



Complementary policies for industrial development

The previous chapters noted the benefits of international trade for efficient industrialization and discussed the problems in shifting from an inward- to an outward-oriented trade strategy. But governments also use other policies to promote industrial development. This chapter describes these policies and examines their effects. It also shows how they interact with trade policies to influence, first, the markets for capital and labor; second, the pattern of domestic competition; and, third, the acquisition and mastery of technology.

The policy choices

Governments often complement their trade strategy with a variety of policies. The most important among these involve regulating product prices, directing private investment, controlling interest rates and credit allocation, and intervening in labor markets.

Regulating product prices

Prices play a powerful role in directing industrialization. High prices reflect scarcity; they raise profitability and attract resources for increased production. Low prices reflect abundance and keep resources away. Prices best fulfill this role in competitive markets. Market imperfections—such as monopoly or poor information—distort these signals. But governments sometimes regulate prices deliberately, either to correct such distortions or to pursue other objectives. These objectives might include the redistribution of income, the promotion of high-priority industries, or the control of inflation.

In pursuit of these goals many countries have adopted price controls. Often they have found that such controls are difficult to enforce because black markets mushroom and drive large sections of the economy underground. In addition, multiproduct firms, such as those in the textile industry, tend to compensate for price controls on one product by expanding production of uncontrolled products. As a result, fewer “essential goods” are produced in favor of more “nonessential goods.”

As a rule, the wider the controls, the harder they are to enforce. In 1970 the Ghanaian government attempted to control 6,000 prices for 700 groups of products. Yet its Prices and Incomes Board had only 400 personnel. The scale of such a task is beyond even the most competent agencies. Prices in such a system are often set by adding a fixed margin to costs. This removes any incentive for firms to reduce costs. Furthermore, controlled prices discourage new investments; therefore, as demand expands, shortages begin to appear. Often the poorest consumers, the supposed beneficiaries of price controls, suffer the consequences along with others.

Attempts to remove price controls have been most successful in countries where stable macroeconomic policies provided a low inflation environment and governments introduced the reforms gradually by reducing the number of controlled items in manageable steps. Producers and consumers are responsive to price incentives. When cement prices were freed in India in 1982, the increase in supply was so strong that market prices fell rapidly. (See Box 7.1 for a discussion of Ghana’s experience with removing price controls.)

Apart from controlling prices directly, govern-

Box 7.1 Removing price controls: lessons from Ghana

Ghana has used assorted price controls since 1962 for several purposes: to limit rents accruing to sellers in times of scarcity, to combat inflation, and to keep down prices of key items in the cost of living. But price controls have proved ineffective in times of extreme scarcity and rapid inflation and have often exacerbated the problems brought about by currency overvaluation and expansionary fiscal and monetary policies.

By 1970 nearly 6,000 prices relating to more than 700 product groups were controlled. Efforts to liberalize the system were reversed following a change of government, and the Prices and Incomes Board was given authority over all price and wage changes. But with inflation reaching 100 percent a year during the 1970s, frequent requests for price adjustments greatly exceeded its administrative capacity. Delays of up to six months forced firms to choose between accumulating stocks, losing money by selling at the old price, or evading the controls altogether.

Rapid inflation increased the gap between market prices and official prices. Failure to adjust the exchange rate meant that imports through official channels cost as little as a tenth of their market value. Price controls prevented producers from realizing this scarcity rent, which would have given them extra incentive to produce more. But the inability to enforce controls at the retail level made trading an increasingly lucrative activity. Obtaining access to goods at the official price for resale—a practice known as *kalabule*—became an important source of income. By the early 1980s the market value of civil servants' monthly allocation of rice, milk, soap, and so forth (although not received regularly) could equal their monthly take-home pay.

Controls over the distribution of scarce goods became increasingly important. During the 1970s, military trucks transported canned milk to the north for sale at the same price as in the southern cities of origin. But this greatly increased the profits from smuggling it to neighboring countries. Similarly, northern rice was smuggled out because price controls made it impossible to cover transport costs to the south. The tighter the controls on a commodity, the scarcer it became. The markets of Togo became well stocked with soap, milk,

textiles, and other products that were made in Ghana and then smuggled out, while liquor and other luxuries with high scarcity premiums and less stringent controls were brought in. During the 1980s, land borders were closed for some time in an effort to stem smuggling, and storekeepers were forced to sell their stocks at controlled prices (often below what they had paid). But this worsened the scarcity of goods on the market and drove up prices further.

Price and distribution controls became interwoven with political power in 1982, as the new government attempted to broaden and decentralize political participation. Many of those who joined village and workers' committees were more concerned with obtaining access to goods at controlled prices than with the government's difficulty in subsequently moving away from controls.

As the economy worsened, the government recognized that price controls were not working and that economic recovery required shifting profits from black marketeers to producers. It reduced underlying distortions and inflationary pressures through a reform program introduced in April 1983 that featured devaluation and restrained fiscal and monetary management. The government also wished to lessen its direct responsibility for prices and distribution, which entailed high administrative costs as well as political pressures. Yet it could not totally abandon such controls while monopolies and excess profits were seen to exist and while it was also trying to restrain wage increases. It therefore adopted a strategy of gradually softening the enforcement of controls.

The first step was to shift most commodities to a system whereby producers simply notified the Prices and Incomes Board of price changes; the board retained its right to intervene. The list of goods requiring prior approval was reduced first to twenty-three and gradually (over sixteen months) to eight, which greatly reduced the board's workload and turnaround time. Firms were permitted to charge a provisional price approved quickly by the board, and the review of its recommendations was shifted from the Ministry of Finance and Economic Planning to a tripartite com-

ments have also subsidized the consumption of essential industrial products. Well-targeted subsidies are preferable to price controls: although such subsidies reduce prices for consumers, they do not lower incentives to producers. But subsidies have often led to budgetary deficits and, in turn, to high inflation. Furthermore, once installed, subsidies can be hard to remove. In Egypt in 1977 the gov-

ernment's attempt to reduce subsidies on a range of basic commodities led to riots.

Directing domestic investment

Regulations, coupled with fiscal incentives, have been used to guide private investment in industry at one time or another in many countries, includ-

mission with representatives from government, labor, and business. This public review process maintained the principle of intervening whenever changes were out of line, while eliminating the need to publish official prices.

The consumer price index rose by only 10 percent in 1985, the year after price controls were eased; inflation had fallen from 122 percent in 1983 to 40 percent in 1984 following the introduction of the reform program. The inflationary impact of massive devaluations and price liberalization during 1983-85 was limited, because market prices already reflected scarcities and because various measures operated to reduce the gap between supply and demand. On the supply side, the incentive effects of price liberalization helped in four ways: hoarded consumer goods were released, scarcity rents were shifted from distributors to producers, agricultural producers responded to favorable rainfalls by greatly increasing food availability, and industrial producers sought additional foreign exchange through a newly opened auction window for foreign exchange. On the demand side, the ability of consumers to absorb price increases was limited through fiscal and monetary restraint.

These policies generally improved the market situation. Increased local supplies of some commodities such as milk, bread, soap, and beer brought market prices down, sometimes below the previous official prices, while increased imports eliminated scarcity rents for other goods (for example, tires and vegetable oil).

Three main factors contributed to the success of Ghana's liberalization of price controls. First, market prices already reflected scarcities, so that liberalization mainly shifted scarcity rents from distributors to producers. Second, complementary policies helped raise marketed supplies and restrain inflationary pressures, so that consumer resistance was minimized. Third, price control enforcement was depoliticized by permitting provisional price changes while retaining the right of review and by including representatives of interested groups in the review process.

ing Benin, Brazil, Ethiopia, India, Indonesia, Liberia, Malaysia, Mauritius, Mexico, Pakistan, Sri Lanka, Tanzania, Togo, and Zambia. They reflect the view that markets fail to allocate resources according to national priorities. These priorities are often embodied in development plans, and the regulatory and tax systems are used to ensure that plan priorities are reflected in the pattern of private

investment. Other objectives include the prevention of industrial concentration, the promotion of regionally balanced industrial development, and, finally, public sector control over key industries.

Perhaps the most common tool of investment regulation is the industrial license. Under such systems governments grant licenses for the creation of new industrial capacity according to their projections of future demand. Studies of Brazil, Egypt, India, Indonesia, Mexico, Pakistan, and Spain indicate that in these countries licensing involved unexpected costs, but delivered few of the expected benefits. The systems are often too complex and implemented ad hoc. For example, in Spain, government agencies developed economic criteria for the granting of licenses, but were unable to implement them on a systematic basis. This creates uncertainty among investors. In some countries the licensing process can take six months or longer, and even then the applicant may fail. Investment is discouraged, and research suffers because there is little assurance that firms will receive licenses to turn plans for new products into reality.

