

**The Rise of “The Rest”:
Challenges to the West from
Late-Industrializing
Economies**

ALICE H. AMSDEN

OXFORD UNIVERSITY PRESS

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6

Speeding Up

The developmental state was predicated on performing four functions: development banking; local-content management; “selective seclusion” (opening some markets to foreign transactions and keeping others closed); and national firm formation. As a consequence of these functions (the first two are examined in this chapter), “the rest” finally made the requisite three-pronged investment to enter basic industry—in large-scale plants, in hierarchical managements-cum-technological skills, and in distribution and marketing networks (Chandler Jr 1990). Two principles guided developmentalism: to make manufacturing profitable enough to attract private enterprise through the allocation of subsidies and to induce such enterprises to be results-oriented and to redistribute their monopoly profits to the population at large.

Step-by-step, governments groped toward a new control mechanism that replaced the invisible hand. The new mechanism ultimately shared credit with private initiative for a Golden Age of industrial expansion.

Development Banking

Like the North Atlantic, “the rest” was plagued after World War II by old and technologically obsolete capital equipment.¹ Unlike Europe, however, “the rest” had no Marshall Plan to guide and finance it.² Unlike Japan, it had no established Reconstruction Finance Bank.³ Therefore, the development bank,⁴ in conjunction with the development plan, filled the void.⁵ For a very short time, until balance of payments problems emerged, “the rest” was cash-rich from wartime profits and forced savings. As wealth began to vanish with imports, developmental banks went into action to build local industry.⁶

Infrastructure was the first major target of postwar development banks. Unlike prewar railroad building, infrastructure projects such as electrification, highway construction, irrigation, sanitation, and airports created substantial demand for locally made inputs (many of Brazil's heavy capital goods producers, for example, were spin-offs from public infrastructure projects). Business groups were strengthened by participating in such projects (among Brazil's top fifteen business groups, five had their core competency in construction services, as shown in chapter 8). Development banks sharpened their own teeth on such projects by learning techniques related to project appraisal, bidding, and procurement of equipment and raw materials.

Table 6.1 gives a breakdown of infrastructure disbursements as a percentage of total lending by the development banks of Mexico, Brazil, India, and Korea. The types of infrastructure handled by each bank differed, but in all cases except India, the share of infrastructure in total lending began relatively high. It then tapered off over time as infrastructure demands were more fully met. Infrastructure expenditure as a share of lending was by far the lowest in India, no matter what the time period. In part, this reflected the fact that other institutions in India undertook infrastructure spending, including development banks at the state level. In part, it also reflected the fact that India seriously underinvested in infrastructure.⁷

With respect to rates of *total* investment, by 1960–64 there was a remarkable similarity among countries in “the rest.” The share of gross domestic investment in GDP ranged narrowly, from a low of approximately 14.0 percent in Argentina, Chile, Indonesia, and Korea to a high of 21.2 percent in Thailand. The coefficient of variation in these years was a mere 15.4 percent (see table 1.12).

Nor was such capital formation driven by direct foreign investment. Foreign investment in total gross domestic investment was relatively small, possibly even smaller than in the prewar period due to a change in the ownership and finance of infrastructure (less direct foreign ownership in the postwar period). Direct foreign investment after the war was important in certain manufacturing industries, and critical in certain countries, as discussed in the next chapter, but it was minor in total capital formation (see table 1.14). For the seven countries in “the rest” for which data are available for 1960–64, direct foreign investment accounted for less than 5 percent. In the next period it became more important only in Brazil, with rich raw materials and a large domestic market, and Malaysia, with exceptionally rich raw materials.⁸ In the 1990s, it became more important in almost all countries (discussed in chapter 9). Thus, since the nineteenth century, direct foreign investment in “the rest” tended to lag rather than lead economic development—it blossomed late, after national investment boomed (see chapter 3).

Instead, the big player in investment became the public sector. Public investment as a share of gross domestic investment in the period 1960–64

Table 6.1. Infrastructure* Disbursements as a Percentage of Total Lending by Development Banks, 1948–1991

Years	Infrastructure Disbursements (%)	Years	Infrastructure Disbursements (%)
Mexico		India	
1948–49	44.7	1949–61	1.5
1950–59	34.1	1962–69	3.6
1960–69	40.0	1970–79	4.2
1970–79	33.9	1980–89	7.8
1980–89	27.5	1990–94	7.5
1990–91	13.8		
Brazil		Korea	
1953–59	74.0	1954–61	27.7
1960–69	25.0	1962–71	17.9
1970–79	27.0	1972–79	23.9
1980–89	31.0	1980–89	11.0
1990–91	na	1990–94	12.5

*Infrastructure as defined by development bank reports. Infrastructure includes the following categories for the countries given— Mexico: electricity generation, transportation, irrigation, communication; Brazil: electric power, rail, road, water, other; India: electricity generation, waterworks; Korea: electricity generation, waterworks.

Sources: National development banks.

ranged from a high of 58 percent in Mexico to a low of 25 percent in Brazil (see table 1.13). These shares were higher than in the North Atlantic before and after the turn of the century.⁹ Over time, the importance of the public sector in “the rest’s” capital formation tended to decline (except in Taiwan), but for most of the postwar era, the developmental state was by far the single most important player in capital formation.

The state’s agent for financing investment was the development bank. From the viewpoint of long-term capital supply for public *and private* investment, development banks throughout “the rest” were of overwhelming importance. Mexico’s Nacional Financiera (NAFINSA) accounted for about twice the value of long-term loans of all private credit institutions in 1961, 8,114 versus 4,706 (in million pesos). It also accounted for over 60 percent of the total of stocks held by private credit institutions (see table 6.2).¹⁰ Nor was NAFINSA’s position atypical. In India, it was estimated by the late 1960s that more than one-fifth of total private investment in industry was financed through development banks; “the share of development banks in medium- and long-term loans would, of course, be much higher” (Goldsmith 1983, p. 187). The Industrial Development Bank of India financed both public and private ventures, but by 1985, cumulative assistance to private and joint

Table 6.2. Distribution of Manufacturing Lending by NAFINSA, 1948–1989
(Annual Averages in %)

Industry	1948–59	1960–69	1970–79	1980–89
Iron/steel	26.1	20.4	35.7	45.0 ¹
Cement & other construction materials	2.7	1.3	1.0	na
Non-ferrous metals	1.0	3.0	5.5	1.5 ²
Food products	14.3	13.6	6.8	4.3
Textiles	11.0	6.9	6.1	6.5
Wood products	0.4	0.2	0.7	0.7
Paper/products	9.7	8.5	4.5	6.5
Fertilizers & other chem.	14.0	15.2	7.5	5.2
Metal & elec. prod./mach.	6.6	3.0	2.3	30.5
Transportation equip.	9.0	22.8	20.7	na
Other	5.2	5.5	9.1	na
Mfg. Total ³	100.0	100.3	100.0	100.2
Total mfg. lending as % of mfg. GFCF ⁴	na	na	35.5	17.5

1. Includes other metal products.

2. Nonmetallic mineral products

3. Does not include “petroleum and coal.” Annual reports are unclear as to the extent to which this includes manufacturing.

4. Figures are for 1970 and 1980, respectively. Gross fixed capital formation.

Source: NAFINSA

private/public ventures accounted for 83 percent of total assistance (India, 1984–85). In Chile, between 1961 and 1970 the fixed investment of targeted projects by CORFO¹¹ in the industrial sector was scheduled at 55 percent of all fixed investment in industry, including artisan industry (CORFO 1961; Alvarez 1993). CORFO is estimated to have controlled over 30 percent of investment in machinery and equipment, more than one-fourth of public investment, and close to 20 percent of gross domestic investment (Mamalakis 1969). In 1957 the Korea Development Bank (KDB) accounted for 45 percent of total bank lending to all industries. After a military takeover in 1961, which resulted in the renationalization of commercial banks, “the next step in the financial reform program of the Military Government was revision of the KDB’s charter to increase its capital, to authorize it to borrow funds from abroad and to guarantee foreign loans obtained by Korean enterprises” (Cole and Park 1983, p. 57). When only long-term (“capital fund”) loans are considered, as early as 1969 the Korea Development Bank accounted for 53 percent of the total, “still maintaining its important role in financing the nation’s industrial development” (Korea Development Bank 1969, p. 14). In the 1970s the National Investment Fund, used for the promotion of heavy and chemical industries, was partially funneled through the KDB. Later, when the brunt of lending shifted to commercial banks, preferential lending continued.¹² In Brazil, for forty years “no major undertaking involving private Bra-

zilian capital was implemented without BNDES¹³ support” (Banco Nacional de Desenvolvimento Economico e Social [BNDES] 1992, p. 20). There was no real, alternative source for long-term capital in Brazil other than BNDES (Monteiro Filha 1994). Even in high-tech, BNDES was in the lead and created a special working group to explore the possibility of building a local computer industry. The “First Basic Plan for Science and Technology” emerged in 1973–74 from BNDES (Evans 1995). Regarding the Indonesian Development Bank (Bapindo), it was “the only significant bank specializing in long term lending” (McLeod 1984, p. 69). But in addition to Bapindo, there existed a large state-owned commercial banking sector and a national bank, Bank Indonesia, which also gave direct concessionary credit to major government enterprises, including Pertamina, Indonesia’s giant oil company, and Krakatau Steel (Nasution 1983, p. 63).

The government’s role in long-run credit allocation was substantial even in parts of “the rest” where development banks were of relatively minor importance (Malaysia, Thailand, Taiwan, and Turkey). When necessary, the whole banking sector in these countries was mobilized to steer long-term credit to targeted industries, acting as a surrogate development bank. Taiwan (like South Korea) inherited a well-functioning commercial banking system from Japan, as noted in the previous chapter. Excluding curb market institutions, this inheritance was government-owned and responsible for over 90 percent of long-term credit (Shea and Yang 1994; Wade 1990). According to the 1973 *Annual Report* (p. 10) of the Bank of Communications (a quasi-development bank), “The government has directed the different banking institutions to provide special credit facilities for different industries.” As late as 1978 as much as 63.4 percent of domestic bank loans in Taiwan went to public enterprises (Lee 1990, p. 60).

