FEATURES

Industrialisation and Foreign Trade

What is the relationship between industrialisation, trade and economic performance?

Sarath Rajapatirana

In this paper Sarath Rajapatirana, formerly of the Central Bank of Ceylon and now Chief, Policy Analysis Unit in the Office of the Vice President of Economics and Research of the World Bank, examines critical issues in the interrelationship between industrialisation and foreign trade and the impact of different trade strategies on industrialisation and economic performance in developing countries. This paper is based on the Bank's "World Development Report, 1987" which was prepared by a team of economists led by Rajapathirana.

In the first decades following World War II, economists viewed industrialization as an essential stage in reaching rapid economic development. But the real question is not how fast an economy can industrialize but how its industrial sector can be structured to support sustained growth. In other words, the aim is to seek ways of achieving efficient industrialization. This quest for efficient industrialization relates directly to foreign trade. Foreign trade allows countries to realize gains by subjecting domestic production to foreign competition and by providing access to a wider market to achieve economies of scale. At the national level, trade has allowed countries to specialize between industry and other sectors, between different branches of industry, and increasingly even between different stages in production. Trade has provided access to critical industrial inputs, including technology, for countries incapable of producing them. In turn, the advent of new technologies has shaped the pattern of specialization, and hence the pattern of trade. Trade has also meant expanded demand for exports which itself can spur technological development, and thus smooth the way for industrialization.

This article, based on the World Development Report, 1987, examines three critical issues in the relationship between industrialization and foreign trade . These are:

Factors that determine the pace and efficiency of industrialization, in particular the role of the government in that process.

The impact of different trade strategies on industrialization and economic performance in developing countries.

Lessons from trade policy reforms.

Factors in industrialization

There has been no single path to industrialization. It involves the interaction of technology, specialization, and trade, bringing about structural change within economies and leading to high investment and employment. At the heart of the process has been the role of the government in influencing both the pace and the efficiency of industrialization. A broad view of the history of industrialization reveals five factors that have shaped this process.

Initial conditions. A country with a large domestic market is in a better position to establish industrial plants that take advantage of economies of scale. Since distance between countries in many cases confers natural protection to domestic firms, everything else being equal, a country with a larger domestic market, in terms of area and population, can begin industrializing earlier than one with a smaller domestic market. But size is not the only factor necessary for industrialization, as shown by the cases of Japan and the United Kingdom. A rich endowment of natural resources may provide a country with the financial means to import foreign technology and its high income level may support a large domestic market for industrial products.

Domestic and foreign trade policies. The transition from a primarily agricultural and trading economy to an industrial economy has required, at least in the initial stages, an increase in the skills of the labour force. More than general education is required, but high achievement at the frontiers of science is not necessary for this transition.

State support for technical education made significant contributions to French and German industrialization. The United States broadly emulated the German system, with government financial support for research in universities. Private industry also maintained research laboratories that sometimes received public support. In Japan today most industrial research is carried out within private firms, but in the early period of industrialization the government helped to promote technological change, for example by setting up demonstration factories that were later sold to the private sector.

Transport and communications.

Transport and communications networks integrated domestic and foreign markets into the global economy, making it easier for exporters to compete. But transport and communications networks are very capital-intensive and therefore expensive during the early

stages of industrialization. They demand direct or indirect government support.

A stable institutional and macroeconomic environment. Laws and institutions that allow markets to function efficiently-property rights, standardized weights and measures, patent laws, and so forth-have all helped to promote faster and efficient industrialization. Such laws and institutions help promote long-term investment and risk taking. Yet they should also be flexible enough to allow institutional innovation.

Industrialization, especially in its early stages, requires large investment in machines and infrastructure. Moreover, one of the most important means by which technological innovation has been incorporated in production has been investment in new machines. Macroeconomic policies in the countries that were industrialing in the nineteenth century encouraged domestic savings and foreign finance required for investment.

Role of government. Markets and governments complements each other on the path to industrialization. Markets, while effective in pricing and sifting through investments, are rarely perfect. Government must sometimes intervene to achieve an efficient outcome. First governments have to set the "rules of the game" to define the use, ownership, and conditions of transfer of physical, financial, and intellectual assets. Irrespective of the type of economy whether of favours private enterprise or is a command economy these rules impinge on economic activity. The more they are certain, well defined, and well understood, the more smoothly the economy can function. When these rules are unclear, interpreted in unpredictable ways, and managed by a cumbersome bureaucracy, they raise the costs of doing business and thereby discourage the increase in the number or transactions that are essential for industrial specialization.