Licensing usually favors large firms over small. (Although very small firms often lie outside the licensing system altogether.) Large firms tend to be better informed and can allocate more resources to deal with the licensing system. Where multiple applications are permitted, large firms have been known to preempt the entire capacity available through licensing. In some countries the authorities have attempted to promote competition by licensing several small firms. But in industries where economies of scale are important, investment in firms of less than optimal size has merely fostered inefficiency.

Another drawback is that countries need to commit manpower to administer their licensing systems. This carries a high price, particularly in African economies where skilled manpower is scarce. Furthermore, industrial licensing can engender corruption, especially when the interpretation of rules is left to the discretion of a few officials.

Some developing countries, notably in East Asia and Latin America, have avoided using rigid systems to influence the pattern of investment. Their resources have been better able to respond to changes in incentives following trade liberalization and to flow to industries offering the highest financial returns. Firms in these countries are motivated to be more competitive since there are few legal restrictions to entry by new firms (see Box 7.2). Such benefits have prompted some countries to

Box 7.2 Capacity licensing in India

Capacity licensing is perhaps the most important of India's regulatory policies for the industrial sector. The government has used this instrument to influence total domestic industrial capacity and its allocation among sectors, firms, and locations. In all but a few industries, investors must have a license to establish or relocate a plant, manufacture a new product, or expand output beyond 5 percent a year or 25 percent in five years. Only firms with assets of less than Rs50 million (about \$4 million) and located at least thirty miles outside urban areas are exempt.

The aim of capacity licensing has been to ensure that industrial activities are consistent with industrial and social policy objectives. These objectives include the promotion of priority industries, the decentralization of plant location to "backward" regions, and the conservation of scarce resources by striking a physical balance between domestic supply and demand.

But India's capacity licensing system has constrained competition between domestic firms. High rejection rates, long delays, and changing subsector priorities have made it a significant barrier to entry and growth. It has contributed to the high concentration of Indian industry, suboptimal scales of production, and slow technical progress.

As the scale of India's markets has increased and the adverse effects of capacity licensing have become more apparent, the government has relaxed or modified some of its licensing requirements to promote growth and productivity in a few industries. In cases where capacity licensing has been relaxed, competition and efficiency have tended to improve rapidly. For example:

- Until recently, attempts by large, relatively efficient producers of two-wheeled motor vehicles to expand production and meet the rapidly growing demand for low-cost transport were thwarted by capacity licensing requirements. As a result, large firms capable of capturing economies of scale existed side by side with small firms of limited capacity. For example, in 1984 the largest scooter manufacturer produced

250,000 vehicles, while the two smallest produced fewer than 5,500 vehicles each. Not only did the rigidities in the licensing system lead to an inefficient structure of the scooter industry, it also led to substantial unmet demand in the domestic market. By 1985 the government had relaxed its capacity licensing requirements for two-wheeled motor vehicles and had eased its restrictions on technical collaboration with foreign firms. The result was a rapid expansion of capacity. The largest scooter manufacturer in India is now expanding its capacity to 750,000 vehicles a year and will eventually become the fourth largest in the world. And competition between companies has stimulated the production of technically superior products at international standards of price and quality.

- The first three nylon filament plants in India were licensed and established in 1962, when total domestic demand was less than the capacity of one plant of minimum economic scale. Eight others were added by 1985, which raised the total number of firms to eleven. Each firm had a single plant, and capacities ranged from 500 to 5,000 tons a year. The average capacity of nylon plants in other countries is usually much higher; for example, in the Republic of Korea the average capacity is 33,800 tons a year. Smaller plants, although inefficient, were financially profitable in India because they were sheltered by import barriers and the capacity licensing system. In an effort to redress the inefficient structure of the nylon industry, the Indian government announced in 1986 a minimum scale for new nylon plants of 12,000 tons a year.

- The removal of licensing restrictions in the professional instruments industry prompted a challenge by new entrants and forced a major producer to shed outdated lines and offer improved products. Similarly, when licensing requirements were relaxed selectively for the manufacture of telecommunications equipment, several private sector firms drew up plans to enter and thus put pressure on the largest producer to improve efficiency.

streamline their licensing systems. Others have tried to dismantle their systems gradually. One approach is to relax restrictions and raise the lower limit for investments that require licenses.

Directing foreign investment

Foreign investors in developing countries are often subject to regulations and requirements that are more stringent than those faced by domestic inves-

tors. These regulations may require exclusion from some sectors, limits on foreign equity participation, domestic content minima, export obligations, employment quotas, establishment of research and development facilities, appointment of host-country nationals to senior managerial positions, ceilings on repatriation of profits and royalties, and limits to the duration of technology licensing agreements. At the same time, governments offer foreign investors a wide variety of

incentives such as tax holidays, tax concessions, accelerated depreciation allowances, duty-free imports of capital goods, investment subsidies, and guarantees against expropriation.

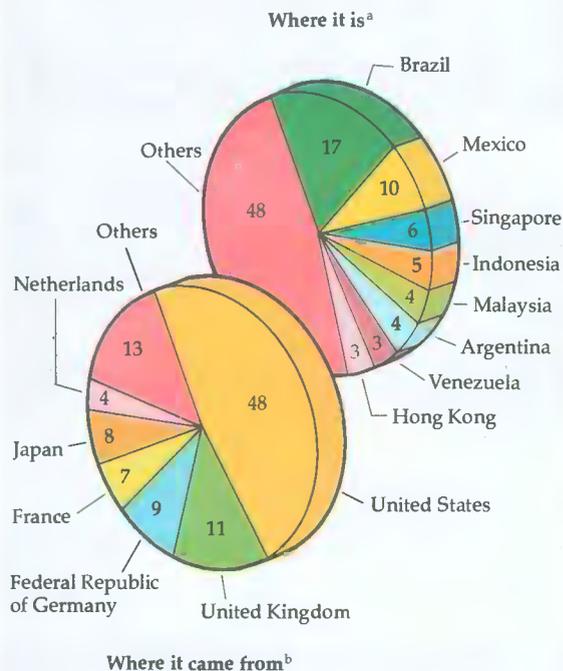
This mixture of restrictions and incentives reflects an ambivalence on the part of some developing countries. On the one hand, they fear that foreign direct investment may undermine their sovereignty, limit their tax revenues, displace domestic firms, blunt local initiative, introduce inappropriate technology, pollute the environment, and squander exhaustible resources. On the other hand, they recognize that foreign direct investment augments domestic investment, transfers new technologies, and avoids some of the risks of external borrowing.

Many of the concerns about foreign direct investment arise when countries use protection to stimulate local output. Foreign (as well as domestic) investors can then earn financial returns that are often much higher than the economic returns to the country. Thus, protection attracts foreign direct investment. But this can mean a net loss of foreign exchange for the developing country if the sum of repatriated profits and imported inputs exceeds the foreign exchange saved through local production. In such circumstances, foreign direct investment can even reduce a country's real income.

Many controls on foreign investors therefore take the rents from protection that accrue to foreign firms and channel them to groups within the country, such as organized labor, shareholders, or domestic entrepreneurs. But this may deter foreign firms from investing in the first place. Controls seem to matter more than incentives to foreign investors. Most regard incentives as volatile and transitory. Empirical studies suggest that a country's natural resources, its recent growth performance, and its political and economic stability are the factors that attract foreign investment. This may help explain why eight countries account for more than half the stock of foreign investment in developing countries (see Figure 7.1). Many of these countries do offer tax concessions, but it is unlikely that in the absence of a favorable economic and political climate for investment, tax concessions alone would be enough.

Countries that follow outward-oriented strategies tend to have fewer problems with foreign direct investment. Since a country following an outward-oriented strategy does not discriminate between import substitution and exports, it tends to attract foreign firms wishing to take advantage

Figure 7.1 The stock of foreign direct investment in developing economies (percent)



Note: Estimates have been rounded to the nearest percentage.
 a. Based on IMF estimates for 1983.
 b. Based on OECD estimates for 1982.
 Source: IMF 1985, tables A.2. and A.3.

of its resources. Foreign investments, therefore, are more likely to align themselves with the country's comparative advantage and to augment domestic resources in fostering efficient industrial development.

Controlling interest rates

Firms need finance to exploit investment opportunities. Not surprisingly, therefore, governments have often made the financial sector an instrument of industrial policy. For example, in a majority of developing countries, governments control at least some interest rates to encourage investment in some sectors. Interest rate controls also help governments finance their budget deficits: many state-owned enterprises (SOEs) rely on low-interest loans from the banking system, and many governments require banks to buy low-yielding govern-

ment bonds or place some of their assets in low-interest reserves with the central bank.