The insignificance of development banking in Malaysia and Thailand owed to the fact that their major incentives to businesses in the early postwar period were tax rebates rather than credit concessions.¹⁴ Still, four development banks existed in Malaysia devoted to the economic development of the Malay (Bumiputra) majority. There was also plenty of concessionary credit to government-supported projects beginning in the 1970s, and these were financed by a banking system that was heavily state-owned. By 1980 domestic banks accounted for 62.0 percent of the banking system’s total assets. Bank Bumiputra Malaysia Berhad was the largest commercial bank and was wholly government-owned. The government was also a major shareholder in two other large banks (Malayan Banking Berhad and United Malayan Banking Corporation) (Akhtar Aziz 1984). In Thailand, most domestic banks were established by Thai-Chinese trading houses and became parts of diversified business groups. But the government owned more than a 90 percent share in two major banks (Krung Thai Bank and Bank for Agriculture and Agriculture Cooperatives) and minor shares in all other major banks (the Crown

Property Bureau was also a major shareholder in the Siam Commercial Bank). Krung Thai Bank, in turn, held the largest share in the Industrial Finance Corporation of Thailand, a development bank. Thailand's developmental state lodged most of its promotional activities in a Board of Investment (see chapter 1), which acted like a development bank to the extent that it targeted special industries (and firms) for support, which sometimes included concessionary credit, arranged through the Ministry of Finance.

Turkey had two important prewar development banks, the Sümerbank (1933) and the Etibank (1935), which invested in mining and steel (among other sectors) and various private enterprises. Owing to global politics, attempts were made to privatize these banks in the 1950s and a private Industrial Development Bank (IDB) was established with World Bank funding. Although privatization was halted for want of buyers, and the IDB remained inconsequential, state-owned enterprises executed various public policies, and commercial banks were heavily influenced by the state in their lending to specific industries (Hale 1981). In 1968 the State Planning Organization began issuing "certificates of encouragement" for investment. Similar to the Board of Investment's "promotion certificates" in Thailand, these certificates of encouragement entitled companies to favorable tax rates, duty exemptions, and subsidized credit. In the early 1990s such certificates again grew in importance (Barkey 1990; UNIDO 1995).

Theoretically, the importance of development banks in financing manufacturing industry can be measured either by their share in manufacturing *loans*, as just done, or by their share in manufacturing *investment*. The share of investment accounted for by manufacturing is itself of interest. Therefore, the available data are presented in table 6.3. The data are not especially illuminating because they do not show any clear-cut pattern among latecomers. Nevertheless, they do show a clear trend vis-à-vis that of the North Atlantic. "The rest's" share of manufacturing in total investment first matches and then exceeds the North Atlantic's share, which presumably falls with the rise of services. Given the share of manufacturing in total investment, table 6.4 shows the spending by development institutions as a percentage of total manufacturing investment in 1970, 1980, and 1990 (the countries shown are those with the two requisite data sets). The data for the Board of Investment (BOI) in Thailand represent the investment expenditures undertaken by the BOI's client firms. The data in table 6.4 are also not especially well-behaved because they are sensitive to the phase of large-scale investment projects and cyclical fluctuations in investment (such as a sharp economic downturn in Korea in 1980). Still, in the last year for which data are available, 1990, all four countries showed a substantial role for development banks, considering that manufacturing investment included not just long-term capital formation, the bread and butter of such banks, but also short-

Table 6.3. Manufacturing Gross Fixed Capital Formation as a Share of Total Gross Fixed Capital Formation 1950–1990 (%)

Country	1950	1960	1970	1980	1990
Brazil	13.0	8.1	19.7	13.8	13.5
Chile	na	na	9.9	11.8	10.3
Hong Kong	na	na	14.8	15.4	8.0
India	11.6	27.8	27.5	12.5	10.4
Indonesia	na	na	8.2	4.8	6.1
Korea	13.6	15.0	17.0	28.3	32.3
Malaysia	na	na	26.8	na	23.9
Mexico	na	na	37.6	39.5	39.7
Singapore	na	na	22.5	18.3	17.9
Taiwan	19.5	23.5	36.1	29.0	25.7
Thailand	25.4	25.7	na	na	48.8
Turkey	na	na	13.2	9.9	18.0
U.K.	27.3	25.0	18.1	16.9	14.2
U.S.	16.4	19.3	9.3	12.5	10.9
Italy	25.9	22.0	17.1	10.3	12.3
Denmark	13.7	16.3	9.2	10.3	10.6
Norway	18.5	17.3	8.8	11.6	10.5
Japan	na	na	20.1	9.5	10.8

Sources: Manufacturing GFCF: United Nations (1963) and UNIDO (various years). Brazil: Brazil (various years [b]). India: Chandhok (1996). Mexico: Mexico (1994). Total GFCF: International Monetary Fund (1995).

Table 6.4. Share of Development Banks in Total Manufacturing Investment, 1970–1990 (%)

Country	1970	1980	1990
Thailand (Board of Investment)	na	na	45.9
Brazil (BNDES)	11.0	18.7	18.1
Turkey (TSKB, Ind. Dev. Bank of Turkey)	6.7	na	na
India (All Development Banks)	7.6	16.8	26.0
Korea (Korea Development Bank)	44.7	10.1	15.3
Mexico (NAFINSA)	35.5	11.4	na

Notes

Brazil: 1970, 1980, and 1992

India: 1969–74 avg., 1979–80, and 1984–85

Korea: 1970, 1980, and 1990

Mexico: 1970 and 1990

Thailand: 1990. Represents % of manufacturing investment accounted for by BOI firms in 1990.

Turkey: Figure for TSKB lending represents 1968–69. This is divided by total manufacturing investment for 1969–70. Matching years were unavailable.

Sources: National development banks.

term working capital expenditures and investment financed by personal savings and retained earnings.

We may conclude, then, that the institution of the state-owned development bank transformed the financial arrangements of the prewar period, when long-term finance for industry came mainly in the form of private joint stock ownership (see chapter 4). The development bank (or its equivalent) accounted for a high proportion of postwar long-term lending to industry and infrastructure in all countries in “the rest” except Argentina. As discussed later, Argentina’s development bank imploded as early as the 1940s owing to corruption and mismanagement (Lewis 1990).

Bureaucratic Fiscal Empowerment

Development banks raised capital at home or abroad and then used it either to buy equity in private or public firms or to lend to such firms at below-market interest rates.¹⁵ Thus, in 1969, at the early stage of postwar industrial development, equity participation involved 86.7 percent of the Korea Development Bank’s capital outflow (Korea Development Bank, 1969). Likewise, Mexico’s development bank in its formative years frequently went into partnership with local companies; it “helped to organize business firms and maintained a significant voice in many of those in which it had equity investment” (Blair 1964, p. 198). Brazil’s development bank was active in establishing a stock market. The functions of India’s development bank over its life span is indicated by a breakdown of its direct finance (cumulative to March 1993): it made local currency loans (78 percent) and foreign currency loans (10 percent); it engaged in underwriting and made direct subscriptions (7 percent); it sold guarantees¹⁶ for loans and offered facilities for deferred payments (4 percent); it engaged in venture capital, including seed capital assistance (0.5 percent); and it undertook equipment leasing (0.5 percent) (Industrial Development Bank of India, 1992–93).

Lending terms of development banks were almost always concessionary. A typical case was the Industrial Finance Corporation of Thailand: “special rates are provided for government sponsored projects, and are made possible through a concessional refinancing facility provided by the Bank of Thailand” (Skully 1984, p. 327). In addition, Thailand had negative real interest rates for the majority of quarters in the period 1970 to 1982 (Hanson and Neal 1984). Interest rates again turned negative in 1988. Likewise in Taiwan, government-owned banks targeted credit to specific industries and firms at concessionary terms (Shea and Yang 1994; Wade 1990).

The degree of subvention everywhere depended not just on the nominal interest rate on a loan but obviously also on inflation and the foreign exchange rate. In Brazil, rapid inflation in the 1970s led to indexation (of

prices to the inflation rate), so if loans were not indexed, interest rates tended to fall below inflation. "Pressure for exemption from indexing came from the industrial sector. The public criticisms against growth of government and multinational enterprises to the detriment of the Brazilian private sector resulted in the reduction of the index burden of loans by the government development bank (BNDE). This amounted, in effect, to massive subsidy through indexation exemption" (Baer 1995, p. 86). Due to inflation and exchange rate overvaluation in South Korea, the real cost of getting a foreign loan with a guarantee from the Korea Development Bank was negative for the entire period 1966 through 1980, during the buildup of Korea's heavy industries (-3.1 percent in 1966-70, -3.0 percent in 1971-75 and -2.7 percent in 1976-80) (Park 1985).

The sources of funding for development banks spanned a wide spectrum. Foreign loans to finance Mexico's development banking rose from zero in 1941 to 57.7 percent of total resources in 1961 (Blair 1964). Brazil financed the BNDES through forced savings by workers, using their provident funds as capital (Monteiro Filha 1995). In 1969 the Korea Development Bank financed its activities by issuing industrial finance debentures (bought mainly by other state banks), inducing foreign capital, and attracting savings deposits (Korea Development Bank 1969). The Malaysian Industrial Development Finance Berhad (MIDF) was initially financed by an interest-free, long-term loan from the central government, which financed its own investments with tax revenues and foreign and domestic borrowing (Malaysia 1989). The Industrial Finance Corporation of Thailand borrowed long-term from the World Bank and other international sources. By 1992-93, the Industrial Development Bank of India was generating 60 percent of its funds internally (Industrial Development Bank of India, 1992-93, p. 124).

The public finance behind "the rest's" development banking (and other dimensions of industrial policy) was often "off-budget" and related to nontax revenues. It derived from foreign sources, deposits in government-owned banks, post office savings accounts, and pension funds (as in Brazil). In East Asia especially, these transactions typically occurred outside the general government budget and parliamentary political process.¹⁷ "Off-budget" items were under the control of the bureaucracy rather than the legislature, even if the legislature was popularly elected. This greatly strengthened the hand of professional bureaucrats in the ministries responsible for planning, finance, and industry.

