction of trade. Trade openness is significant in all markets, indicating the overall importance of trade policies for affecting the level of trade. But comparing coefficients suggests that increased trade openness by the developing countries would increase intra-developing country trade by more than it would increase trade between industrial and developing countries. These coefficients are elasticities and therefore do not measure which of the markets is most important in absolute magnitude; undoubtedly the industrial market is more important in value terms. Nevertheless the results suggest that

developing countries' trade would benefit a great deal from market opening measures in developing country markets.

Other factors, such as regional affiliation and cultural similarity further support the hypothesis that manufactures growth is supported by trade to other developing-country markets. Whether an official organization is necessary or geographical closeness is sufficient to encourage trade in manufactures is not clear.

Results reported in Tables 9 and 10 suggested that intra-developing country trade and particularly intra-industry trade in manufactured products are key sources of growth in international trade for the developing countries. What does the trend in intra-developing country trade and intra-industry trade between the developing countries look like? Chart 5 shows intra-developing country trade as a share of their total trade with the world for five annual observations over a 25 year period and for six categories of manufactured goods.

Intra-developing country trade is a very important trade pattern, but it has declined in the 1980s. In a number of important categories of high-valued added manufactures (chemicals, machinery and transport, and iron and steel), the developing country markets account for 40 to 50 percent of developing country trade flows. However, in most product categories, while intra-developing country trade flows increased in the 1970s, they have dropped off in the 1980s. The developing country increasingly turned away from their own markets to the markets in the industrial countries during the 1980s. This is a partly a reflection of the robust growth of manufactured imports into the United States and the stagnation of much of the developing world during the 1980s. But it is a

CHART 5

LDC Trade with LDCs

as a share of LDC trade with World

percent of total trade

all   chem   mach/trans   oth/mfg   tex/app   iron/steel

0   0.1   0.2   0.3   0.4   0.5   0.6

1970   1975   1980   1983   1985
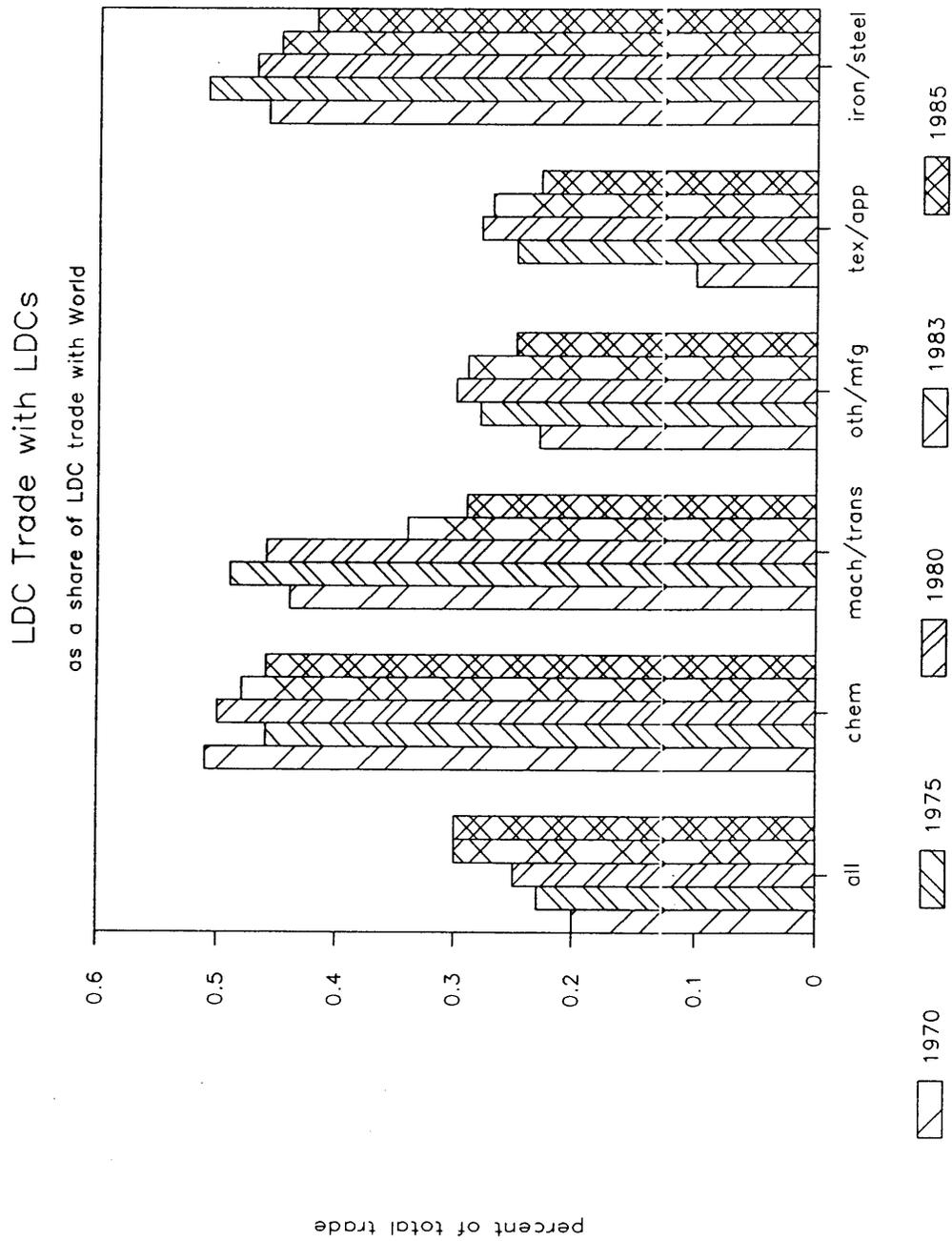
trend that goes counter to the direction which would yield the greatest percentage increase in trade flows of manufactured goods.