Although interest rate controls and selective credit policies may serve specific purposes, they tend to have broad and, on the whole, unfavorable effects on the behavior of savers, lenders, and borrowers.

- *They reduce the efficiency of investment.* This is particularly true when controls on interest rates

Table 7.1 Real interest rates and selected growth indicators, 1971–85
(average annual percentage)

Range of real interest rates	Average real interest rate	Average GDP growth rate	Average growth rate of industry
–60 and –10	–21.1	2.3	1.1
–10 and –5	–7.8	3.0	3.3
–5 and 5	–1.4	5.5	7.2

Note: Data are unweighted group averages based on a sample of thirty-one developing countries.
Source: IMF, *International Financial Statistics*, various years; World Bank data.

make them negative in real terms (see Table 7.1). As well as promoting investment in low-return projects, interest rate controls encourage firms to build up their inventories. Furthermore, faced with the need to ration credit, banks lend to the borrowers they know well—large-scale enterprises and parastatals—or even to the industrial groups that own them (see Box 7.3). In Colombia, interest rate controls reduced the funds available for smaller-scale industrial enterprises; the efficiency of investment fell as a result. Interest rate controls also keep credit cheap in relation to labor for those firms with unrestricted access to loans from the formal financial sector and thus encourage capital-intensive investments in some parts of industry. These distortions ultimately affect growth. A study of seven Asian developing countries found that interest rate controls reduced economic growth by roughly half a percentage point for every percentage point by which the real interest rate was below its market-determined rate.

- *They inhibit savings.* In countries where inflation is high, controls on deposit rates can make

Box 7.3 The “iron law of interest rate restrictions”

The “iron law of interest rate restrictions,” as formulated by Claudio González-Vega (1976), states that as government-regulated interest rate ceilings become more restrictive, the share of credit granted to large borrowers increases while that to small borrowers decreases. Although the iron law was originally put forward and tested in the context of subsidized lending to small farmers, it applies with equal force to any financial system in which interest rates are subsidized.

The starting point of the iron law is that interest rates are the price of loanable funds. In an unregulated market, therefore, interest rates move to balance the demand for funds and the supply of funds. But when interest rates are suppressed by government regulations at below market-clearing levels, the demand for funds will exceed the supply, and some would-be borrowers will be denied credit.

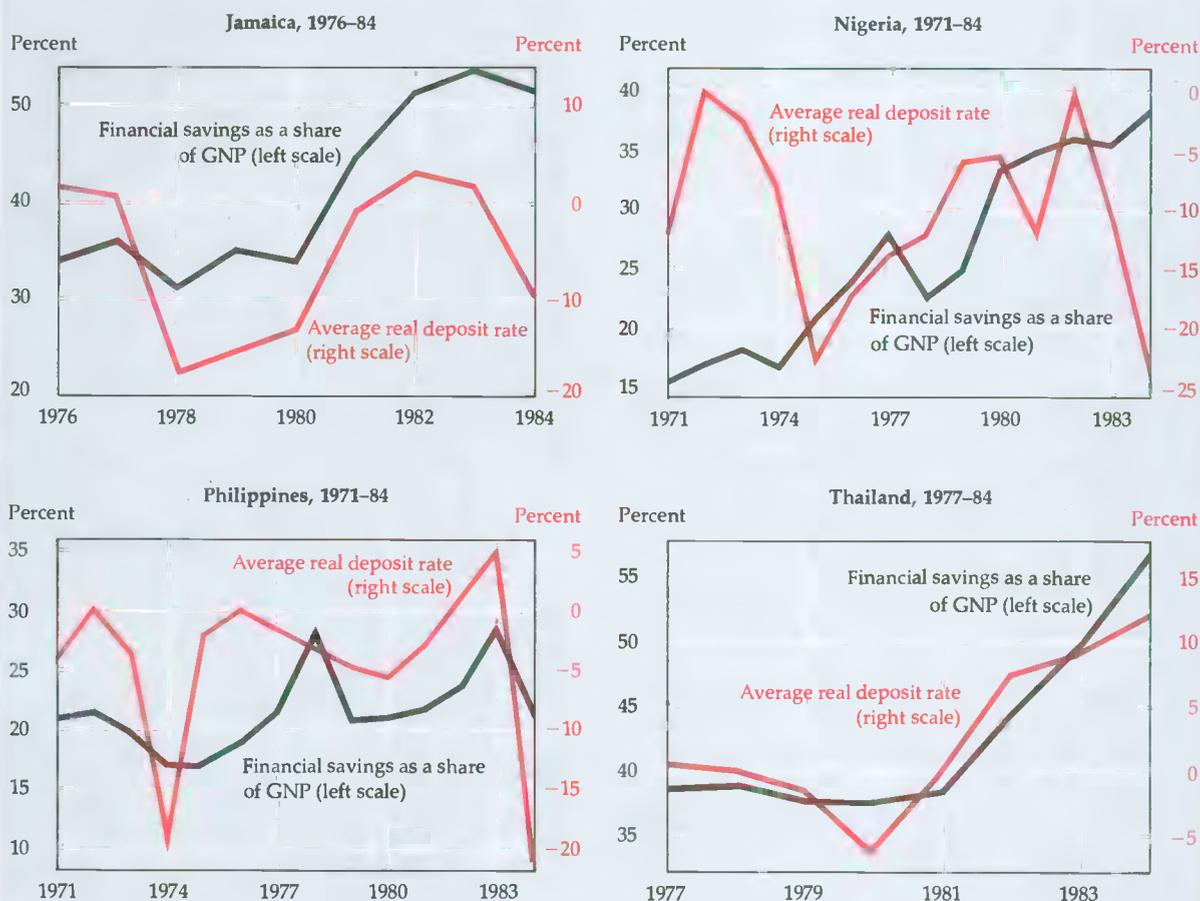
The iron law says that under these circumstances banks tend to deny credit to small borrowers first. The reason is that for each loan the share of overhead costs in the total costs of lending tends to be higher for small borrowers than for large borrowers. In the absence of interest rate restrictions, banks can accommodate higher costs and maintain the profitability of lending to small borrowers by increasing the rate of interest. But with interest rate controls, the only option that banks possess for maintaining profitability is to concentrate

increasingly on lending to large borrowers.

The iron law also has implications for the distribution of income. Subsidized credit is often recommended as the only politically and administratively feasible way of redistributing income to low-income earners. But the iron law implies that subsidized interest rates tend to be inefficient instruments for income redistribution. Subsidized interest rates influence income distribution through their effect on the access to credit afforded to different classes of borrowers. Since the size of the loan tends to rise with the wealth of the borrower, the large subsidies that go with large loans accrue to wealthy borrowers. Nonborrowers—usually the poorest—receive no subsidy at all. So the subsidies make the distribution of income even less equitable.

Ultimately, it is access to credit that is important. Low interest rate ceilings cannot create the missing physical inputs, the missing markets, or the missing technologies that affect the performance of entrepreneurs. Instead, below-market interest rates create distortions in the price of capital and contribute to inequalities. By contrast, if financial intermediaries are free to set their own interest rates in competition with others in the financial market, small borrowers will stand a better chance of gaining access to credit, and investments will tend to be financed on the basis of their financial profitability.

Figure 7.2 Financial savings and the real deposit rate in selected developing countries



Note: Financial savings are defined as currency in circulation plus demand and time deposits held by the banking system.
 Source: Based on data from IMF, *International Financial Statistics*, various years.

them negative in real terms. Even where interest rate ceilings apply only to loans, they control deposit rates indirectly by acting as a constraint on the yield and liquidity that banks can offer savers. In a sample of eight developing countries between 1970 and 1985, average real deposit rates ranged from about -11 percent in Peru to 2 percent in Thailand (see Table 7.2). The sensitivity of financial savings to real interest rates is illustrated in Figure 7.2 for Jamaica, Nigeria, the Philippines, and Thailand.

When interest rates are kept low and the demand for credit outstrips its supply, the banking system must ration credit according to other criteria. Often the government directs the banks to lend to certain sectors. Such sectors typically in-

clude farmers, small firms, export industries, and SOEs. In a recent study of interest rate policies in ten developing countries, the share of credit subject to government control ranged from nearly 100 percent in Nigeria to 33 percent in Thailand.

Directed credit has usually failed to promote efficient and competitive industries. Often it goes not to its intended use, but to finance other low-productivity investments—largely because credit is fungible and also because of favoritism and abuse. Where directed credit does reach its intended beneficiaries, many high-return activities are starved of finance because they are not deemed "high priority." The result is a stock of capital that is less efficient than it could be.