This so-called fiscalization of finance entailed different accounting systems across countries, making comparisons of fiscal rectitude difficult to measure. The system of the International Monetary Fund (IMF) was uniform, but it included only transactions involving wholly owned government funds (International Monetary Fund 1986). In "the rest," however, it was the grey area of public-cum-private money, and jointly owned or controlled private and

public financial resources, that created the arena for industrial policy. International Monetary Fund accounts, therefore, tended to understate the extent of a country's expenditures on these policies.¹⁸

This is evident from an examination of the budgets of Japan and Korea (see tables 6.5 and 6.6).¹⁹ When their "second budget" is fully accounted for, their public spending is substantially greater than what their IMF budget suggests. According to IMF data, the spending of Japan's central government as a share of GDP ranged from between 15 percent and 20 percent in the 1970s and 1980s. When a broader definition of central government, plus

Table 6.5. Japan's Government Spending and Deficit/Surplus as a Percentage of GDP¹

Years	General Government (A)	Fiscal Invest. Loan Prog. (B)	Total: (A) + (B)	IMF ²	Central Government
Spending					
1956-60	28.90	3.67	32.32	na	21.75
1961-65	26.53	4.59	30.90	na	19.20
1966-70	26.20	5.13	31.20	na	18.85
1971-75	29.43	6.48	35.84	13.07	19.92
1976-80	38.25	6.98	45.21	16.97	27.04
1981-85	41.86	7.00	48.85	18.11	30.36
1986-90	39.34	7.63	46.95	16.48	27.91
1991-93	40.41	9.74	50.13	22.04	27.45
Deficit/Surplus					
1956-60	-0.77	-0.58	na	na	-0.09
1961-65	-0.91	-0.91	na	na	-0.22
1966-70	-2.08	-1.06	na	na	-1.25
1971-75	-3.97	-0.48	na	-1.71	-2.32
1976-80	-8.37	-0.60	na	-6.64	-6.14
1981-85	-6.63	-0.88	na	-5.99	-4.88
1986-90	-4.07	-0.59	na	-3.02	-2.53
1991-93	-5.40	-0.43	na	0.15	-3.20

1. General government equals central government plus local government minus duplication between general account of central government and local government. Central government equals general account of central government plus special account of central government minus duplication between both accounts. "Total" equals central government plus Fiscal Investment Loan Program (FILP) minus FILP funding through the Industrial Investment Special Account. Deficit/surplus of FILP equals FILP funding through government guaranteed bonds and government guaranteed borrowings. Deficit/Surplus of central government equals net increase in the central government debt outstanding except short term (financing) bills.

2. International Monetary Fund, *Government Finance Statistics*. After 1991 there was a change in classification. Other data from the Japanese Ministry of Finance and Statistics Bureau.

Sources: World Bank (1994b); Ministry of Finance, Japan (1995); Ministry of Finance, Japan (1978); Ministry of Finance, Japan (various); Ministry of Finance, Japan (1975); Statistics Bureau, Japan (1996) and Suzuki (1987).

Table 6.6. Korea's Government Spending and Deficit/Surplus as Percentage of GDP¹

Years	General Government (A)	Policy Loans (B)	Total (approx.): (A) + (B)	IMF ²	Central Government
Spending					
1962-65	18.62	10.62	29.24	na	16.16
1966-70	22.09	10.97	33.05	na	19.08
1971-75	18.52	18.47	36.98	15.98	18.20
1976-80	22.24	20.08	42.33	18.66	19.16
1981-85	23.77	28.97	52.74	19.61	18.67
1986-90	20.99	25.08	46.06	16.86	17.08
1991-92	24.59	26.42	51.00	18.70	19.28
Deficit/Surplus					
1962-65	-9.80	-0.88	na	na	-0.66
1966-70	-8.82	-1.89	na	na	-4.12
1971-75	-1.56	-6.64	na	-1.85	-2.55
1976-80	-1.56	-6.22	na	-1.70	-0.04
1981-85	-2.06	-10.34	na	-2.01	-0.29
1986-90	1.02	-10.39	na	0.29	1.07
1991-92	-0.50	-10.85	na	-1.07	-0.55

1. General government equals central government plus local government minus duplication where possible. Policy loans are defined as policy loans through deposit money banks plus total loans from Korea Development Bank and Export-Import Bank of Korea. "Total" equals general government plus policy loans minus duplication where possible. Deficit/Surplus of policy loans equals borrowing from Bank of Korea in deposit money banks plus government guaranteed bonds of Korean Development Bank and Export-Import Bank of Korea.

2. International Monetary Fund, *Government Finance Statistics*.

Sources: Bank of Korea (1993), (1995a), and (1995b); Bahl, et al. (1986); Cho and Kim (1995); Lee (1994) and Won (1995).

local government, plus "off budget" Fiscal Investment and Loans (FILS) is included, government's share rises to between 35 percent and over 45 percent of GDP.²⁰ In Korea's case, too, off-budget policy loans nearly doubled the share of government spending in GDP. Such loans substantially increased the deficit/GDP ratio as well, from only 1 percent to over 11 percent. All countries in Asia (including China) whose fiscal accounting system was influenced by Japan tended to spend more than suggested by IMF reckoning.

Governments in "the rest" also controlled nontax related sources of funding, such as foreign borrowing (through loan "guarantees"), ownership of financial institutions, and the disposal of private savings. Development banking and foreign borrowing abroad were thus closely related, however indirectly. The major weakness of development banks, therefore, was not to spend on the wrong industries but to spend *too much overall* (see chapter 9).

Picking Winners

Broad-ranging investment criteria guided the industries to which development banks allocated their capital, reflecting the fact that initially development bank lending was targeted to a wide range of industries; a shotgun rather than rifle approach prevailed to kick-start industrialization (see the case of Thailand in chapter 1). Possibly the only obvious investment criterion that did *not* figure explicitly in credit allocation was ‘comparative advantage’—industries with static comparative advantage already tended to exist while industries with *dynamic* comparative advantage could not be identified as such *ex ante*. Whatever the criteria or country, in Latin America or Asia, import substitution was the dominant form of investment, as inferred from the specific industries that received the largest share of credit. But development banks also funded export activity *per se*, the ease with which exports were extracted from import substitution industries depending on performance standards and the export-promotion infrastructure in which such standards were embedded (see chapter 7).

The criteria for Brazil’s development banking emerged out of historical circumstance: “The second administration of President Getulio Vargas, begun in 1950, inherited from the previous administration a nation anxious for change. The favorable balance of trade was being weakened by the importation of heavy industrial products and equipment, the rise in post-war consumption and international fuel prices. Given such a dilemma, the nationalistic middle class emphatically called for funds for development of basic industries” (Banco Nacional de Desenvolvimento Economico e Social [BNDES] 1992, p. 9). None of this precluded the goal of raising exports: “Between 1958 and 1967, fully one half of BNDES’s funds went to steel making, transforming Brazil, at the first stage, into a self-sufficient steel producer and, later, into a major exporter of steel products.” Moreover, the policies of the BNDES changed over time: “Beginning in 1974, with the oil crisis that suddenly hit Brazil’s balance of payments hard, the government decided to intensify its import substitution program, as set out in the second National Development Plan.” BNDES began to finance “principally two major sectors: capital goods and basic raw materials, consisting of minerals and ores, steel and non-ferrous metal products, chemical and petrochemical products, fertilizers, cement, pulpwood and paper” (Banco Nacional de Desenvolvimento Economico e Social [BNDES] 1992, pp. 18–19).

Taiwan’s heavy industries were targeted as early as 1961–64, during the Third Plan: “Heavy industry holds the key to industrialization as it produces capital goods. We must develop heavy industry so as to support the long-term steady growth of the economy” (Ministry of Economic Affairs, as cited by Wade 1990, p. 87). At the same time, exportables such as watches and other electronic products were promoted. After most heavy industries were,

in fact, developed (steel, shipbuilding, petrochemicals, machinery), and the second energy crisis occurred (1979), goals changed. In 1982, the Taiwan government began to promote “strategic industries” (machinery, automobile parts, electrical machinery, and information technology) based on six criteria: large linkage effects; high market potential; high technology intensity; high value-added; low energy intensity; and low pollution (Shea and Yang 1994).

Selection of promoted industries in Thailand, as stated in the 1950s, also had multiple criteria. First, they had to save a lot of foreign exchange. Second, they had to have strong linkages to other industries. Third, they had to utilize domestic raw materials. Yet another reason for promotion, according to the Ministry of Industry, was to gain technological knowledge: “Hopefully, the industries to be promoted such as automobiles, chemicals, shipbuilding, and so forth will transfer technological knowledge from developed countries” (Patcharee 1985).²¹

India’s development plans listed objectives that were broader and more political than those of other countries: (1) a faster expansion of basic industry than light industry, small firms than large firms, and the public sector than the private sector, (2) protection and promotion of small industries, (3) reduction in disparities in regional location of industry, and (4) prevention of economic power in private hands (Sandesara 1992).

According to Turkey’s Second Five-Year Plan (1968–72), it was important to promote manufacturing because it was the sector that would “pull” the economy ahead in the future. Industry priorities were chemicals, commercial fertilizers, iron, steel and metallurgy, paper, petroleum, cement, and vehicle tires. “Intensified investments in these sectors will create to a large extent import substitution effects and lay the necessary foundations for industrialization in the long-run” (Türkiye İş Bankası A.S. 1967, p. 45). At the same time, Turkey’s Plan set targets for a large increase in exports, and the textile industry was heavily promoted.

In the case of Mexico’s development bank, the principles that guided it in the early 1960s were to assist those industrial enterprises whose production could improve the balance of payments, achieve a better industrial integration, induce savings, or increase the level of employment. By the late 1980s, after a debt crisis, the principles were to “promote the restructuring, modernization and financial rehabilitation of companies as a way of achieving better efficiency and production, which is necessary in order to increase exports and substitute for imports permanently, thereby reaching a level of international competitiveness” (Nacional Financiera, S.A various years).

According to the 1969 *Annual Report* of the Korea Development Bank (KDB), top priority in lending was given to export industries and industries designated in a Bank Act that “improved the industrial structure and balance of payments.” These included “import substitute industries.” Import substi-

tution and export promotion were not seen as antagonistic; both involved large, long-term capital investments. By 1979, the end of Korea's heavy industry drive, the following factors were emphasized in financial commitments: the economic benefits to the nation; the technical and financial feasibility of a project; its profitability; and the quality of an applicant's management (Korea Development Bank 1979).

The "hot" industries of development banking—industries that received the largest and second largest shares of credit in various decades—are shown in table 6.7. Basic metals (mostly iron and steel), chemicals (primarily petrochemicals), machinery (electrical and nonelectrical), transportation equipment (ships, automobiles, and automobile parts), and textiles are the most important borrowers.²² These industries are broadly defined and comprise a variety of products. While the subbranches of such industries varied across countries, all of "the rest" (data exist for seven countries) targeted more or less the same basic industries for postwar growth.