Some countries did increase intra-industry trade with other countries in the developing world. Chart 6 shows the index of intra-industry trade for trade between East Asian countries and the other developing countries. An index number of 1.0 indicates that 100 percent of the trade flows between two trading parties (in this case, East Asia and the rest-of-the-developing world, and adjusted for trade imbalances) was in similar products. It would appear that one element in the success of the development strategy of the Asian NIEs was maintaining high levels of intra-industry trade with other developing countries. In all of the manufactures categories, 60 percent or more of the trade between East Asia and other developing countries was trade in similar products. Moreover, intra-industry trade between these two groups rose during the turbulent 1980s.

In summary, production and trade in manufactured products, particularly trade with other developing countries, appear to have been key elements in the success of the original NIEs. Next generation countries that create an environment conducive to investment in business and labor which nurtures the manufacturing dynamic at home and penetrates markets abroad, not just of the industrial countries but of their neighbors as well, are in the best position to succeed in the 1990s.

28a

CHART 6

Intra—Industry Trade

East Asia with Developing Countries
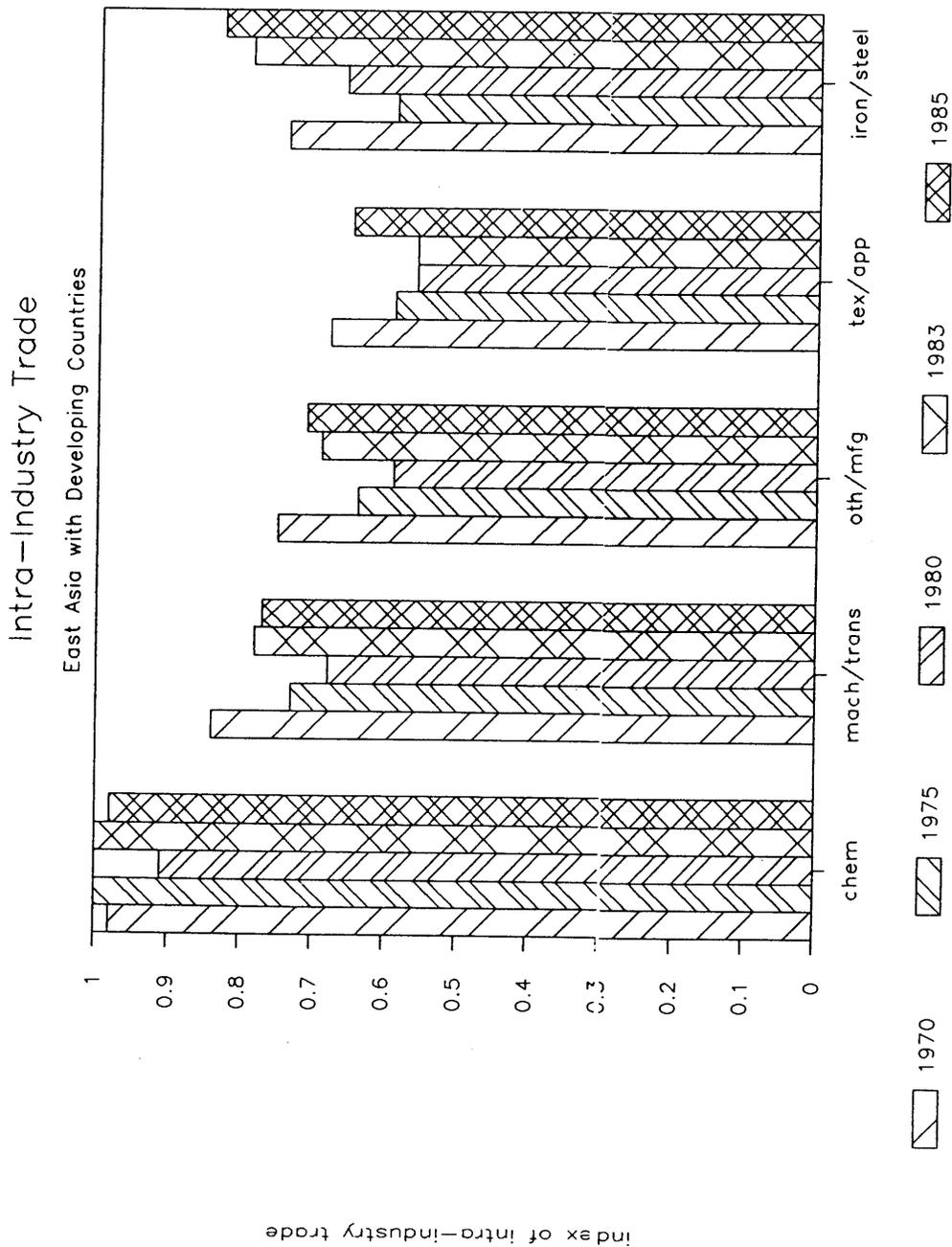
V. Policy Issues