As experience has shown, governments must continue to be the main providers of certain services to facilitate industrialization:

* All governments play a dominant role in education, especially in providing the basic skills of literacy and numeracy that are vital to a modern industrial labour force.

* Most governments provide the physical infrastructure of industry: transport, communications, and power systems.

* Most governments provide economic information and regulate such standards a weights, measures, and safety at work.

* Governments in the industrial economies promote scientific and technological research.

* State-owned enterprises are often established to carry out some of these tasks.

Governments also intervene somewhat less directly in the running of their economies. This indirect role creates the policy environment. Trade policy, fiscal incentives, price controls, investment regulations, and financial and macroeconomic policies are the main instruments available to governments. Capital-market failures and externalities are the justifications most often cited for direct intervention. Capital market failures arise when entrepreneurs cannot borrow adequate amounts or at opportunity costs that allow them to undertake investments. Externalities arise when the beneficial effects of an investment cannot be recouped by the investor himself. Both concepts have been used, for example, to defend policies toward new, or "infant" industries.

Different forms of intervention will have different effects on the economy. Indeed, in most cases the important question often is not whether to intervene, but how. Quantitative restrictions on imports, for example, may be used to protect domestic infant industries. But these will raise social costs more than a tariff, because they enourage unproductive activities and may lead producers to avoid the controls. Tariffs, on the other hand, raise prices to consumers. Subsidies to the infant industry could give the same assistance without raising prices-but they raise public spending and add to budgetary deficits.

Classification of forty-one developing economies by trade orientation, 1963-73 and 1973-85

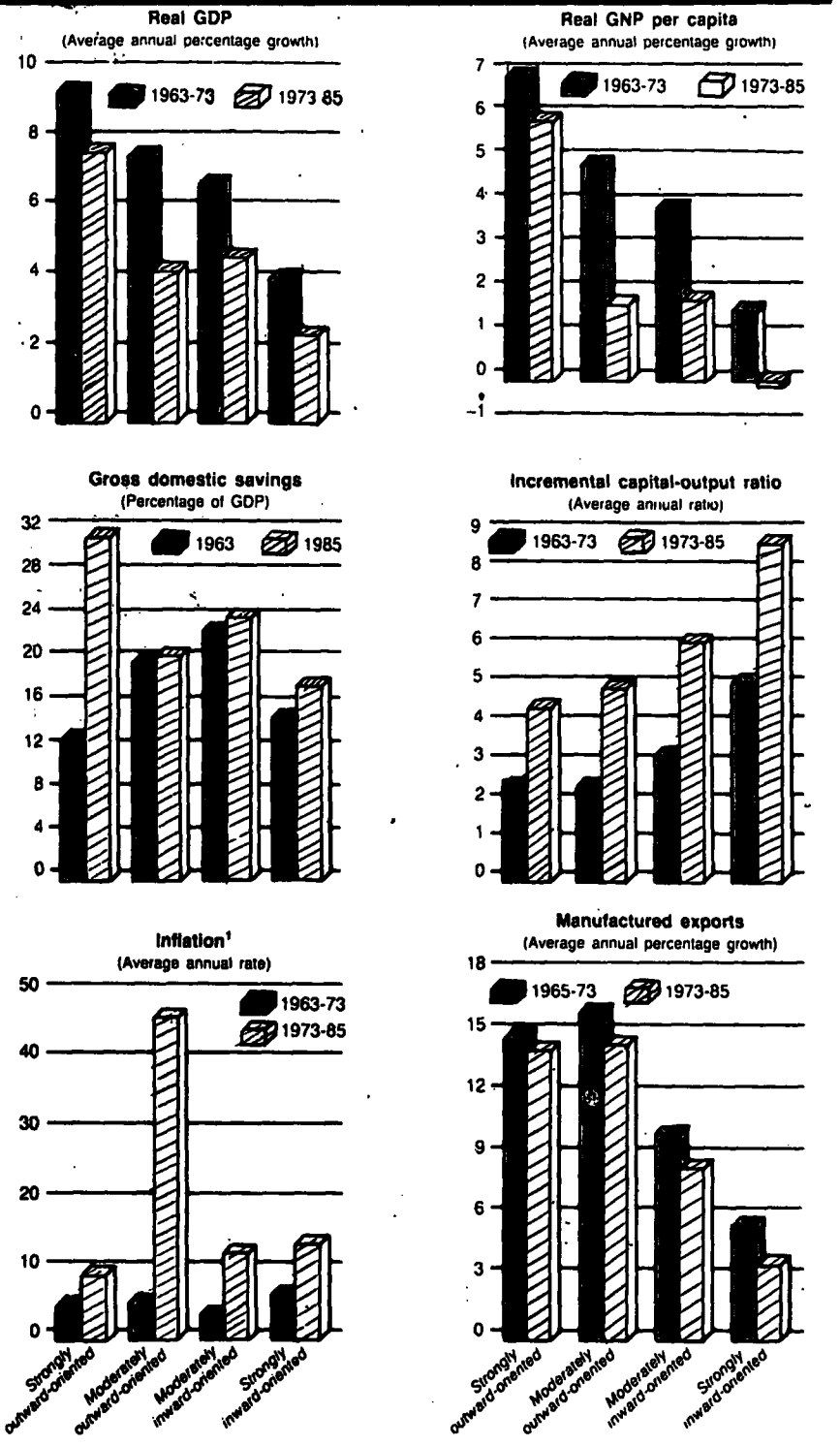
Outward-oriented		Inward-oriented	
Strongly	Moderately	Moderately	Strongly
		1963-73	
Hong Kong Korea Rep of Singapore	Brazil Cameroon Colombia Costa Rica Côte d'Ivoire Guatemala Indonesia Israel Malaysia Thailand	Bolivia El Salvador Honduras Kenya Madagascar Mexico Nicaragua Nigeria Philippines Senegal Tunisia Yugoslavia	Argentina Bangladesh Burundi Chile Dominican Rep Ethiopia Ghana India Pakistan Peru Sri Lanka Sudan Tanzania Turkey Uruguay Zambia
		1973-85	
Hong Kong Korea Rep of Singapore	Brazil Chile Israel Malaysia Thailand Tunisia Turkey Uruguay	Cameroon Colombia Costa Rica Côte d'Ivoire El Salvador Guatemala Honduras Indonesia Kenya Mexico Nicaragua Pakistan Philippines Senegal Sri Lanka Yugoslavia	Argentina Bangladesh Bolivia Burundi Dominican Rep Ethiopia Ghana India Madagascar Nigeria Peru Sudan Tanzania Zambia