Because light industries consumed less capital per project than heavy industries, they received a relatively small share of total bank lending, although a large number of projects tended to gain support. In South Korea, textiles (including clothing and footwear) was one of the most heavily subsidized sectors in the 1960s.²³ By 1974–79, however, textiles accounted for only 6.4 percent of the Korea Development Bank's new loans and manufacturing investments, supplanted by basic manufactures (Korea Development Bank various years). In 1950–62, textiles accounted for 21.1 percent of the new loan approvals of the Industrial Development Bank of Turkey. By 1990, the emphasis of the bank had shifted to clothing, which received 19 percent of new loan approvals (Bankasi, T. S. K. various years). The Development Bank of India allocated the textile industry on average 13.5 percent of its yearly support between 1949 and 1995; even in 1994–95 textiles accounted for as much as 14.1 percent of total loan value (Industrial Development Bank of India, various years).

Insofar as most of the "hot industries" targeted by development banks for support turned out to be relatively successful (discussed later), industry-level targeting *in the context of late industrialization* turned out to be a relatively straightforward task. For one, while targeted industries faced market uncertainty, they did not face the technological unknown, which complicated the targeting of science-based industries in advanced countries. For another, even market uncertainty was reduced by the historical road maps provided by already industrialized countries. Instead of presenting insuperable problems of choice, targeting facilitated the identification of potentially profitable investment industries which, in fact, *had* been an insuperable problem before the war, as discussed in earlier chapters.

Table 6.7. Hot Industries, Selected Country by Decade

Country	Decade ¹				
	1950s	1960s	1970s	1980s	1990s
Brazil (BNDES)	chemicals, basic metals & prod.	basic metals & prod., basic metals & prod.	basic metals & prod., chemicals	basic metals & prod., chemicals	pulp & paper, chemicals
India (AIFIs), 1949	food products, textiles	chemicals, textiles	chemicals, machinery	chemicals, textiles	chemicals, basic metals & prod.
Indonesia (CICB), 1952	na	na	chemicals, textiles	chemicals, textiles	chemicals, textiles
Korea (KDB)	na	textiles ³ , ceramics	machinery, basic metals & prod.	machinery, basic metals & prod.	chemicals, basic metals & prod.
Malaysia (MIDF)	chemicals ²	basic metals & prod., wood & wood prod.	food products, textiles	basic metals & prod., food products	basic metals & prod., non-met. min. prod.
Mexico (NAFINSA)	basic metals & prod., food products	transportation equip., basic metals & prod.	transportation equip., basic metals & prod.	basic metals & prod., machinery	basic metals & prod., machinery
Turkey (TSKB)	textiles, food products	ceramics, textiles	transportation equip., textiles	transportation equip., textiles	na

1. The two main manufacturing industries for each decade receiving the largest share of credit (largest listed first). Industry definitions vary by country.

2. This is the only category (besides "other") listed for these years by the source cited.

3. 1969 only

Chemicals: This category may include petrochemicals, chemical products, and fertilisers. For Korea in the 1990s. "chemicals" also includes rubber, plastic, and petroleum products.

Basic metals and products: Sometimes this category is broadly defined and includes "metallurgy" or "metalworking." More often, it is more narrowly defined and includes only "steel" or "iron and steel."

Textiles: Sometimes this category includes "clothing and apparel."

Machinery: This category may or may not include electrical machinery.

Transportation equipment: Sometimes this category is listed as "transportation vehicles." It is always listed separately from "transportation," which generally includes infrastructure projects.

Ceramics: This category may also include stoneware, glassware, and ceramic products.

Wood and wood products: This category is broadly defined to include all lumber and wood products.

Non-metallic mineral prod: This category includes all non-metallic mineral products.

Sources: Bank Indonesia (1996); Industrial Development Bank of India (various years); TSKB (various years); Banco Nacional de Desenvolvimento Economico e Social (various years); Korea Development Bank (various years); Bank Negara Malaysia (various years).

Sources of Efficiency

Development banks influenced the efficiency of their clients by subjecting them to *performance standards* related to firm-level management practices (*techno-standards*) and national policy goals (*policy standards*). Among other goals, policy standards included (1) exporting; (2) localizing the production of parts and components (typically in the automobile and electronics industries); (3) pricing; (4) building (not building) “national leaders” by concentrating (diffusing) resources in a few (many) firms; and (5) strengthening technological capabilities. Reciprocal-type discipline was necessary because, given a small endowment of skills and a large supply of “intermediate assets,” conventional forms of competition were either *too weak* or *too strong* to induce good performance.

Latecomer Forms of Competition

Development banks tried to improve their clients’ performance through means other than conventional competition. In theory and practice, the nature of competition varied historically. The competition of the First Industrial Revolution was defined by perfectly competitive markets and free trade. By the Second Industrial Revolution, the nature of competition had shifted to rivalry among capital-intensive, oligopolistic firms. By the last quarter of the twentieth century, its locus had switched from product to capital markets, the latter putting publicly traded firms on their best behavior with threats of hostile takeover [Hikino, 1997].

These forms of competition may have made the North Atlantic rich, but they were fundamentally dysfunctional in “the rest” for most of the half century after World War II. If the free-market form of competition was unleashed too early, it stunted an industry’s growth, as prewar history amply demonstrated (see chapters 2–5). Exporting was possibly the best disciplinarian, but it took time to materialize in “the rest’s” new industries (see chapter 7). If competition awaited either “gales of creative destruction” or hostile takeovers, the wait would be endless. Before 2000, “the rest’s” monopolies were not threatened by innovation at the world technological frontier, which was too distant, and its capital markets were both immature and nearly irrelevant in disciplining the dominant forms of big business operating locally—family-owned firms, state-owned enterprises and the affiliates of multinational companies, none of whose equity was publicly traded on local stock markets.²⁴

The lack of conventional categories to describe the type of discipline to which “the rest’s” leading enterprises *were* subject is indicated by the tortuous explanation given for the success of Korea’s automobile industry by the first president of Korea’s most prestigious economic think-tank, the Korea Devel-

opment Institute: “It is true that the success of the Korean automobile industry was achieved by private initiatives. But it is also true that the success could hardly be attributed to market competition per se. Korean automobiles faced severe competition in the export frontiers. However, it was not market competition that simulated the industry to grow strong enough to venture into the world market. I am not arguing that market competition was useless. Rather, *I would like to point out that the environment was provided in which the private sectors’ creativity and responsibility could be maximized*” (Kim 1997, pp. 39–40).

The environment to which Mahn-Je Kim refers is that of the reciprocal control mechanism, with its conditionalities and performance standards. The Korean automobile industry did not export for roughly twenty years after it first began to assemble trucks and cars. But the obligation to export ultimately was built into its capacity designs and attempts to develop a network of local parts and components manufacturers. The immediate negative effects of duopoly were kept in check by threats of new entry (which began in the 1980s) and price surveillance.

It is to performance standards, first techno-standards in the case of Brazil, that attention is now turned.

Techno-Standards: The Brazilian Miracle

The techno-standards of Brazil’s development bank, BNDES, were stipulated in clients’ contracts. The contracts discussed below cover the following sample:²⁵

Machinery	23 companies, 116 contracts, 1973–89;
Petrochemical	28 companies, 30 contracts, 1969–91;
Pulp and paper	9 companies, 56 contracts, 1970–90;
Steel	15 companies, 117 contracts, 1969–89.

Techno-standards are classified according to finance, administration, environment, raw materials, national equipment, technology, and miscellaneous.

Finance-related standards tended to be the same across companies and sectors. BNDES’s clients were required to reach a certain debt/equity ratio and liquidity ratio. The debt/equity ratio was based on American banking standards, possibly because the United States had been an early lender to BNDES, and was low by East Asian standards—*typically debt could not exceed 60 percent of total assets*. Hence, “large” Brazilian companies tended to be small by East Asian standards (see chapter 8). Clients were also prohibited from distributing their profits to stockholders of a controlling company. Companies were not allowed to make new investments of their own or change their fixed capital without BNDES approval. In the case of a company that

required financial restructuring, it was forced by BNDES to divest itself of nonproduction related assets.

The raw material requirement also tended to be similar across industries and firms. In the case of pulp and paper producers, BNDES made it mandatory for them to have a guaranteed source of local raw materials to minimize the need to import. They were also ordered to reforest a certain number of acres within a specified time period. In the iron and steel sector, a repeated contractual requirement was that clients had to provide the bank with details about reforestation projects as well as figures on sales over time of pig iron in the domestic and foreign markets. If the bank did not accept a company's pig iron selling patterns, the company was obliged to renegotiate a contract with the bank. There were also instructions about meeting vegetable carbon pollution standards.

Loan conditions concerning administration, national equipment, technology, and other subjects tended to be firm-specific. The conditions were often detailed, intrusive, and formulated in such a way that *a client had to comply before it received a loan*. Among the bank's primary concerns were that firms be managed efficiently; that family-owned firms hire professionals in top administrative positions who were independent and not family retainers; that ownership of a firm not change during a loan period; that companies develop their own technology; and that firms source their engineers and machinery locally, whenever possible.

Pulp and paper

1. A leading pulp and paper manufacturer with eighteen contracts with BNDES, 1970s:

- With respect to technology, the company must prove that it has hired a Brazilian engineering company to do the detailed design for an expansion; BNDES has to approve the company's general plans to establish an R&D Department; the company must have its technology contracts registered with the appropriate Brazilian organization, INPI (which scrutinized technology contracts to insure that Brazilian companies were not overpaying for foreign technology). The company has to hire two consultants (one Swedish, one Finnish) and these consultants have to approve the company's choice of technology. BNDES has to approve the company's contracts with the consultants.
- The company must make its best efforts to buy national equipment (although in this case BNDES made no specific requirement).
- The company must build a harbor in the (backward) region in which it is planning to locate (more clauses follow on the nature of the harbor).
- The company must provide workers with social services (health, education, cafeteria) given the absence of services in the region.

2. Another large pulp and paper manufacturer (1987)
 - Present plans for investing in R&D with detailed discussion of projected costs for seven years. Prove to BNDES at the end of each year that company applied the plan.
3. A third large pulp and paper manufacturer (1979)
 - BNDES asked the company to commit to buying 63 percent of its equipment locally.
 - The company had to follow an environmental standard and dispose of the ash from its coal-burning in a specified way. The company had to show BNDES the plan of its board of directors for the handling and disposal of certain toxic acids it was using to avoid accidents.