Several developing countries adopted financial

Table 7.2 Real interest rates and inflation
(average annual percentage)

Country	Period	Deposit rate	Lending rate	Inflation rate
Bangladesh	1971-85	-7.4	-5.1	18.5
Kenya	1970-85	-4.3	-1.2	12.0
Korea, Republic of	1971-85	-1.1	2.6	13.1
Morocco	1978-83	-4.2	-2.8	10.1
Nigeria	1970-85	-9.7	-7.0	16.5
Pakistan	1970-84	-1.7	0.2	10.7
Peru	1970-82	-10.6	-0.2	38.2
Thailand	1970-85	1.7	7.9	7.8

Source: World Bank estimates based on IMF, *International Financial Statistics*, various years.

sector reforms during the 1970s and early 1980s. These ranged from major reforms, as in Uruguay, to more limited realignments of the structure of nominal interest rates, as in Nigeria. Yet regulations continue to hamper market forces in most developing countries. Many governments are convinced of the need for reform, but are concerned about the transition to market-determined interest rates.

The experience of financial reform in countries such as Argentina, Chile, Indonesia, the Republic of Korea, and Uruguay provides some guidelines on this.

- The transition to a more competitive financial sector is easier to manage when inflation is low and real exchange rates are stable. In economies with high inflation and appreciating real exchange

Table 7.3 Pre- and postreform nominal deposit rates
(average annual percentage)

Country	Reform period	Prereform interest rate ^a	Postreform interest rate ^b
Bangladesh	1980	7.5	13.0
Indonesia	1983	9.0 ^c	17.5 ^c
Kenya	1980-82	5.4	13.2
Morocco	1978-82	4.5	8.5
Nigeria	1982	6.0	8.5
Pakistan	1973-75	5.6	8.9
Peru	1978-82	14.0	71.2
Thailand	1980	7.0	10.0
Turkey	1980-82	12.0	50.0
Uruguay	1974-79	18.0	50.6

Note: Each increase in nominal deposit rates is usually accompanied by similar increases in lending rates.

a. Refers to the rate prevailing at the end of the year preceding the reform period.

b. Refers to the rate prevailing at the end of the last year of the reform period.

c. Nominal deposit rate for state banks only.

Source: Hanson and Neal 1986; World Bank data.

Box 7.4 The risks of financial liberalization: lessons from Chile

The failure of the reforms attempted by Chile in the 1970s highlights some important issues for governments undertaking financial liberalization. When Chile introduced its reforms, the economy was suffering from many years of import substitution and price controls. Large fiscal deficits to promote output growth, combined with fixed exchange rates and restrictive trade barriers, had resulted in high inflation rates, production bottlenecks, chronic balance of payments problems, and slow export growth.

The reforms had two objectives: to eliminate hyperinflation and to disengage the government from its extensive control over large areas of economic activity. The first objective was achieved initially by slashing the budget deficit and later by slowing the rate of currency depreciation. The second was pursued by privatizing public enterprises, by returning to the private sector the firms that were confiscated by the previous government, by removing price and interest rate ceilings, by cutting import protection, and eventually by easing restrictions on international capital movements.

Perhaps the most extensive deregulation was in the financial sector. Prior to these reforms, directed credit policies and negative real interest rates had been the rule. Immediately after the reforms, annual *real* interest rates climbed to 127 percent, receding gradually to 44 percent in the next three years. Part of the explanation for the high rates was that capital inflows remained partly restricted until 1980. When foreign borrowing was freed, the differential between the peso and dollar interest rates narrowed and then stabilized at between 20 and 30 percent (see Box figure 7.4). In the meantime, the financial performance of firms producing tradable goods was weakened by an appreciating real exchange rate. Burdened by a rising share of nonperforming

rates, stabilization policies should precede financial reforms. If financial reforms are undertaken at the same time as stabilization policies, the result may be insolvencies in both firms and financial intermediaries.

- Controls on international movements of capital should remain until the financial sector reforms are complete. If the capital account is liberalized when domestic interest rates are still fixed, the resulting outflow of capital may destabilize the economy. Similarly, the rise in interest rates immediately after reform might induce a sudden capital inflow and an appreciation of the exchange rate.

- The speed of reform is often an important consideration. Interest rates need to rise slowly to re-

loans and spurred by a growing recognition that a devaluation was becoming necessary, the financial sector began to charge real rates of 40 percent by early 1981. The crisis peaked with the international recession in 1982: foreign lending fell sharply, capital fled the country, aggregate demand collapsed, and the government was forced to devalue the peso. Several conglomerates and banks failed and had to be rescued by the government, and unemployment climbed to 30 percent by 1983.

Ironically, the most serious defect in Chile's financial reforms was that they went too far. There was a lack of effective supervision of the financial sector and virtually no monitoring of bank portfolios. As a result, most of the financial intermediaries were acquired by one of several large conglomerates. These industrial-financial conglomerates, or *grupos*, used the financial resources obtained through a newly acquired bank either to buy firms that were being privatized or to expand their own operations. Many newly privatized firms had to spend fresh resources to operate, modernize, and expand. A large number turned unprofitable as the real exchange rate appreciated and had to resort to additional borrowing to stay afloat. As a result, when the international debt crisis broke in 1982, Chile was already in a deep financial crisis.

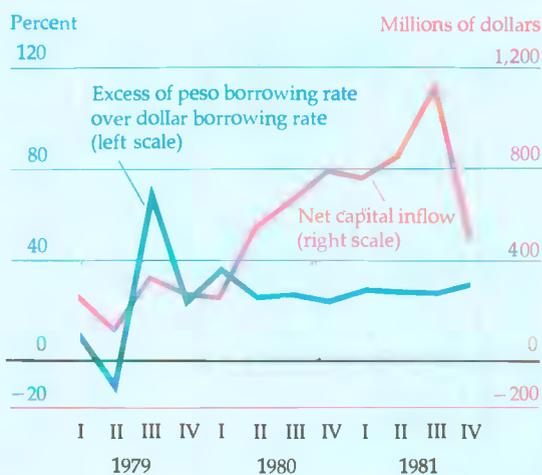
Other countries contemplating financial sector reforms can draw three important lessons from Chile's experience:

- Financial reforms need to be accompanied by strict supervision of the banking and financial sectors to avoid undue financial concentration and prevent unsound banking practices. Governments need to be particularly alert in countries where conglomerates form an important segment of the industrial sector.

- Opening the capital account before financial sector reforms are complete provokes destabilizing capital flows.

- A realistic exchange rate policy is important. Using the nominal exchange rate to stabilize domestic inflation could lead to an appreciation of the real exchange rate and create incentives to hedge against devaluation.

Box figure 7.4 Net capital inflows and interest rate differentials in Chile, 1979–81



Source: Corbo 1985; Galvez and Tybout 1985.

duce disruption to investors. A precipitous rise in the cost of borrowing would only push many firms into insolvency and threaten, in turn, the solvency of the banking system itself. At the same time, interest rate controls need to be lifted fast enough so that loans based on expected postreform rates are not postponed indefinitely.

- Once interest rate controls are relaxed, nominal and real interest rates in the formal sector are likely to rise (see Table 7.3). In some instances, postreform real lending rates may exceed the real rate of return on industrial investment. This may threaten growth and jeopardize the trade reforms that seek to change the structure of industry. The problem arises in two ways. First, high budget def-

icits may fuel expectations of exchange rate devaluations and push nominal interest rates well above the rate of inflation. In such circumstances, lower budget deficits are a precondition for financial sector reform. Second, high taxes on financial intermediation and lack of competition between banks may mean large spreads between lending rates and deposit rates. Smaller budget deficits help here too, by reducing the need for taxes on financial intermediaries. And central banks need to monitor competition between financial institutions. Otherwise, financial concentration may lead to noncompetitive practices, particularly in those banking systems where industry-bank conglomerates play an important role (see Box 7.4).

- Better supervision of the banking system is an important element of financial reform. All well-established banking systems are governed by regulations that temper competition with prudence. One of these requires that banks possess a minimum amount of capital in relation to their assets. A second requires that banks maintain a prudent deposits-to-capital (or gearing) ratio. Furthermore, central banks usually urge banks to adopt an accurate system for evaluating the quality of their assets and potential loan losses. Prudence also suggests that limits be placed on loan concentration. Finally, central banks often act as lenders of last resort and sometimes offer deposit insurance schemes to protect small depositors.

Establishing development banks and equity markets

Financial reform may do little by itself to increase the supply of medium- and long-term finance. Commercial banks usually concentrate on trade finance and short-term lending. This reduces their risks and matches the maturity structure of their liabilities. As a result, many governments have intervened to increase the supply of medium- and long-term finance for industrial development.