Trade, industry and growth

Economists and policymakers in the developing countries have long agreed on the role of government in providing infrastructure, promoting market efficiency, and maintaining stable macroeconomic policies. But they have disagreed on trade strategies that have enabled countries to attain high growth and develop their industrial potential.

Outward- and inward-oriented policies. Trade policies can be characterized as outward oriented or inward oriented. An outward oriented strategy provides incentives which are neutral between production for the domestic market and exports. Because international trade is not positively discouraged, this approach is often, though somewhat misleadingly, referred to as export promotion. In fact, the essence of an outward-oriented

Macroeconomic performance of 41 developing economies grouped by trade orientation



Note: Averages are weighted by each country's share in the group total for each indicator
¹Inflation rates are measured by the implicit GDP deflator Values are group medians

strategy is neither discrimination in favour of exports nor bias against import substitution. An inward-oriented strategy, on the other hand, is one in which trade and industrial incentives are biased in favour of domestic production and against foreign trade. This approach is often referred to as an import substitution strategy.

An inward-oriented strategy usually involves overt and high protection. This makes exports uncompetitive by raising the costs of the foreign inputs used in their production. Moreover, an increase in the relative costs of domestic inputs may also occur through inflation-or because of an appreciation of the exchange rate-as the quantitative import restictions are introduced. Industrial incentives are administered by an elaborate and extensive bureaucracy.

Outward-oriented policies favour tariffs over quantitative restrictions. These tariffs are usually counterbalanced by other measures, including production subsidies and the provision of inputs at free trade prices. Governments seek to keep the exchange rate at a level that maintains equal incentives to produce exports and import substitutes. Overall protection is lower under an outward-oriented strategy than under inward orientation; equally important, the spread between the highest and lowest rates of protection is narrower.

Which policy has fostered greater success? An analysis of 41 economies by Bank staff explored the relationship over 1963-85 of trade strategies to economic performance. The results of this study indicate that outward-oriented economies have performed better than inward-oriented ones (see chart).

Some economies which did not fall clearly in either the outward- or inward-oriented category showed mixed results. There was no strictly discernible relationship between trade orientation and economic and industrial performance. This is not surprising, since factors other than trade strategy influence economic performance.