Capital goods

1. A leading capital goods manufacturer (1983 and 1986: two loans for financial strengthening).
 - (1983) In 60 days the company had to present an administrative program for the reduction of operating costs. In 120 days it had to present a plan for divesting itself of one operating unit.
 - (1986) The company had to show BNDES a plan for relocation of certain production capacity, improvement of productivity, and strengthening of financial variables. As part of the reorganization program, the company had to hire a controller and implement an information system that was modern and that widened the scope of data processing. The company also had to modernize its cost system and improve its planning and control of production (within so many days). In 240 days the company had to present a strategic plan for long-run objectives. It also had to hire a vice-president for general administration who would sit on the board of directors. The company had to convince BNDES that this person had adequate qualifications and that the duties of the job were clearly specified.
2. A leading capital goods manufacturer (1975)
 - To qualify for a loan to expand production capacity, the company had to show BNDES detailed investment plans for a three-year minimum.
3. A capital goods manufacturer (1979)
 - To qualify for a loan for capacity expansion, the company had to show BNDES in 30 days that it had hired a consultant to analyze the company's administration. In 120 days, the company had to present BNDES the consultant's report. In 180 days, the company had to demonstrate to BNDES that its detailed reorganization plan was based on the consultant's recommendation.

4. A capital goods manufacturer (1975)
 - To qualify for a loan for capacity expansion, the company had to use equipment with a nationalization index of 60 percent or more.
5. A capital goods manufacturer (1975)
 - As part of a loan for modernization, the company had to restructure its financial department so that there would be more executive control over loans and accounts receivable. The company was also required to hire a financial director.

Iron and Steel

1. A leading state-owned iron and steel manufacturer with thirty-three contracts with BNDES, (1960s–80s)
 - As part of a loan for expansion, the company had to modernize its management system, including a revision of its marketing and distribution function for domestic and foreign sales. Its cost system had to be up-graded with a view toward reducing its number of personnel as well as inventory, according to prespecified benchmarks. The other aspects of management that had to be reformed concerned maintenance, technology, and data processing, with the bank providing details concerning the problems that restructuring had to address.
 - When the company bought a new system of equipment with machinery from multiple sources, it had to make sure that a single supplier accepted responsibility for the installation and operation of that equipment.
2. A small steel manufacturer with four contracts with BNDES (1970s–1980s)
 - The company had to hire a professional technical expert in a top management position, and the name of the expert had to be approved by BNDES before the person could be hired.
 - The company had to present plans for training people with the objective of absorbing foreign technology and then diffusing this know-how within the organization, to other personnel.
3. A steel manufacturer with eight contracts with BNDES (1970s)
 - The company had to introduce a new management information system to insure that it had adequate written reports for each level of administration, with different information contained in financial and output reporting.
 - The company had to present to BNDES a program for technology development with special emphasis on how the company proposed to develop new products and become independent of third-party technical assistance.

4. A state-owned steel manufacturer with ten contracts with BNDES (1970s)

- The company had to receive technical assistance from BNDES' other state-owned steel mill in order to improve its own cost accounting system (there follows several conditions to achieve this).
- The company must present a detailed technology development plan, indicating how it is going to develop basic engineering skills in the company.

Monitoring

As development banks imposed techno-standards on their clients, they themselves tightened their own monitoring skills and procedures. Monitoring was increasingly built into lending arrangements such that compliance at one stage was made contingent on further loan disbursement.

Regarding the Korea Development Bank, in 1970 it “strengthened review of loan proposals and thoroughly checked up on overdue loans to prevent capital from being tied up. Business analyses and managerial assistance to clients were conducted on a broader scale.” For clients financed with foreign capital and, therefore, enjoying a sovereign guarantee from the KDB, “appropriate measures were worked out to strengthen KDB’s administration of them. The Bank called for the submission of sales and financial plans by such enterprises. According to these plans, clients were required to deposit the equivalent sum in advance of the date on which repayments were due, either in the form of savings deposits or purchase of Industrial Finance Debentures. The Bank charged an extra 20 percent over the regular guarantee fee to those who failed to fulfill the requirement.” In 1979 the KDB introduced a new procedure to tighten control over lending. “In order to ensure that loan funds are utilized according to their prescribed purpose, disbursements of loan proceeds are not made immediately upon commitment. Instead, loan funds are transferred into a Credit Control Account in the name of the borrower and the money may be withdrawn only for actual expenditures. The Bank is therefore able to monitor closely the progress of each project.” For most of its history the KDB also maintained a ceiling ratio of loan commitment which, *in principle*, was set at 65 percent of total project cost. The idea of sharing the costs of a project with a client was designed to make the client more performance-conscious (Korea Development Bank, 1969, 1970, 1971, 1979).²⁶

Development banks in “the rest” undertook careful appraisals of prospective clients, examining their managerial and financial status, past performance, and the merits of their proposed project. In India, “Appraisal Notes” included conditionalities. For every loan, the Industrial Development Bank of India (IDBI) insisted on the right to nominate a director to a company’s

board. This practice was comparable to that of the big German banks, but the purpose of the IDBI was not to gain control of its clients' strategic decisions. Rather, it was to gain information about them with a view toward exerting discipline over their operations. Other conditionalities in "Appraisal Notes" varied by loan. For example, in a loan to a large steel pipe manufacturer that represented 10 percent of IDBI's net worth, a condition of lending was that the firm form a Project Management Committee to the satisfaction of IDBI for the purpose of supervising and monitoring the progress of the project's implementation. Thailand's Board of Investment appraised and monitored clients thoroughly, and if a company failed to meet BOI terms (stipulated in a promotion certificate), its certificate was withdrawn (see chapter 1). Between January and December 1988, 748 firms received certificates for new projects, of which 37 certificates were withdrawn. In the case of Thai firms, 24 out of 312 certificates, or 8 percent, were withdrawn (see table 6.8).

Where the capabilities of borrowers—and lenders—were poor, the quality of development banking also suffered (as it tended to do in "the remainder"). In the case of Malaysia's development banks, which were designed to lend to local Malays in order to raise their relatively backward economic position vis-à-vis Malaysian Chinese entrepreneurs, operations were hampered by "the poor performance of many debtors." A failure rate on loans of about 30 percent was reported due in part to a shortage of viable projects. But even viable projects did not properly prepare their business proposals (Salleh and Meyanathan 1997). The exception that proves the rule was the Bank Industri, which "has a thorough research team on which it relies heavily. It has adopted a target market approach, and the research staff plays the key role in identifying and evaluating new areas of the economy for the bank to

Table 6.8. Thailand's Promotional Process

	End of 1987	January–December 1988	
		Certificate Issued	Certificate Withdrawn
Total no. of projects	2463	912	40
Total no. of firms	1992	748	37
Thai firms	1010	312	24
Foreign firms	72	91	1
Joint venture firms	910	345	12
Total regist. cap (mil US\$)	51547.46	29574.23	1017.48
Thai (mil US\$)	35484.44	14629.28	862.21
Foreign (mil US\$)	16063.03	14944.95	155.28
Total investment (mil US\$)	255625.16	87017.58	2665.50

Source: Board of Investment

penetrate. The researchers undertake very detailed industry studies, looking at all aspects of a potential project in order to gain familiarity with its strengths and weaknesses.” Once a project has been approved, the Bank Industri “insists on being an active partner. It stays jointly involved in the financial management with its partner, often operating joint bank accounts with its clients, which requires the bank to countersign all checks for payment of expenses. Bank Industri is vigilant in monitoring the progress of its clients, frequently visiting business sites, and is quick to provide financial management advice” (Asian Development Bank 1990) (as cited in Salleh and Meyanathan 1997).²⁷

In sum, the efficiency of development banking depended on discipline and performance standards, and the monitoring of techno-performance standards depended on bureaucratic capabilities. The extent of bureaucratic capabilities may be said to have varied with the degree to which a country was industrialized; the greater industrial experience, the greater capabilities on the part of both lender and borrower.

Generally, development banks were successful in creating a managerial culture in their clients because they themselves were managerial, often representing the most elite bureaucracy of the early postwar years.

In the case of Mexico’s development bank, NAFINSA, its *técnicos* became “a respected voice in the councils of government. . . . Its influence has been diffused throughout the Mexican economy. Over the years (it was founded in 1934) the institution has been the training ground for numbers of bright and active men [sic] whose technical and political expertise has moved them into important government positions” (Blair 1964, p. 199).²⁸ With respect to the BNDES of Brazil, it had “a strong sense of institutional mission, a respected ‘administrative ideology’ and a cohesive *esprit de corps*” (Willis 1990, p. 17). According to two executives of Dow Chemicals Latin America, interviewed three years before the Pinochet military coup, the National Development Corporation in Chile (CORFO) excelled for its “organization and thoroughness of planning, . . . which sets Chile apart from some of the other countries that have engaged in similar activities. . . . The management of key Chilean Government agencies . . . are outstanding professionals who do not automatically change with each succeeding political regime” (Oreffice and Baker 1970, pp. 122 and 126).

Argentina was the exception. Its Banco Industrial and related institutions, such as a state trading company (Argentine Institute for Production and Trade, IAPI), were run by a crook, Miguel Miranda. “Not only was Miguel Miranda coming under attack for his mishandling of the economy, but his use of the IAPI to enrich himself was becoming scandalous. The army had removed all of its military purchases from IAPI’s jurisdiction after it learned that Miranda got a \$2 million kickback from a company that was awarded a contract to build a steel mill for Fabricaciones Militares. It turned out that

the company in question was not even the lowest bidder” (Lewis 1990, p. 195.) An air force company producing engines and vehicles tried to become “a substitute for the Industrial Bank in promoting new enterprises,” but with very limited results (Lewis 1990, p. 268). In general, Peronist political machinery “crowded out” fresh developmental machinery (see Sourrouille 1967; Diaz Alejandro 1971; and Mallon and Sourrouille 1975, for the absence of developmental machinery). Argentina thus failed to invest in mid-technology industries (and later in high-technology industries): “If industries such as steel, oil extraction, petrochemicals, and so on had received priority over light consumer goods industries producing for the domestic market,” then Argentina might have become a leading exporter of advanced manufactures (Diaz Alejandro 1967, p. 23, as cited by Lewis 1990, p. 185).

Policy Standards

Performance standards with respect to policy goals were specified at the highest political levels; bureaucrats only implemented them and development banks may or may not have been the primary executor. Implementation, however, was an art, and bureaucracies exercised substantial power over the substance and impact of some policy goals. Export expansion, local-content, and price stability were three major policy goals that were coupled with performance standards in the postwar years (policy goals with respect to firm and skill formation are discussed in later chapters).