DEVELOPMENT BANKS. In the 1950s and 1960s many governments established development banks. The banks were given long-term financial resources, which they would then lend, in accordance with accepted economic criteria, mainly to industrial projects with high returns. Then, during the 1970s, development banks were encouraged (with the support of multilateral and bilateral lending institutions) to pursue development objectives. Sometimes this was at the expense of portfolio quality. Their financial frailty became clear when the world economy entered a recession in the early 1980s. For a sample of development banks at the end of 1983, almost half had 25 percent of their loans in arrears and almost a quarter had more than 50 percent in arrears. Some have since been bailed out by the government or the central bank, but many remain under heavy financial pressure, and some under threat of insolvency.

Well-functioning equity markets would have eased these difficulties. Firms did not have sufficient equity to absorb financial shocks; instead, they relied on borrowed funds. Some development banks performed badly because their managements were forced to finance unviable government projects. In addition, interest rate controls together with excessively high interest rate mar-

gins inhibited development banks from mobilizing deposits. As a result, most of these institutions remained small and narrowly focused and depended on official or semiofficial sources for funding.

EQUITY MARKETS. Thirty-five developing countries have active equity markets. These widen the options to savers by offering high-return, high-risk financial assets. By competing for funds with the rest of the financial sector, they may increase the total supply of savings. In addition, they improve the allocative efficiency of the financial sector by giving firms greater access to risk finance, they bring a new element of competition to the financial sector and thus provide firms with an alternative to long-term borrowing, and they improve the flow of financial information.

Capital markets depend on the health of the economy. A well-developed banking system and macroeconomic stability are preconditions for their growth. In addition, by taxing dividends and capital gains on equity at the same rate as the returns on other financial investments, governments can avoid discriminating against the development of an equity market. Above all, for equity markets to work properly, rules on trading, intermediation, information disclosure, and takeovers need to be clear. The investing public needs to be protected from stock market manipulation, and brokers and underwriters need to follow professional codes of conduct.

Intervening in labor markets

Just as financial and capital markets play a crucial role in industrialization, so too do labor markets. Labor and capital join as factors in the transformation of raw materials into final products. One of the aims of economic policy is to ensure that these two factors are combined efficiently. But in addition to this, governments in developing countries are also anxious to expand employment opportunities for those entering the labor force in ever increasing numbers. In the next few decades, industrial employment will be a key element in meeting the challenge of creating jobs, reducing poverty, and raising standards of living.

As noted in Chapter 5, industry's demand for labor depends partly on the country's strategy for trade and development. An overvalued exchange rate, when combined with industrial protection and tariff exemptions on imported capital goods, tends to encourage a pattern of industrial development that limits employment growth. In addition,

protecting industry discourages the farm sector, a sector that tends to be significantly more labor-intensive than manufacturing. Outward-oriented strategies that provide equal incentives to the agricultural and manufacturing sectors are better able to blend the twin objectives of employment growth and efficiency in the allocation of resources.

Urban labor markets also play an important role in the employment performance of industry, especially in the modern manufacturing sector. Urban labor markets in developing countries often have formal and informal sectors. The informal sector comprises small family-owned enterprises that usually lie outside the purview of government labor regulations. The formal sector usually comprises the government itself and the modern manufacturing sector.

In some countries, labor markets are reasonably efficient, and wage differentials are determined largely by differences in education and experience. But in others there are large wage differentials for unskilled labor between the formal and informal sectors; and high rates of urban unemployment, especially for educated labor, are common. Some wage differentials can arise as a result of sex, ethnic, or race discrimination and can be corrected only through education and social and cultural change. Other differentials may be due to minimum wage laws, payroll taxes, and the hiring practices of the public sector.

WAGE REGULATION. Achieving greater equity and promoting social justice have been important goals in many developing countries. To achieve these objectives, governments have intervened in labor markets to protect the real wages of particular groups of workers. The most common method, minimum wage legislation, has been an important influence on real wages in manufacturing, but its significance has declined gradually over the past three decades. In the 1950s and 1960s several African governments raised wages in regulated sectors temporarily faster than the growth of labor productivity. In East Asia, market forces played a more important role. During the early 1980s, minimum wage policies began to recede, and real wages declined substantially as a result. But in a few Latin American countries with high inflation, wage indexation is a well-entrenched government policy. In these countries, minimum wages, in conjunction with the indexation mechanism, continue to exert an influence on the level and structure of wages in manufacturing.

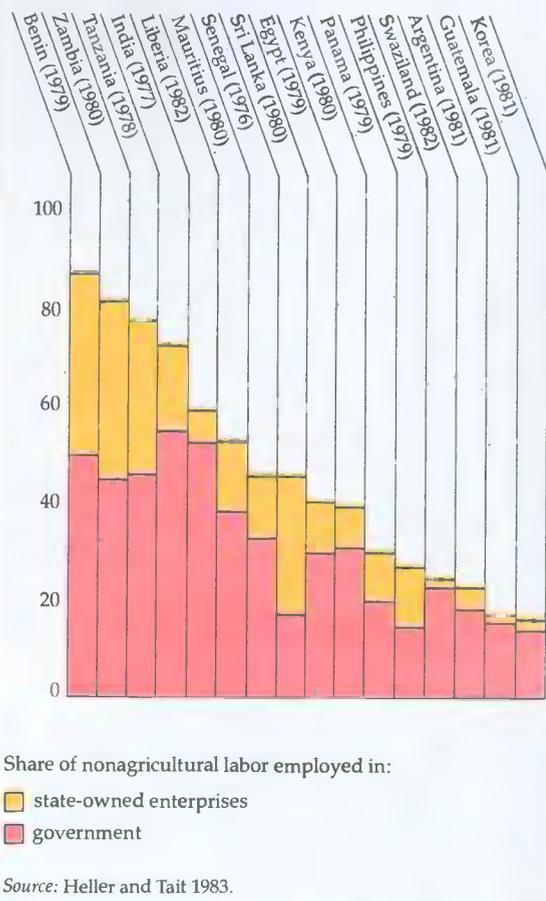
Although minimum wages in Africa and parts of Asia are now of less importance than they were thirty years ago, governments will come under increasing pressure to reactivate them once their economies adjust and expansion resumes. The reintroduction of such policies can reduce employment in the formal sector. The magnitude will obviously tend to vary by country and by sector, but recent research shows that on average a 1 percent increase in the real wage will tend to reduce employment by about 0.03 to 0.04 percent. Minimum wage laws also increase inequalities between the formal and informal sectors. Moreover, they reduce wage differentials between skilled and unskilled workers and thereby reduce incentives for education and training.

PAYROLL TAXES. Many governments, especially in Latin America, tax employers on the number of their employees. Studies show that industries with relatively high payroll taxes tend to pay lower wages, which pushes nearly all the tax onto the workers. But when a binding minimum wage law or strong workers' unions prevent wages from falling, the effect of a payroll tax on employment is identical to an increase in the legal minimum wage.

PUBLIC SECTOR WAGE POLICIES. The public sector's leading role as employer (see Figure 7.3) makes it an important force in the determination of wages. Because governments usually wish to be model employers, pay scales for unskilled workers in the public sector are generally higher than in the private sector, and they are usually unresponsive to labor market conditions. These pay scales often extend to public industrial enterprises, where managers usually do not have the same discretion as their private sector counterparts in dealing with their staff (see Box 7.5). The consequent loss in competitiveness can be transmitted to the rest of the industrial sector, particularly if the output of public industrial enterprises is used as inputs by the rest of the industrial sector.

JOB SECURITY. Sometimes governments limit the freedom of employers to lay off workers. Even where reductions in the work force are allowed, employers are sometimes required by law to provide severance payments based on wage and length of service. These legal provisions can make it difficult to respond to changes in demand and production requirements. They raise the effective cost of labor and lead managers to substitute capi-

Figure 7.3 The share of the public sector in total employment in selected developing countries
(percent)



tal for labor. And legally guaranteed job security reduces the incentives of workers and managers to increase their productivity.

Panama introduced a labor code in 1972 that restricted layoffs of workers with more than two years of employment. A decline in private sector investment followed, and over the next few years employment fell much faster than output. Eventually, firms began to discharge workers before they had two years of seniority.

The evidence suggests that if governments reduced their labor market interventions, their economies would grow faster. Repealing minimum wage laws would not condemn the urban labor

force to stagnant incomes. Average wages should rise as workers shift from low-wage, low-productivity jobs to higher paying jobs in high-productivity industries. In the Republic of Korea, for example, five to seven years after the shift from an import substitution strategy to an export-oriented one in the early 1960s, wages rose rapidly despite the absence of government intervention.