Lessons of policy reforms

If outward-oriented strategies are associated with better economic performance than inward-oriented strategies, why are policymakers in developing countries generally hesitant to undertake trade policy reforms to achieve such strategies? One reason is that there are many unresolved issues in the area of trade reform that economic research is only just beginning to answer. Another is that many trade re-

The international trading environment and the developing countries

While the lessons from trade policy reforms show that the process is manageable under certain conditions, the benefits from trade liberalization can be increased if the world trading environment is free. Such an environment will also make it politically viable for developing countries to undertake trade reforms. But in recent years there has been a resurgence of protection in the form of nontariff barriers. The proportion of North American and European Community imports affected by various nontariff restrictions has risen by more than 20 percent from 1981 to 1986. These restrictions cover large volumes of imports and particularly affect exports of developing countries. Nontariff barriers in clothing and footwear have proved porous, so some developing countries have been able to increase their exports to the industrial economies even as gaps in these barriers are being plugged.

Costs of protection to industrial countries

There are several ways of measuring the costs of protection. These methods generally underestimate the costs due to the negative effects of restraining competition on managerial efficiency, acquisition of new techniques, economies of scale, and savings and investments.

- ***Costs to the consumers.*** Protection of apparel in the United States is estimated to have cost US companies in 1984 between $8.5 billion and $18.0 billion; of steel, between $7.3 billion and $20 billion; and of automobiles, around $1.1 billion.
- ***Welfare costs.*** This concept covers the extra cost to the economy as a whole of producing more of the goods domestically rather than importing them. Normally the welfare cost is considerably less than the consumer cost--particularly for tariffs or quotas. Even so, the estimates for textiles and apparel range from $1.4 billion to $6.6 billion in the European Community and the United States and nearly $2 billion for steel in the United States.
- ***The cost of preserving a job.*** Each protected job often ends up costing consumers more than the worker's salary. For example, each job preserved in the automobile industry in Britain is estimated to have cost consumers between $19,000 and $48,000 a year. In the United States the cost was between $40,000 and $108,500 a year. Looked at another way, the cost to consumers of preserving one worker in automobile production in the United Kingdom was equivalent to four workers earning the average industrial wage in other industries. In the US automobile industry, the equivalent cost would be the wages of six ordinary industrial workers. The voluntary export restraints by foreign steel producers cost US consumers $114,000 per protected job each year.

Costs to developing countries

Developing countries bear heavy costs emerging from their own highly protective policy environments. But they also suffer costs from the protection in industrial countries.

Few studies exist of the latter. The available studies attempt to measure only the increase in export earnings for developing countries that would arise from reductions in the tariffs and nontariff barriers which face them. Studies by the World Bank, the Fund, and the Commonwealth Secretariat show that the result would be substantial export gains—worth several billion dollars a year. More detailed studies have been made for individual countries such as the Republic of Korea. Restrictions on Korean exports of carbon steel cut sales to the United States by 33 percent, or $211 million; but Korea had offsetting gains in the form of higher prices and increased sales to other markets.

The costs of protection are high for both industrial and developing countries. They bear heavily on the latter, however. Protective structures in industrial countries discriminate more against developing countries than each other.

The international environment

Given their high unemployment, slowing growth, and the increased competition that they face from developing countries manufactures, there is the danger that industrial countries will increase barriers to manufactures from developing countries. This may mean more discriminatory nontariff barriers, more effectively administered. Such steps would further undermine the integrity of the GATT system and would restrict the growth of exports from developing countries. Many developing countries are already heavily in debt, so a reduction in their export earnings would aggravate the problems of world debt. Protectionist acts will have very serious implications for resource growth and maintaining orderly foreign exchange and capital markets in the world. These developments could produce widespread disillusionment with the outward-oriented trade strategies which have proved so successful for the newly industrializing countries in recent years.

If industrial countries become more protectionist, developing countries would be forced into exploring other, second-best, options. These would include trying to expand trade with the centrally planned economies and with other developing countries on a discriminatory basis. But the prospects of greatly improved trade in either of these directions are not good. Neither could replace trade with the industrial market economies.

forms have had to be reversed, leading to the perception that they entail high costs and produce limited benefits.

The shift toward outward orientation inevitably involves transitional costs. Major shifts in resources accompany trade reforms aimed at liberalizing the trade regime, as some activities contract and others expand in response to the changes in prices. If the economy is highly distorted to begin with, the changes that are likely to be necessary are very large. One visible cost is increased unemployment, though recent research on trade reform shows that this is more the result of poor macroeconomic policies than of the trade reforms themselves.

More often than not, trade liberalization comes in the wake of economic crises, usually associated with budget and balance of payments deficits and inflation. Such crises may create the political will for change-an important ingredient for undertaking trade reforms - but reforms undertaken in a crisis atmosphere may not be sustainable. So a government's long-term committment to reform needs to be substantial and credible if economic agents are to respond to the incentives the reform creates. Moreover, a strong initial shift in policy can quickly boost exports, enough to create vested interests in support of further liberalization. Stable macroeconomic policies, to reduce inflation and prevent currency appreciation, are also crucial for the success of trade reforms. The fate of the reforms, once undertaken, often rests mainly with what happens to the balance of payments-and this is determined by macroeconomic policy.