Exports

The intermediate assets that developmental states tied to export-oriented performance standards typically went beyond merely “creating a level playing field” (equalizing profitability between selling at home or abroad).²⁹ Firms that committed themselves to exporting were not only given access to working capital, tax breaks and duty drawbacks on imports, the typical package of *measured* export incentives. Besides these corrections for so-called market imperfections, they were also given something much more valuable: privileged access to *long-term subsidized capital*. Long-term capital subsidies, however, are excluded from estimates of export promotion.³⁰ This omission derives from the fact that long-term investment credits cannot be uniquely allocated to either export activity or import substitution—a firm can use its capital to produce for both domestic and foreign markets simultaneously. Because long-term loans cannot be uniquely allocated, they are simply ignored as a form of export incentive. Nevertheless, this omission seriously underestimates the role of performance standards in export activity. Even if subsidized capital is also used by a firm to produce for domestic consumers, the fact that exporting at

some agreed-upon date is made a long-run condition for receiving subsidized investment capital makes the reciprocal control mechanism a more important institution in export planning and promotion than measured indices of export promotion suggest.

The most general export-oriented performance standard after World War II operated in the context of export processing zones, or free trade enclaves that enabled participating firms to acquire their imported inputs duty free in exchange for an obligation to export *all* their output (see chapter 1). Such enclaves may have created few backward linkages or technological spillovers, but they created employment, which was of critical sociopolitical and economic importance in densely populated countries with unlimited labor supplies after World War II.³¹ Rising employment, in turn, helped to create a much-needed domestic market for other manufactures. Rising wages from fuller employment also provided a long-run incentive to invest in R&D (see chapter 8). Thus, considering both direct and indirect effects, the performance standard that defined such zones—duty-free imports in exchange for *100 percent* exports—may have impacted positively on a wide range of domestic manufactures. Export processing zones spread quickly from Korea and Taiwan to Malaysia, Indonesia, Thailand, and China.³²

South Korea, with the highest growth rate of exports in “the rest” (see table 6.9), induced firms to become more export-oriented by making their subsidies contingent on achieving export targets, which were negotiated jointly by business and government and aired at high-level monthly meetings. These meetings were attended regularly by Korea’s president, Park Chung Hee, and were designed to enable bureaucrats to learn and lessen the problems that prevented business from exporting more, information that was likely to have contributed further to export activity (Rhee et al. 1984). Reciprocity involved long-term lending by the Korea Development Bank. Starting in 1971, at the commencement of Korea’s heavy industrialization drive, the KDB began to offer credit “to export enterprises recommended by the Ministry of Commerce and Industry” (Korea Development Bank 1971). The more a company exported, the more likely it was to receive cheap, long-term loans (as well as tariff protection for its sales in the domestic market). After 1975 the government made a lucrative license to form a general trading company contingent on big businesses reaching a certain level and diversity of exports. These qualifications unleashed fierce competition among Korea’s big business groups at a time when the emergence of heavy industries was dampening competition at the industry level (Amsden 1997a). If a targeted firm in Korea proved itself to be a poor performer, it ceased being subsidized—as evidenced by the high turnover among Korea’s top ten companies between 1965–85 (Kim 1993).³³

The reciprocity principle in Korea operated in almost every industry. In electronics, for example, “the question could be asked why the chaebol-

Table 6.9. Total Exports: Growth Rate and Structure, Selected Countries, 1970–1995

Country	Annual Avg. Export Growth Rate, 1950–95	Main categories of exports (Total = 100%)		
		Manufactures	Chemicals	Machinery
Korea	26.3			
1970		76.5	1.4	7.2
1995		93.3	7.3	51.6
Taiwan	20.3			
1970		75.8	2.4	16.7
1995		92.7	6.5	47.7
Thailand	12.9			
1970		4.7	0.2	0.1
1995		73.1	3.8	31.5
China	11.8			
1970*		41.8	4.6	1.5
1995		84.0	6.1	19.5
Mexico	12.8			
1970		32.5	8.1	10.6
1995		77.7	4.9	51.4
Indonesia	11.5			
1970		1.2	0.5	0.3
1995		50.6	3.3	6.8
Turkey	11.4			
1970		8.9	1.6	0.4
1995		74.4	4.1	11.0
Malaysia	11.0			
1970		6.5	0.7	1.6
1995		3.0	50.0	
Brazil	10.2			
1970		13.2	1.6	3.5
1995		53.5	6.7	19.1
Chile	8.9			
1970		4.3	1.3	0.8
1995		13.5	3.5	1.8
India	7.9			
1970		51.7	3.3	4.7
1995		76.2	8.5	7.1
Argentina	7.5			
1970		13.9	3.1	3.8
1995		33.9	6.3	10.8
Japan	15.8			
1970		92.5	6.4	40.5
1995		95.2	6.6	67.3
Italy	13.3			
1970		82.9	6.9	36.8
1995		89.2	7.6	37.5
U.S.	10.0			
1970		66.7	9	42
1995		77.3	11.2	47.9
U.K.	9.2			
1970		80.1	9.7	40.9
1995		81.6	13.6	42.7

Note: Nominal U.S. dollars.

* Data are for 1975.

Source: Adapted from UNCTAD (1993).

affiliated enterprises did not confine their business to the domestic market where they could make large profits without difficulty. The primary reason was that the government did not permit it. An important Korean industrial policy for electronics was protecting the domestic market. In return for protection of the domestic market, the government required the enterprises to export a part of their production" (Sato 1997, p. 413).

Taiwan, with the second highest growth rate of exports (see table 6.9) also tied subsidies to exporting. In the case of the cotton textile, steel products, pulp and paper, rubber products, cement, and woolen textile industries, all formed industry associations and agreements to restrict domestic competition and subsidize exports (Wade 1990). Permission to sell in Taiwan's highly protected domestic market was made conditional on a certain share of production being sold overseas (Chu 1997; Lin 1973). In the "strategic Promotion Period" of Taiwan's automobile industry, 1977–84, the Ministry of Economic Affairs required new entrants into the industry to export at least 50 percent of their output (Wang 1989).

Other countries in "the rest" also connected subsidies with exporting, only in different ways and with different degrees of success (see chapter 7). Thailand's Board of Investment changed its policy toward the textile industry after the first energy crisis in 1973. Overnight it required textile firms (whether foreign, local, or joint venture) to export at least half their output to qualify for continued BOI support (see chapter 1).

In Indonesia, "counter-purchase regulations" stipulated that foreign companies that were awarded government contracts, and that imported their intermediate inputs and capital goods, had to export Indonesian products to nontraditional markets of equal value to the imports they brought into Indonesia. In the case of timber, concessionaires were required to export processed wood rather than raw timber; in the mid-1980s plywood accounted for about one-half of Indonesia's manufactured exports (Poot et al. 1990). Moreover, joint venture banks and branches of foreign banks were required to allocate at least 50 percent of their total loans, and 80 percent of their off-shore funds, to export activity (Cole and Slade 1996).

Turkey tried to promote exports starting in the 1960s, making them a condition for capacity expansion by foreign firms. In the case of a joint venture between a Turkish development bank, Sümerbank, and a German multinational, Mannesmann, "both the Turkish and German managing directors were of the opinion that the Turkish Government was constantly willing to help the company in its operations." Nevertheless, one point irritated foreign investors. Any capital increase required the consent of the Turkish government. It also became a policy of the Turkish government "to agree only to a capital increase by forcing companies to take on export commitments. The government maintained that, in general, any profit transfers abroad had to be covered by exchanges through exports. Since Turkish industry (steel pipes

in the case of the Sümerbank-Mannesmann joint venture) could not yet compete at world market prices, export sales did not cover costs, so exports caused losses” (Friedmann and Beguin 1971, pp. 209–10). Gradually, Turkey established a functional export promotion system, one that gave firms incentives to cut costs and were generous enough to export at a profit (Baysan and Blitzer 1990; Senses 1990).

In the case of Mexico’s oil company, Pemex, in the late 1970s it guaranteed private petrochemical producers a ten-year price discount of 30 percent on their feedstock in exchange for their willingness to export at least 25 percent of their installed capacity and maintain permanent employment (the debt crisis of 1981–82, however, led to the cancellation of this plan) (Mattar 1994).

In Brazil, a BEFIEX program authorized duty-free imports in exchange for export commitments. The Brazilian government established the BEFIEX program in early 1970, after negotiations with the Ford Motor Company’s introduction of the Maverick model. This program allowed for increases in import content and tax exemptions against export performance commitments and “was in tune with Brazil’s export promotion policies since the late 1960s.” The turning point came during the first energy crisis, when the Brazilian government “forced a swing in the automobile industry’s negative balance” by withdrawing all subsidies other than those under BEFIEX. “This led to a healthy rise not only in exports of vehicles but also in exports of engines and parts made at the terminals or by associated firms” (Fritsch and Franco 1991, p. 115). In the case of other industries, Brazil’s export incentives included a standard package of duty drawbacks and other tax rebates. In addition, firms could negotiate their own customized incentive package in return for a specific commitment to export a certain proportion of their output (Baumann and Moreira 1987). The transport equipment industry especially was helped by this reciprocal arrangement (Lucke 1990). By 1990 it is estimated that 50 percent of Brazil’s total exports were covered by BEFIEX incentives (Shapiro 1997).

India made exporting a condition for subsidies and privileges of various sorts but usually the terms of the agreement were unworkable. In the textile industry, for example, in the 1960s the government agreed to waive restrictions on firm’s restructuring if they agreed to export 50 percent of their output—but few did because they lacked the capital to restructure (Nayyar 1973). In 1970 export obligations were introduced for various industries; industries or firms were required to export up to 10 percent of their output. But “the government was seldom able to enforce export requirements” except possibly in industries (software, for instance) that were already export-oriented (Verma 1996, p. 24). As India liberalized in the 1990s, however, trade balancing conditionalities appear to have become *more* workable. Even foreign investments that were given “automatic clearance” were to be subject

to central bank scrutiny for foreign exchange details. Scrutiny “will generally require that the investing company not take out more hard currency than it brings in” (Gardner 2000, p. 9).

By way of conclusion, export-oriented performance standards, starting with export processing zones, became pervasive throughout “the rest” and probably strongest in Korea and Taiwan. These countries were extreme outliers in export performance, even with respect to other East Asian countries. Their conditionality distinguished itself for the tight relationship it created between exporting and accessing long-term investment capital. With tight coupling, exporting became wired into a firm’s long-term strategic plans (see chapter 7). This was an ideal, but performance standards everywhere, sooner or later, at least became export-friendly.

Local-Content

Performance standards in the form of “local-content” requirements were focused on the automobile industry. They were designed to induce automobile assemblers (foreign or national) to “source” their parts and components from domestic suppliers in exchange for granting them tariff protection from finished vehicles, limits on entry by new assemblers, and financial subsidies.³⁴ The government’s policy objective was to build national firms, enrich technological capabilities, and save or earn foreign exchange. The premise was that local content rules squeezed assemblers’ profit margins, which gave them an incentive to train their local parts suppliers, whose greater efficiency would reduce their overall costs.