The functioning of labor markets also has important implications for trade liberalization. As Chapter 6 noted, trade liberalization involves a reallocation of resources from the nontradables sector to the tradables sector. Efficient labor markets help in two ways. First, a devaluation of the exchange rate can shift incentives in favor of tradables only if real wage rates are flexible downward. And, second, the production of tradables can expand only if labor moves out of the nontradables sector as real wages fall.

Factor prices

Virtually all the policies discussed in this Report influence the relative price of labor and capital. What is the net effect? As Chapter 5 showed, inward-oriented trade strategies tend to protect capital-intensive industries at the expense of labor-intensive industries; this increases the demand for capital relative to labor and raises the rental on capital relative to the price of labor. But, at the same time, inward-oriented trade strategies may have effects that work in the opposite direction. Overvaluation of the exchange rate, common in inward-oriented economies, reduces the cost of imported capital goods and therefore raises wages in relation to the rental on capital (see Box 7.6). (Import tariffs may offset some of the effects of exchange rate overvaluation on the domestic price of capital goods, but since many imported capital goods are either subject to low tariffs or exempted from tariffs altogether, this offsetting factor is probably insignificant.)

Interest rate controls cut the cost of capital to some firms; so do tax holidays, tax discounts, and accelerated depreciation. Minimum wage legislation, payroll taxation, and high public sector pay scales raise the cost of labor. Thus, policies on finance, labor, and taxes tend to work in the same direction: they raise wages relative to the cost of capital and therefore depress employment. A study based on a seventy-country sample showed that if the level of wages increased by, say, 10 percent relative to the rental rate of capital, the proportion of labor employed would fall on average by 10 percent relative to the amount of capital em-

Box 7.5 Performance of state-owned enterprises and wage and employment policies in Egypt

State-owned enterprises (SOEs) occupy a central position in the Egyptian economy. They absorb about 45 percent of total fixed investment, account for 40 percent of GDP, and generate about 83 percent of total exports of goods and services. Egypt's development prospects, therefore, depend in large part on the performance of its SOEs. But taken as a group, SOEs have not been efficient in their use of resources. Most suffer a large and growing overall deficit, a low rate of capacity utilization, and an inadequate and weakening financial rate of return. As a result, they impose a heavy burden on the budget. About a third of the national fiscal deficit can be attributed to SOEs, and more than three-quarters of this can be found in the industrial sector.

The poor financial performance of SOEs stems from many factors, of which wage and employment policies can be regarded as important. Following large-scale nationalization in 1961–62, Egypt embarked on a deliberate policy to increase employment in the public sector. This policy included a reduction of work hours from forty-eight a week to forty-two a week, the hiring of new employees beyond the immediate needs of individual enterprises, and employment guarantees for graduates and military conscripts. Subsequently, between 1974 and 1982, other laws were enacted that restricted the ability of the management to hire and lay off workers. In addition, prior to the Public Sector Reform Law of 1983, transferring labor from one company to another was rarely possible.

Managers of SOEs also had little discretion over wages and salaries. Basic wages were determined by the central government and required cabinet approval. The chief criterion used in fixing the basic wage was

the level of formal education. Promotions and annual salary increments were based on seniority. Apart from the basic wage, there were provisions for bonuses, overtime pay, and special merit awards. These were, in principle, designed to reward outstanding performance but, in practice, were applied uniformly. Furthermore, public sector wages for skilled workers were well below the pay for equivalent labor in the private sector.

The absence of a link between performance and reward, lower wages for skilled workers in the public sector than in the private sector, and the guarantee of job security—all these combined to reduce productivity and lower morale. Most specialized skilled workers left the public sector for either the private sector or other Arab countries. Those who stayed were not sufficiently motivated to raise productivity because of the uniformity of bonuses and allowances. At the same time, low-skilled workers were encouraged to remain in public employment because of the guarantees of job security. Consequently, state-owned industries had fewer specialized and skilled workers (engineers, technicians, and so forth) and an abundance of underemployed workers with few skills.

Mandatory employment policies are no longer enforced in Egypt, but public sector wage policies continue to impede management flexibility in SOEs. In particular, wages continue to be tied to education, not job content; promotion and incentives are not linked to performance and productivity improvements; and management still has little flexibility in dealing with labor-related issues. The government is beginning to focus on the problem and is preparing a reform program to improve public sector performance.

employed. Other studies of twenty-five individual countries indicate that the fall in the proportion of labor would range between 6 percent and 20 percent.

Systematic studies of the effects of government policy on the choice of technology and the employment of labor and capital are rare. One such study indicates that distortions in the relative cost of labor and capital can be large, particularly in countries following inward-oriented trade strategies (see Table 7.4).

Trade and domestic policies in the outward-oriented economies—Brazil, Côte d'Ivoire, Hong Kong, and the Republic of Korea—did not influence the level of wages relative to the rental rate of

capital by as much as they did in two of the inward-oriented economies—Pakistan and Tunisia. But no single pattern emerges of the contribution of different policies to factor price distortion. Among the inward-oriented economies in the sample of countries studied, trade policies were more important than financial market policies in reducing capital costs in Tunisia, but the reverse was true in Argentina and Pakistan. Similarly, in Argentina, Brazil, Côte d'Ivoire, and Tunisia, distortions arising from labor market policies have been more important than distortions from financial market policies, whereas the opposite was true in Korea and Pakistan.

The study also examined the potential effects on

employment of liberalizing trade and domestic policies. Most of the increase in employment per unit of output came from removing factor market interventions, except in Tunisia (see Table 7.5). Re-

ducing trade distortions had a smaller effect, and in Argentina it actually lowered the labor coefficient. Nevertheless, to the extent that export industries are more labor-intensive than import-

Box 7.6 Peru's factor market distortions

During the government of Velasco Alvarado (1968–75), Peru introduced several policies that significantly distorted the price of productive factors. Despite efforts to reverse them, many were still in force during the early 1980s. They have had a pervasive effect on the Peruvian industrial sector in at least two important ways:

- *Increased capital intensity and reduced employment.*

The measures included taxes on wages, interest rate subsidies, fiscal incentives for investment, exemptions from import duties, and, at times, currency overvaluation. All tended to increase wage costs and reduce the price of capital goods, so that firms had an incentive to invest in relatively capital-intensive techniques and to reduce their demand for labor.

Capital goods were exempted from payment of import duties. This, plus an overvalued exchange rate, lowered the relative price of imported capital goods by 42 percent. All told, the price of labor rose by 102 percent relative to the price of capital.

Estimates indicate that if factor prices had been undistorted, employment in the formal sector could have been 39 percent higher. This is probably an underestimate. Other policies—such as minimum wages, tax concessions to investors, and concessionary credit policies—increased distortions in the price of labor relative to capital and further reduced employment in the

formal sector. Furthermore, the effect of these distortions on employment should also take into account lost opportunities for exports of labor-intensive products. High labor costs reduced Peru's natural comparative advantage in these commodities. The government tried to alleviate the problem by providing export subsidies. But international rules of trade forbid the rebate of direct taxes, so Peru's exports have faced high countervailing duties on several occasions.

- *Reduced factor mobility.* The policies also reduced factor mobility. Government-supervised land reform enterprises eliminated markets for the most productive land. The government also allocated credit directly and introduced a stringent job security law. These interventions reduced Peru's ability to adapt to structural change—one reason, arguably, why Peru's attempt at trade liberalization failed in the early 1980s. Trade liberalization exposed Peru's protected manufacturing sector to foreign competition, but labor market rigidities prevented firms from shedding labor to increase efficiency and improve cost competitiveness. Import penetration was increased by an overvalued exchange rate and expansionary fiscal policies. Meanwhile, protected entrepreneurs mounted a campaign against trade liberalization. Eventually, trade liberalization was reversed.

Table 7.4 Policy effects on labor and capital costs in selected developing economies
(percent)

Economy and development strategy	Period	Increase in labor costs as a result of labor market policies (1)	Reduction in capital costs as a result of trade, fiscal, and financial policies (2)	Source of reduction in capital costs			Increase in the wage-rental ratio as a result of trade, fiscal, and financial policies (6)
				Trade policies (3)	Fiscal policies (4)	Financial sector policies (5)	
<i>Outward oriented</i>							
Brazil	1968	27	4	0	..	4	31
Côte d'Ivoire	1971	23	15	0	12	3	45
Hong Kong	1973	0	0	0	0	0	0
Korea, Republic of	1969	0	10	0	2	8	11
<i>Inward oriented</i>							
Argentina	1973	15	17	8	..	9	38
Chile	1966–68	..	..	37	..	..	..
Pakistan	1961–64	0	76	38	10	53	316
Tunisia	1972	20	36	30	..	6	87

Note: Column 6 is derived from columns 1 and 2.

Source: Krueger 1983, table 7.1.

substituting industries, liberal trade policies should boost employment.