Experience suggests that export performance is closely related to the

level and stability of the exchange rate. Conversely, using the exchange rate to stabilize domestic prices hinders trade reform. In the countries of the Southern Cone of Latin America, Argentina, Chile, and Uruguay-that attempted trade reforms., capital inflows led to the appreciation of exchange rates, which offset the incentives for increasing the production of exports and import substitutes. Large capital inflows were in some cases the result of an ill-timed or uncoordinated liberalization of the financial markets in which domestic interest rates rose very sharply. This provoked heavy borrowing from abroad. Thus poor macroeconomic policy was more to blame than the trade reforms for the crisis that followed. Trade reforms, however, fell into some disrepute because of their guilt-by- association with poor macroeconomic policies.

The design of trade policy reform. A review of the recent history of trade policy reform suggests that three elements seem to matter most in the design of such efforts. The first is the move from quantitative restictions to tariffs. This links domestic prices to foreign prices and allows greater access to foreign inputs while increasing competition. The second is the narrowing of the variation in rates of protection even as its overall level is reduced. The third is direct promotion of exports to offset the effects of import tariffs. Specific measures to promote exports risk acquiring a permanent status, however, and lead to the postponement of more fundamental changes relating to the exchange rate. They also contravene rules of the General Agreement on Tariffs and Trade (GATT), create domestic lobbies that will oppose their removal, and risk countervailing duties from trading partners.

Trade reforms alone cannot lead to efficient industrialization and improved economic performance without addressing a number of areas that constrain domestic supply response. Among these, four areas are particularly important.

Structure of manufactured exports from developing countries, 1970–84

Description	Share of developing countries' exports[a] 1970	1984	Growth rate[b] 1970–84
Traditional manufactured exports			
Labor-intensive			
Textiles and apparel (84 and 65)	31.3	24.8	11.8
Footwear (85)	1.8	2.9	18.2
Other labor-intensive (61 and 83)	2.9	2.3	11.6
Total	36.0	30.0	12.4
Resource-based			
Wood and cork (63)	3.6	1.5	6.9
Paper manufactures (64)	0.8	1.1	17.6
Other resource-based (52 and 56)	0.8	0.9	14.5
Total	5.2	3.5	12.2
Nontraditional manufactured exports[c]			
Electrical machinery (72)	16.1	16.7	14.1
Chemicals (51)	8.3	9.9	15.3
Nonelectrical machinery (71)	4.2	8.7	20.1
Transport equipment (73)	2.6	5.2	20.0
Iron and steel (67)	6.2	6.5	14.2
Other nontraditional[d]	21.4	19.5	12.9
Total	58.8	66.5	15.1
Total	100.0	100.0	14.0

Note: Figures in parentheses are the SITC categories for the respective product group.
a. Developing countries' exports of the listed product as a share of developing countries' total exports of manufactured products defined as SITC categories 5, 6, 7, and 8, less 68.
b. The rate of growth of developing countries' exports of the listed product during 1970–84 in constant dollars.
c. Total manufacturing exports less traditional manufactured exports.
d. Rest of nontraditional exports.
Source: Murray (background paper).

* *Reduction of price controls.* Such controls are pervasive in developing countries and are usually aimed at protecting consumers from monopolies and helping industry by restraining increase in prices of inputs. They restrict supply and distort relative prices, however, causing inefficiency and retarding industrial growth.

* *Investment licensing regulations* These regulations are imposed to influence the pattern of private investment in line with government priorities. If designed poorly, however, they distort patterns of prices and incentives, discourage foreign private investment, and encourage foreign investments, if any, in activities with low social returns.

* *Financial market reforms.* Interest rate and portfolio controls can discourage savings and distort investment patterns. Reforms are needed to let resources move from one activity to another in line with the incentives created by trade reforms.

* *Labour market reforms.* Some of these regulations also distort factor prices, technology choices, and lead to lower employment. Labour market flexibility is also an important ingredient in trade reform.

The combination of trade and domestic market reforms can make countries move from inward-oriented to outward-oriented trade strategies. This, of course, presupposes that the other ingredients of industrialization and growth-physical infrastructure, education, and legal and institutional factors-are adequate for the task. But benefits from trade reforms can be increased only if the international trading environment is freer than it is now(see box) and protection is both low and relies more on price measures than quantitative restrictions.