Localization requirements were among the most difficult performance standards to execute and evaluate. A high level of expertise was required on the part of government bureaucrats to choose specific parts and components correctly for sequential localization. The automobile industry was characterized by product differentiation, scale economies (in both assembly and parts manufacture) and high skill requirements. It was, therefore, vulnerable to control by politically and economically powerful multinational firms. Yet *laissez-faire* was out of the question. As industrialization expanded and as per capita incomes rose, demand for automobiles soared, and automobile imports destabilized a country’s balance of payments. The kneejerk reaction was to strengthen tariffs on assembled automobiles, but tariffs only succeeded in increasing imports of “kits” of knocked-down or semi-knock down parts and components. Early local content rules were an attempt to induce assemblers to manufacture selected parts and components locally, with Brazil blazing the trail:

assemblers had to meet an extremely ambitious domestic-content schedule to be eligible for the full range of financial subsidies. Each year their vehicles

had to contain an increased percentage of domestically purchased components. By July 1, 1960, trucks and utility vehicles were to contain 90 percent domestic content and jeeps and cars, 95 percent. . . . By offering the financial incentives for only a limited period, the plan would put laggardly entrants at a competitive disadvantage. (Shapiro 1994, pp. 81–83)

Firms that failed to meet Brazil's local-content schedule were threatened with a withholding of foreign exchange and a withdrawal of subsidies. (The larger the size of the domestic market, the more credible the government's threat. For their part, foreign assemblers, and sometimes national "first tier" parts suppliers, pressured latecomer governments for lower requirements using threats of "exit." The greater employment and the more obsolete the existing production capacity of an assembler, the more credible the assembler's threat.)

The goals of local content rules—easing balance of payments constraints, strengthening national firms, and enhancing technological skills—were variously met. Over time, localization rose almost everywhere (see Veloso et al. 1998, for Mexico, Taiwan, and Thailand). At least three countries also succeeded in transforming their automobile industry into a "leading sector" in terms of foreign exchange. Table 6.10 shows that by the early 1990s, a positive trade balance in assembled vehicles and parts had been achieved by Brazil, Korea, and Mexico. Imports and exports were more or less balanced in India, while China's automobile industry was still too immature to tell.

The policy objectives of strengthening nationally owned firms and deepening local capabilities were harder to attain and more difficult to measure. Suffice it to say here, in the absence of robust data, that local content requirements became a lightning rod for criticism under new World Trade Organization law in the late 1990s. Foreign assemblers saw it in their growing interest to source their parts and components globally. Therefore, in countries where the ownership of automobile assembly operations was mostly foreign (Argentina, Brazil, and Mexico), the ownership of key parts suppliers also tended to become de-nationalized (for Brazil, see Mesquita Moreira 1999). Still, even in these countries, the learning effects of local content laws appear to have been great, certainly warranting further study.³⁵ Whereas efficient, technologically advanced small- and medium-size enterprises largely failed to emerge in "the rest" before World War II, they appeared to arise in the postwar years on the heels of local content rules.

Price Controls

From the perspective of an *industrial* policy maker, price controls were typically imposed exogenously by a *macroeconomic* policy maker, whose objective was price stability and social peace rather than industrialization. Price controls had no long-term developmental rationale. Nor were they necessarily

Table 6.10. Trade Deficits in Autos and Auto Parts, 5-year Totals, 1970–1994

	Deficit or Surplus (mil 1990 US\$)				
	1970–74	1975–79	1980–84	1985–89	1990–94
Argentina	-480	-212	-2,384	-853	-6,541
Brazil	-959	2,495	7,209	11,089	4,383
Chile	-1,325	-1,583	-2,023	-2,086	-4,904
China	na	na	-1,191	-7,952	-13,225
India	-322	222	743	-455	1,588
Indonesia	-2,506	-5,143	-6,436	-5,133	-8,668
Korea	-1,019	-1,915	584	11,273	10,011
Malaysia	-2,737	-3,824	-4,780	-3,021	-6,773
Mexico	-4,291	-7,305	-4,966	9,075	4,494
Taiwan	-1,246	-1,606	698	1,128	-6,358
Thailand	-2,561	-4,309	-3,746	-5,480	-14,372
Turkey	-1,831	-2,965	-1,563	-2,361	-5,930
France	22,219	40,060	24,987	20,721	30,095
Japan	59,911	136,171	206,155	325,403	369,070
U.K.	24,735	12,170	-8,302	-41,480	-27,224
U.S.	-45,029	-47,921	-107,909	-280,487	-229,257

Notes:

Negative numbers indicate deficits.

Data adjusted into real dollars using U.S. WPI. Taiwan data for autos and parts includes all transportation equipment. All China data is for 1983 and after. Chile did not report export figure for 1982–1989.

The UN Standard Classification of industries has been adjusted through the years. The old standard classification (Rev. 1) listed the following categories for autos and parts: 713—internal combustion piston engines (where printed, air & marine piston engines were subtracted), 7132—automotive piston engines, 7139—piston engine parts, 7783—automotive electronics, and 732—road vehicles (includes motor vehicle parts). The newer standard classification (Rev. 2) listed the following categories: 7115—nonair piston engines, 7294—automotive electronics, and 78—road vehicles (includes motor vehicle parts). The data are not strictly comparable from year to year or across countries as countries switched from Rev. 1 to Rev. 2 at various times.

Source: UNIDO (1997 and various years [a]); UNCTAD (various years [b]); International Monetary Fund (1997); Republic of China (1997).

reciprocal in nature. Their result, therefore, was as anticipated: sometimes they aided industry and sometimes they harmed it.

Their effects appeared to be most harmful in the the steel industry, whose price movements permeated the rest of the manufacturing sector. In Mexico, there was a price freeze on steel from March 1957 to the end of 1974 in order to contain inflation. “Throughout this period most of the firms in the Mexican steel market faced financial difficulties which hindered their modernization and expansion” (Perez and Jose de Jesus Perez y Peniche 1987, p. 185).³⁶ The postwar Indian steel industry, comprised of privately owned and publicly owned mills, was covered by a system of “retention prices” recommended by India’s prestigious prewar Tariff Commission. The selling price

of steel was higher than the retention price paid to producers, and the difference was used by the government to underwrite development projects (not necessarily in the steel industry). Nevertheless, production costs at the newer public sector mills were necessarily higher than at the older private mills because capital costs were relatively cheaper before the war, when private plants were built, and in the postwar period “the World Bank refused to finance government-owned industrial units as a matter of policy” (Johnson 1966, p. 38). Hence, investments that were private tended to cost less than those that were public. Because government plants received the same retention prices as private plants, they incurred substantial losses and could not finance their own modernization. The costs of this price system were described as “incalculable,” as were the costs of the price controls governing the Indian cement industry (Lall 1987).

In Korea, the government was tampering with steel prices as late as 1996, but for no obvious developmental reason: “Foreign exporters normally had difficulty competing in the Korean market with POSCO (one of the world’s most efficient steel makers) because transport costs and import tariffs made their products more expensive. . . . Domestic prices did not necessarily move directly with international prices or domestic supply and demand due to government controls” (Financial Times, 15 March, 1996, as cited in (Nolan 1996, p. 22).³⁷ In Brazil, by contrast, the government “passed a decree in 1965 giving firms certain tax advantages if they would not raise their prices by more than 10 percent a year. Government-controlled steel firms were forced to join this commitment, and so also were private firms, since most of them relied on government credit for their expansion programs, *but the tax break gave firms an incentive to hold down their costs and prices*” (Baer 1969, pp. 131–32, emphasis added).

Even in the same country, price controls failed in one industry but were protective of consumers and highly developmental in another, almost by chance. In India, price controls harmed the steel industry but helped the pharmaceutical industry. “India’s system of normative ceiling prices . . . forced pharmaceutical firms (numbering around 28,000) to engage in process innovation . . . and made exports more profitable than domestic sales, thus pushing local drug firms to become exporters” (price controls, however, acted as a disincentive to improve quality and produce the cheapest controlled drugs). India’s pharmaceutical exports rose from 46 in 1980–81 to 2,337 in 1995–96 (rupees crore), a fifty-fold rise. Innovativeness was encouraged because those local firms that manufactured new drugs (using indigenous technologies) were exempted from price controls for five years. Small firms in rural areas were exempted altogether from price controls, so multinationals began to subcontract to them, thereby diffusing technology and facilitating a supply of medicines to remote regions (Mourshed 1999, p. 107). All this, however, was fortuitous: “Just as the Indian government did not wittingly impose price

controls to encourage process innovation, it also did not conceive of price control as a mechanism for motivating local drug firms to become world-class exporters” (Mourshed 1999, p. 110).

In the case of the automobile industry in Korea, prices were surveilled by the Ministry of Finance to bolster price stability.³⁸ Because assemblers could not initially compete internationally at world market prices (owing to their small production scale), they were allowed to set domestic prices high enough to offset losses in export markets.³⁹ If assemblers exported, the government allowed them to produce high-margin luxury cars equipped with six cylinder engines for the domestic market. When a new model was first introduced, Korean assemblers were also allowed to overcharge customers (by world standards), but then were pressured to reduce prices over time. This policy inadvertently helped assemblers recoup their initial investment costs and also forced them to increase productivity to remain profitable (Amsden and Kang 1995). In Taiwan, the price of a domestically made car was allowed to exceed that of a comparable foreign car. But “if the domestic price of a car was higher than its international market price by more than 15 percent, then foreign cars were automatically allowed to be imported.” It was difficult for the Taiwan government to decide exactly how much the difference in domestic and international prices should be, but the concept was helpful in pushing domestic producers “toward efficient production and management” (Min 1982, p. 105).

The behavior of price controls in “the rest” illustrates a general principle about performance standards. A policy-related performance standard works “best”—advances a developmental goal—where the goal is developmental and clear-cut. Where the developmentalism of a goal is fuzzy, as in price controls, the outcome is likely to be fortuitous.