The competitive environment

Trade and other policies affect industrial efficiency in another way—they help define the rules of competition. This, in turn, affects industrial flexibility in the face of changing economic conditions.

Entry barriers and competition

In developing countries, regulatory barriers to trade are often a cause of high industrial concentration. For example, when quantitative restrictions are used in conjunction with import licensing, the flow of imports is controlled by a restricted group of importers. This gives them considerable market power. In Bangladesh, for instance, the government, until recently, granted sole importing rights to public enterprises and "recognized industrial units." The market power that this bestowed

allowed them to raise prices well above international levels.

The barriers to entry caused by trade restrictions are sometimes reinforced by domestic policies. Industrial licensing, fiscal and financial incentives, interest rate controls, and credit rationing can all help deter new entrants and allow monopolies and collusive oligopolies to earn excess profits.

Many governments have used antitrust laws to discourage monopolies and collusive oligopolies. In such cases, the evolution of the market structure hinges on the interpretation of these laws. In the United States, for example, the focus on price-fixing arrangements after the first round of antitrust legislation led to a wave of mergers. Indian antitrust laws, however, have restricted changes in the industrial structure by blocking the entry of large firms that could challenge the dominance of existing firms.

Properly designed antitrust laws can encourage competitive behavior, but they are less appropriate when efficiency calls for large plants with scale

Table 7.5 Sources of potential increases in labor coefficients of production

Country and development strategy	Period	Potential percentage increase in the direct labor coefficient under different scenarios				Potential direct labor coefficient (5)
		Observed direct labor coefficient (1)	No intervention in factor markets (2)	No trade policy distortions (3)	Equal effective protection across industries (4)	
<i>Import-competing industries</i>						
<i>Outward oriented</i>						
Brazil	1970	100	15	..	..	115
Côte d'Ivoire	1972	100	25	0	12	140
Korea, Republic of	1968	100	8	0	0	108
<i>Inward oriented</i>						
Argentina	1973	100	16	-6	0	110
Chile	1966-68	100	..	7	..	107
Pakistan	1969-70	100	271	0	..	371
Tunisia	1972	100	17	38	51	243
<i>Export industries</i>						
<i>Outward oriented</i>						
Brazil	1970	207	15	..	..	238
Côte d'Ivoire	1972	135	25	0	0	169
Korea, Republic of	1968	100	8	0	0	108
<i>Inward oriented</i>						
Argentina	1973	130	25	-6	0	149
Chile	1966-68	80	..	7	68	144
Pakistan	1969-70	142	271	0	..	384
Tunisia	1972	128	17	38	0	198

Note: Column 1 gives an index expressing the actual labor required per unit of domestic value added in the countries listed for import-competing and export industries. The index for import-competing industries in each country is set at 100. Columns 2, 3, and 4 show the potential increases in labor coefficients attainable by eliminating: factor market distortions induced by domestic policies (column 2), the factor price effects of trade policies (column 3), and the factor price effects of different levels of protection afforded to import substitution and export industries (column 4). Column (5) indicates the potential labor coefficient obtainable by removing all distortions.

Source: Krueger 1983, table 8.10, p. 177.

Box 7.7 Exit barriers and industrial adjustment in Portugal

Portugal's industrial sector faces considerable uncertainty now that the country has entered the European Community. The abolition of quantitative restrictions and the harmonization of tariffs on third-country imports may lead to the closure of many of Portugal's low-productivity firms and to reorganization and rationalization of many others. The costs and difficulties of these adjustments are likely to be considerable because of rigidities in the capital and labor markets that hinder the exit of firms.

The failure of bankruptcy mechanisms

The low rate of corporate bankruptcies in Portugal may suggest a healthy industrial sector. But this is deceptive. In fact, financial weakness is endemic in many parts of Portuguese industry. Regardless of the source of their financial difficulties, Portuguese firms with more than 100 employees rarely go out of business. Troubled firms receive public assistance, which may mean a direct subsidy, concessional refinancing of overdue loans by public sector banks, or special purchase programs by the public sector. Moreover, the financial position of many banks has been weakened owing to a high share of nonperforming corporate loans. But banks have little incentive to resort to the bankruptcy mechanism for three reasons. First, recoverable assets are usually low, especially after preferential creditors, employees, and tax and pension liabilities have been paid off. Second, the legal requirements of the Portuguese bankruptcy mechanism are invariably expensive to fulfill. Third, public sector nationalized banks, which account for more than 90 percent of the banking system, can count on an eventual government bailout. Thus the banks tend to collude with their financially troubled clients and continue to lend with little hope of restoring their borrowers' financial health.

The limited use of bankruptcy to provide an orderly method of writing down debt leaves the book value of net assets at levels that do not reflect their market value. An active capital market is only just starting to operate. Meanwhile, the high book value inhibits buyers and sellers from transacting at realistic prices. The resulting immobility of capital and management increases the costs of adjustment.

Labor market rigidities

The relatively high degree of labor market rigidity may also impair the industrial sector's ability to adjust to the new incentive structure that has accompanied EC membership. Until the early 1970s, Portugal relied heavily on emigration to keep real wages growing in the domestic economy. Waning emigration to OECD countries and decolonization in the post-1974 period changed this age-old custom; and decolonization also led to a large inflow of returnees that needed to be absorbed in the domestic economy.

In response to these conditions, as well as to political commitments following the 1974 revolution, the government introduced a comprehensive set of measures designed to protect the interests of labor. These measures have greatly restricted the mobility of labor both within and between firms. Firms have little, if any, flexibility in reducing their labor force or indeed in changing the tasks or workplace assigned to each individual. By institutionalizing the overmanning of Portuguese industry, these laws have succeeded in slowing industrial progress and are even less justifiable now that Portugal has gained entry into the EC. Although a decade has gone by since the passage of these labor laws, Portugal has yet to fashion a set of labor policies that is conducive to industrial growth and adjustment while addressing the legitimate concerns of the labor force.

economies. In such situations, lower entry barriers at least discourage large firms from exercising their market power for fear that this may stimulate new firms to enter the industry. But lower entry barriers alone cannot curtail monopoly behavior, particularly when a single firm capturing scale economies can satisfy the entire domestic market. Foreign competition may then be the best answer.

As well as limiting monopoly power in domestic markets, foreign competition promotes competitive behavior through rivalry in export markets. The opportunity to export makes room for larger and more efficient producers in the domestic market. If the economies of scale are substantial, export activities may raise industry's profits.

Exit barriers and resource mobility

In some countries the costs of shutting down a firm can be prohibitive. In many ways exit barriers are barriers to entry as well, because they reduce the return on investment. They also tend to reduce any improvements in efficiency stimulated by liberalization or technological change (see Box 7.7).

Perhaps the most forbidding exit barriers are restrictions on labor retrenchment. (In one country with particularly rigid rules on job security, producers had to adopt ingenious methods for closing plants—for example, by paying bribes to ensure electricity blackouts or arranging strikes to bring about de facto closure.) Laws against mergers and

acquisitions also hinder the exit of firms. Through mergers and acquisitions an industry may move toward a more efficient structure. Governments in developing countries tend to oppose them because of their effect on industrial concentration. But the need for restrictive policies toward mergers diminishes when markets have low entry barriers or are open to foreign competition. Finally, complex or nonexistent bankruptcy procedures may make exit difficult.

Small-scale industries

Many studies suggest that trade, industrial, and financial policies can interact to discriminate against small firms. For example, trade policies in some countries protect large firms more than they do small firms. In Sierra Leone, large garment producers are granted fifteen times as much protection as small garment producers. Similarly, small firms are often excluded from lucrative investment incentives. In fact, many of the capital goods used by small firms, such as sewing machines or outboard motors, are often classified as luxury goods and taxed accordingly. Moreover, surveys indicate that less than 1 percent of small firms in developing countries obtain credit at controlled rates from formal financial institutions; the remainder rely on the informal sector. The combined net effect is to raise their capital costs and reduce their ability to compete against large firms (see Table 7.6).

But some developing countries adopt special programs to support small-scale industries. For example, they might provide working capital and investment finance at preferential rates of interest through development banks or selected commercial banks. In a few countries, governments have attempted to introduce management and vocational training, provide infrastructural services and

industrial estates, and promote subcontracting.

Except perhaps in the notable case of India (see Box 7.8), such measures compensate only partially for the discrimination against small firms in economies with import substitution strategies and interest rate controls. Policies that are neutral between industry and agriculture and between firms of different size probably do more to help small firms than direct intervention. Agricultural growth, for example, raises rural incomes and expands the markets for small industries. This is especially true when the agricultural sector is made up primarily of smallholdings that use labor-intensive techniques of production. Agricultural growth also increases the supply of raw materials for small-scale industries such as food processing and basket weaving. Movement toward more open trade policies and foreign exchange markets would also help reduce some of the bias against small firms. And greater freedom for financial institutions would give small firms better access to credit.