The conclusions of the previous sections on the prerequisites of macroeconomic policies and the importance of manufactures lead to some policy questions. Some have a domestic focus, others international. The selection of policy issues discussed here is, of course, hardly exhaustive. (1) Given the importance of manufacturing development, should a country follow a targeted industrial strategy using export subsidies and import protection? (2) How can countries achieve manufactures growth in the current international environment of reduced international capital flows? (3) If all developing countries follow a manufactures-oriented development strategy, will the international terms of trade in manufactures turn against all of them? (4) Protectionism and regionalism are on the increase worldwide, in both developing- and industrial-country markets; how can a manufacturing drive succeed?

(1) The record shows virtually universal failure when countries have tried to force the manufacturing dynamic with industrialization at all costs. This is because hand-in-hand with the objective goes excessive taxation of other sectors of the economy (frequently agriculture), excessive and thus inefficient government and private spending, excessive and poorly allocated domestic and international borrowing, and inappropriate exchange rates.

Even when an development strategy is balanced between industry and other sectors of the economy, governments that attempt to "pick (manufacturing) winners" usually fail. There are very few industries for which export subsidies or import protection are economically sound policies based on arguments such as economies of scale or infant industry. Moreover, research on "directly-unproductive

activities" points to political economy reasons for avoiding special treatment of particular industries.

More important than targeting winners, government policies should concentrate on maintaining a stable and favorable environment for investment and growth, in particular, a competitive real exchange rate. This is the most important price signal for consumption and for domestic and foreign investors.

(2) The deterioration in the flow of bank capital to the developing world puts a premium on domestic savings. Fiscal deficits kept within reasonable bounds contributes to public savings. Private savings is enhanced by a stable environment and growth and some sort of financial arrangement that returns a positive rate of return. Most of the factors that contribute to domestic savings will also attract foreign capital. The role for foreign direct investment should not be understated.

(3) The basic point of the theory underlying intra-industry trade is that countries *trade* manufactured products with each other. Thus growth in one country based on exports of one type of manufactures should yield greater demand for other manufactured products which can be the exports of another country. In the data as well, the evidence is that the international terms of trade in manufactures improved over the last decade even as a number of successful new exporters entered the world trading arena.

In a world where trade among countries in manufactured goods is key, there is a premium on correct price signals and good understanding of the target market. "Market niches" in trade are most

important, which may imply reliance on international marketing agents or expatriates in order to penetrate markets.

(4) Trends in protection are a cause for concern. In the industrial countries (and even in some of the successful NIEs), protection is frequently given to products in which a country is losing comparative advantage. These are often the products in which the next generation of NIEs could excel and which help spark the manufacturing dynamic. By the same token, each developing country that protects its home market reduces overall the opportunity for intra-developing country trade. The policy issue that all governments need to analyze is what is the basis for protecting domestic markets and what are the costs.

Second, developing country governments need to be seriously involved in the Uruguay Round of Multilateral Trade Negotiations. Much of the Uruguay Round goes well beyond tariff negotiations: issues of trade in services and complete revamping of the rules for trade in agriculture and textiles are being discussed and are important areas for interchange between the industrial and developing countries. But protection facing the developing countries in other developing-country markets are more often than not tariffs. The GATT has a long and very successful history of tariff negotiations. A very important part of developing country participation in the Uruguay Round should be the developing countries discussing with each other how to improve the environment for intra-developing country trade in manufactured goods.

References

Amsden, Alice H. "'De-Skilling', Skilled Commodities, and the NICs' Emerging Competitive Advantage". *American Economic Review*, 73:2 (1983).

_____. "The Direction of Trade -- Past and Present -- and the 'Learning Effects' of Exports to Different Directions". *Journal of Development Economics*, 23:4 (1986).

Balassa, Bela. The Newly Industrializing Countries in the World Economy. Pergamon Press: New York, 1981.

_____ and Associates. The Structure of Protection in the Developing Countries. Published for the World Bank and the Inter-American Development Bank by The John Hopkins Press, Baltimore, 1971.

_____ and Luc Bauwens. Changing Trade Patterns in Maunufactured Goods: An Econometric Investigation. North Holland: New York, 1988.

Bhagwati, Jagdish. Foreign Trade Regimes and Economic Development: Anatomy and Consequences of Exchange Control Regimes. Published by Ballinger Publishing Co., Cambridge for National Bureau of Economic Research, 1978.

Bond, Marian. "Export Demand and Supply for Groups of Non-Oil Developing Countries". *IMF Staff Papers*, 32:1 (1985).

_____. "An Econometric Study of Exports of Manufactures From Developing Countries". IMF Working Paper WP/87/55, *International Monetary Fund,* August 1987.

Bradford, Colin I. Jr. "NICs and the Next-Tier NICs as Transitional Economies", in Colin I. Bradford Jr. and William H. Branson eds. Trade and Structural Change in Pacific Asia. The University of Chicago Press: Chicago, 1987.

Clavijo, Fernando and Riccardo Faini. "Differentiatin Cyclical and Long-Term Income Elasticities of Import Demand". PPR Working Paper WPS 197, *World Bank,* May 1989.

Edwards, Sebastian. Exchange Rate Misalignment in Developing Countries. World Bank Occasional Paper no. 1/New Series. Published for the World Bank by The Johns Hopkins Press, Baltimore, 1988.

_____. Real Exchange Rates, Devaluation, and Adjustment: Exchange Rate Policy in Developing Countries. MIT Press: Cambridge, 1989.

Fishlow, Albert, Jean Carrière, and Sueo Sekiguchi. Trade in Manufactured Products with Developing Countries: Reinforcing North-South Partnership. Report of the Trilateral Task Force on North-South Trade to the Trilateral Commission. Triangle Papers no. 21, The Trilateral Commision, 1981.

International Monetary Fund. _World Economic Outlook_. April, 1989.

Kahn, Mohsin S. and Carmen M. Reinhart. "Private Investment and Economic Growth in Developing Countries". IMF Working Paper WP/89/60, _International Monetary Fund_, July 1989.

Keesing, Donald B. "World Trade and Output of Manufactures: Structural Trends and Developing Countries' Exports". World Bank Staff Working Paper no. 316, _World Bank_, 1979.

Krueger, Anne O. "Growth, Distortions, and Patterns of Trade among Many Countries". _Princeton Studies in International Finance 'no. 40_, International Finance Section: Princeton University, February 1977.

Linder, Stephan B. _An Essay on Trade and Transformation_. John Wiley: New York, 1961.

Mann, Catherine L. "Lift-Off: The Next Generation of NICs". _The International Economy_, 2:6 (1988).

Marquez, Jaime. "Income and Price Elasticites of Foreign Trade Flows: Econometric Estimation and Analysis of the U.S. Trade Deficit". International Finance Discussion Papers no. 324, _Federal Reserve Board_, 1988.

_____ and Caryl McNeilly. "Income and Price Elasticities for Exports of Developing Countries". _Review of Economics and Statistics_, forthcoming.

_____ and _____. "Can Debtor Countries Service Their Debts? Income and Price Elasticities for Exports of Developing Countries". International Finance Discussion Papers no. 277, _Federal Reserve Board_, 1986.

Shah, Anwar. "Public Infrastructure and Private Sector Profitability and Productivity in Mexico". PPR Working Papers WPS 100, _World Bank_, September 1988.

World Bank. "Adjustment Lending: An Evaluation of Ten Years of Experience". Policy and Research Series, no. 1, 1988.

_____. _World Development Report 1989_. Oxford University Press: New York, 1989.

_____. _World Development Report 1987_. Oxford University Press: New York, 1987.

_____. _World Tables_. Various years.

_____. _World Debt Tables_. Various years.

United Nations. _International Trade Statistics Yearbook._. Various years.

International Finance Discussion Papers

International Finance Discussion Papers