Economic policy and technological development

In the course of economic growth, gains in efficiency arising from changes in the allocation of resources are complemented by productivity improvements as a result of technological development. As Chapter 3 has noted, technological development is central to industrialization.

Technological development means more than creating new technological knowledge or even acquiring existing technological knowledge. It also involves developing the ability to assess, choose, and adapt such knowledge. Studies have found that the economic benefit from a new innovation is generally less than the cumulative benefits from gradual improvements made after its introduction.

Table 7.6 The relative cost of capital in large and small firms
(percentage difference in capital costs of large firms relative to small firms)

Economy	Period	Source of difference in capital costs			Total
		Trade policy	Interest rate policy	Fiscal policy	
Brazil	1968	0	-33	..	..
Ghana	1972	-25	-42	26	-41
Hong Kong	1973	0	0	0	0
Korea, Republic of	1973	-5	-35	10	-30
Sierra Leone	1976	-25	-60	20	-65
Tunisia	1972	-30	-33	..	..

Note: A negative number implies that the capital costs of large firms are lower than the capital costs of small firms.
Source: Haggblade, Liedholm, and Mead 1986.

Box 7.8 Is small always beautiful?

Many developing countries promote small firms in the belief that they use more labor per unit of capital than large firms, use capital more productively, and thus combine abundant labor with scarce capital more efficiently. Recent studies, however, indicate that this may not always be the case. First of all, small firms do not always produce the same products or serve the same markets as large firms. Making a direct comparison between small and large is therefore fraught with difficulty. But where careful comparisons have been made, size does not emerge as a good indicator of efficiency. The efficiency of small firms appears to be influenced by the same factors that influence efficiency in large firms—the nature of the industry, the array of available technologies, the framework of prices and incentives, and the competitive environment. In most developing economies, the overall trade and industrial policy framework tends to discriminate in favor of large firms. In such an environment, if small firms survive, they tend to do so on account of their higher efficiency or their superior ability in servicing a particular market. But where government policies are biased heavily in favor of small firms, there is a substantial risk that this may lead to the establishment of small firms that use resources inefficiently.

India is a case in point. It has encouraged small firms probably more than any other country. The government has encouraged village industries that use traditional techniques in the production of soap, cloth, and other items. In addition, more than 800 products, mainly chemicals and light engineering goods, are allowed to be produced by small firms only. These firms also get additional incentives, such as cheap credit, tax breaks, and preferential treatment in government tenders.

Have the economic benefits of these measures exceeded their economic costs? Recent evidence suggests not (Little 1987). In the textile industry, for example,

the ban on new looms in mills encouraged the use of economically less profitable power looms. Although power looms are more labor-intensive than mills, economic benefit-cost analysis indicates that these extra jobs have been “bought” too dearly. Similarly, in the sugar industry, the government has restricted the expansion of sugar-refining mills to encourage the production of semirefined sugar. But the production of semirefined sugar is not only economically less profitable than the production of refined sugar, it is less labor-intensive as well. Finally, government restrictions on the expansion of large engineering firms have fostered the rapid growth of small engineering firms that lack the technical capacity for producing high-quality goods or adopting new technology. As a result, exports of light engineering goods, such as bicycles and diesel engines, have suffered.

Evidence from other countries also suggests that small may not always be beautiful. Small firms tend to be economically more efficient than large firms only in those industries in which the nature of the technology or the characteristics of the market put small firms at an advantage over their larger competitors. In the Republic of Korea, for example, small firms employing fewer than 50 workers were the most efficient in only 32 of 139 industries. In a study of the Colombian metalworking industry, the economic benefit-cost ratio was highest for the largest firms. In sharp contrast, a study of large- and small-scale manufacturing enterprises in Sierra Leone revealed that in all six of the industrial subsectors studied, small firms were consistently more efficient than large firms. The Sierra Leone study also revealed that industrial and trade policies were biased consistently against small firms. The firms that continued to operate and compete against large firms tended to be economically more efficient and had higher economic benefit-cost ratios.

The mastery of technology cannot be bought; it must be learned.

The history of a Brazilian steel producer shows how technological capabilities can develop. The steel producer's first plant was set up by Japanese steelmakers. Subsequently, through a series of capacity-stretching technological improvements over seven years, the plant's capacity was more than doubled. This involved very little new investment and no addition to the work force. As a result of the experience gained through these technological efforts, the firm was able to make further additions to its capacity without outside technical help

and was even able to sell technical assistance to other steel producers in Brazil and neighboring Latin American countries.

Once acquired through production experience, technological capabilities can be extended gradually to investment appraisal, design, and construction. For example, efforts to extend capacity or remove bottlenecks may increase knowledge of plant design. But firms need not wait for production experience before acquiring these new capabilities. Many countries begin production in a new sector by contracting for a turnkey plant. If domestic firms involve local technical personnel in design

and implementation from the beginning, they can absorb a substantial transfer of know-how.

As firms acquire a greater command over the technologies they use, modifications and improvements require more applied research. These efforts often lead to minor innovations that can have a cumulative effect on productivity greater than the initial innovation. In its quest to increase productivity, a Mexican firm producing tableware with U.S. technology succeeded in developing an innovation that doubled the speed of glass making. The same technology was later sold to a Brazilian firm; with further minor innovations the energy requirements of the process were cut by half.

Firms starting up in new areas of production usually find it cheaper to acquire technology from abroad. The transfer of technology from abroad can come in a variety of forms. Sometimes it is embodied in equipment, as in turnkey projects or imported capital goods. In other instances it is packaged along with equipment, finance, and management, as in foreign direct investment. And in others, technology comes "unbundled," through technical assistance or technology licenses.

The benefits to be gained from foreign technology derive less from the method of its transfer than from the details of implementation. The technological benefits from a turnkey contract are likely to be much greater if local personnel participate at every stage. Moreover, except for a few processes, there are always several sources of technology available, and firms may benefit by negotiating for the best terms. Some inexpensive modes of technology transfer are growing in importance. In particular, the newly industrializing countries have found that exporting firms receive valuable technical assistance from foreign buyers. Concerned with the quality and competitiveness of the products they purchase, foreign buyers are keen to assist their suppliers in improving efficiency and quality control. They are also important sources of information on market trends in tastes and fashions and on legal product standards and market requirements in the purchasing country.

Successful technological development ultimately depends upon the desire of firms to improve efficiency. To encourage this behavior, the policy environment needs to reward firms that lower their costs and to penalize those that do not. Given also that technological change in developing countries is mainly adaptive and incremental, small firms can display just as much technological dynamism as large firms. Therefore, policies that promote

competition and freedom of entry and exit will tend to foster technological development. In addition, technological effort needs to be guided by price signals that reflect scarcity; so it is important that domestic prices reflect international prices and that factor markets are competitive. Policies that encourage trade and create a conducive environment for foreign direct investment will also facilitate the inflow of new technologies from other countries. Finally, the better educated the labor force, the more rapid its mastery of new technology.

Chapter 4 noted that firms may expend less technological effort than desirable if they are unable to reap the benefits for themselves. Governments have attempted to deal with this externality problem in several ways. One is to allow firms to register patents. Another is to subsidize technological effort. And a third approach is to promote specialized agents for technological development, usually publicly supported research and development institutes. Experience suggests that in most cases these institutes tend to have little contact with producing firms and are not of much help in developing the kinds of technologies needed by producers.

Technology information centers are another approach. Brazil and Mexico have such centers, which charge private users a small fee for access to their data banks. Finally, governments of many developing countries intervene in the transfer of technology from abroad partly to protect local suppliers and partly to check the market power of foreign suppliers. Carried to extremes, such measures may prevent the inflow of new technology. One study concluded that specific interventions mattered less for technological development than the general policy environment for industrial development.

Conclusion

The experience of developing countries over the past three decades suggests that when direct controls replace market mechanisms, economies work less efficiently. An economy that imposes few barriers to trade and encourages domestic competition is likely to develop an industrial sector that is more efficient in its use of resources and more competitive in international markets. Many governments in developing countries, however, continue to control a wide range of economic activities. Policy reform is therefore a vital step in improving economic and industrial growth.

Domestic policy also interacts with trade policy. The success of trade reforms hinges on the ability of firms to expand export production and meet the challenge of increased import competition. The speed of that adjustment depends on the flexibility of domestic product and factor markets. Govern-

ment policies can aid flexibility by removing barriers to resource reallocation and by encouraging competition in the domestic economy. Outward-oriented trade strategies and government policies encouraging domestic competition are therefore complementary.