In India, “the rest’s” second worst performer after Argentina in terms of manufacturing output growth, performance standards tended to have conflicting multiple goals. Unlike other countries in “the rest,” the criteria India used to target industries included sociopolitical objectives: public enterprise over private enterprise and small firms over large ones. In fact, large firms grew faster than small firms and the public sector’s expansion (from 4 percent of manufacturing in 1960–61 to 18 percent in 1984–85) was offset by restrictions on foreign investment, which buttressed national private big business (Sandesara 1992). But distributional objectives interfered with efficiency, as is evident from two of India’s most awkward policy instruments, controlling prices and reserving market segments for small-scale firms (see chapter 9 on market reservation). Conflict in objectives abounds in the history of almost every strategic industry in which India lost ground. The Indian cotton textile industry suffered from obsolete plant and equipment in the 1950s, but the Indian government was reluctant to undertake full-scale mechanization because of shortages of foreign exchange and the fact that

“in a labour abundant economy which already has a very high level of unemployment, any policy aimed at such modernisation requires careful consideration in view of its welfare implications” (Nayyar 1973, p. 9). The expansion of the Indian clothing industry, being very labor intensive, might have reduced the Indian government’s anxiety about the unemployment effects of modernization in weaving. But the Indian clothing industry also stagnated in the 1970s: “The failure of the government to ensure the existence of an adequate supply of inputs, especially fabric, to this industry was the single most important effect of government policy on this sector. The government aimed to expand the handloom sector *by discouraging the growth of the larger textile mills*. The expansion of weaving capacity in mills was not permitted *unless textile producers undertook to sell a large proportion of their output at controlled prices, which were very low*” (Kumar 1988, p. 122, emphasis added).

As argued in chapter 8, an equal income distribution is a very valuable asset in industrialization. Nevertheless, the pursuit of distributional goals by means of industrialization policies may advance neither.

Performance

The performance of “hot” industries may now be assessed by the criteria of changing market share in total manufacturing output and exports. The share of “hot” industries in “the rest’s” prewar manufacturing sector was generally small, so a rise in this share may be taken as evidence that development planning met its major goal.

Chemicals, machinery, or basic metals tend to appear as the target of every development bank represented in table 6.7. These are also the sectors that performed the strongest in postwar years. Chemicals increased their importance as a share of total manufacturing output in every country, typically by a wide margin (see figure 6.1). The same is true of machinery (except for Argentina and Chile) (see figure 6.2). Between the beginning and end of the 1970s, iron and steel production increased 17.1 times in Korea, 11.3 times in Taiwan, and by 2.1 times in China (UNIDO 1986). Heavy industry progressed the furthest in populous countries where prewar manufacturing experience tended to be longest and where postwar policy gave heavy industry the biggest push—Brazil, India, Korea, Mexico, and China. The industrial structures of these countries began to resemble those of the North Atlantic and Japan (see table 5.2).

The share of manufactures in “the rest’s” total exports also soared (see table 6.8). The rise was spectacular in Brazil, Indonesia, Thailand, Malaysia, and Turkey. Between 1970 and 1995, the manufactured share in total exports rose from 1.2 to 50.6 percent in Indonesia, 4.7 to 73.1 percent in

CHEMICALS

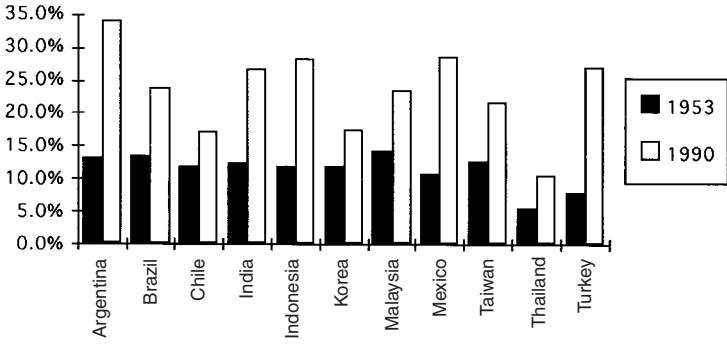


Figure 6.1. Share of chemicals in manufacturing value added, 1953–1990. The term “chemicals” encompasses the following industrial classifications: industrial chemicals, other chemicals, petroleum refining, petroleum and coal products, plastic and plastic products, and rubber and rubber products. Data for the following countries are given for the following years, rather than for 1953: India, 1958; Korea, 1958; Malaysia, 1959; Taiwan, 1954; Thailand, 1963; Indonesia, 1958; Mexico, 1960. *Sources:* United Nations (various years), UNIDO (various years [b]).

MACHINERY

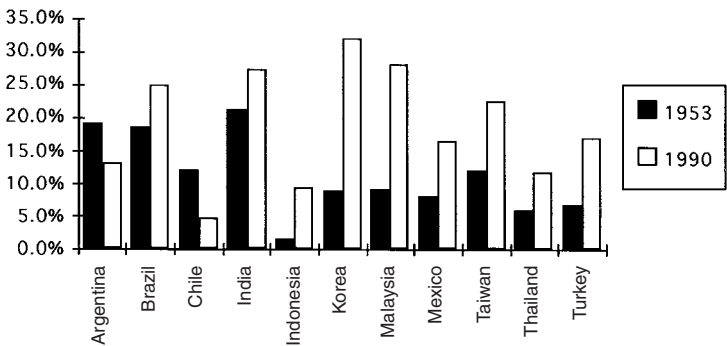


Figure 6.2. Share of machinery in manufacturing value added, 1953–1990. The term “machinery” encompasses the following industrial classifications: electrical machinery, nonelectrical machinery, transport equipment, and professional and scientific equipment. Data for the following countries are given for the following years, rather than for 1953: India, 1958; Korea, 1958; Malaysia, 1959; Taiwan, 1954; Thailand, 1963; Indonesia, 1960; Argentina, 1975; Mexico, 1960. *Sources:* United Nations (various years), UNIDO (various years [b]).

Thailand, 8.9 to 74.4 percent in Turkey, 6.5 to 74.4 percent in Malaysia, and 13.2 to 53.5 percent in Brazil. Machinery exports included light manufactures (such as consumer electronics), but also nonelectrical machinery and transportation equipment. Chemical industries produced intermediate inputs for final export products, thus finding their way into exports, but only indirectly. Taiwan's industrial strategy, for example, was predicated on state-owned "upstream" enterprises producing intermediate inputs for "downstream" small-scale private exporters (Chu and Tsai 1992; Chu 1994 and 1996). In Japan and Italy, which may be taken as benchmarks, the share of chemicals in 1992 in total exports equaled 5.5 percent and 7.1 percent respectively. Roughly, the same chemical export shares existed in 1992 in Korea, China, Mexico, Brazil, India, and Argentina. As for iron and steel, by the early 1990s, it became one of the top ten exports of Argentina, Brazil, Korea, and Turkey (United Nations Conference on Trade and Development 1993).

A new era had dawned.

Conclusion

After a century of failing to industrialize, "the rest" succeeded in diversifying its manufacturing base and in generating manufactured exports under a reciprocal control mechanism. Subsidies were conditional on the fulfillment of performance standards, which were widespread both by industry and country. Techno-standards transformed the family-owned firm by professionalizing its key management functions, as suggested by the case of Brazil. Policy standards raised the local content of fabrication and assembly industries, especially automobiles, thereby promoting national small-scale firms. Trade-oriented standards, as discussed in the next chapter, became export-friendly and an integral part of long-term capital formation in the best cases, Korea and Taiwan.

Despite challenges related to large scale economies and heavy capital requirements, development banks oversaw the rise of "the rest's" basic industries. "Hot industries" targeted for subsidies generally increased their share of manufacturing output and total exports, and manufacturing growth rates soared.

Late industrialization thus became an institutionally grounded growth process. The weakest performers, measured by manufacturing output growth, may be understood in terms of these institutions: Argentina never developed them and India overdeveloped them.

7

Selective Seclusion

Countries in “the rest” all allocated subsidies to the same set of mid-technology industries, and in almost all cases, these industries started as import substitutes. What differed among countries was how vigorously and rapidly exportables were extracted from a sequentially rising number of import substitution sectors. The wide variation among countries in export coefficient—share of exports (manufactured and nonmanufactured) in GDP—depended on structural characteristics (population size and density), investment rates, and price distortions. Even controlling for these variables, however, some countries in “the rest” became overexporters while others remained underexporters. The reasons behind this disparity—rather than its importance for growth—are explored below.

The role of history was such that not only manufacturing experience mattered and not only manufacturing experience that was colonial mattered (for national ownership)—manufacturing experience from Japan is what mattered most for rapid growth in foreign trade.

Deviations from predicted levels of exporting may be attributed to trading institutions. In turn, the trading institutions of latecomers were influenced by those of earlier industrializers, sometimes fortuitously and sometimes deliberately. North and South American trade patterns became similar. Japan’s trade regime was an object of conscious emulation by its East Asian neighbors: An institutionally grounded and popularly promoted trade regime was created to mobilize exports, at the heart of which was a policy to allocate long-term investment capital to those import substitution industries that were expected—and equipped with the necessary inputs—to export at some future date. Thus, export activity became an integral part of import substitution activity.

This connection escaped conventional measures of export promotion be-

cause long-term subsidized credit can be used to produce for any market, domestic or foreign. Therefore, investment credit cannot be allocated uniquely to either import substitution or exporting, as noted in chapter 6, and cannot be counted as an export incentive per se.

Differences in “Economic Openness”

Export growth was fast *in all countries* in “the rest” for almost fifty years, 1950 to 1995; it was slightly above the world average (see table 7.1, which measures total exports, manufactured *and nonmanufactured*, in nominal dollars). Even in Argentina, with the lowest rate, it averaged 7.5 percent. This

Table 7.1. Growth Rate of Exports, 1950–1995 (%)

Country	1950–60	1960–70	1970–80	1980–90	1990–95	1950–95
Argentina	0.3	4.8	18.0	2.1	11.9	7.5
Brazil	2.1	7.2	21.8	5.1	5.3	10.2
Chile	3.7	10.0	15.9	8.1	15.0	8.9
China	18.8	1.3	20.0	12.9	19.4	11.8
India	0.4	3.7	17.3	7.3	11.7	7.9
Indonesia	-1.1	1.6	35.3	-0.3	12.1	11.5
Korea	1.3	39.8	37.2	15.0	14.3	26.3
Malaysia	0.6	4.2	24.2	8.6	20.3	11.0
Mexico	3.1	6.1	24.8	8.2	14.6	12.8
Taiwan	6.5	23.2	28.6	14.8	10.8	20.3
Thailand	1.7	5.9	24.7	14.0	19.7	12.9
Turkey	0.0	6.0	16.2	14.0	11.0	11.4
Standard deviation	5.3	11.1	7.1	5.1	4.4	5.4
Mean	3.1	10.5	23.7	10.2	13.8	12.7
Coefficient of variation	171.2	117.3	210.9	56.0	31.6	42.5
Italy	10.5	13.9	20.0	8.7	6.7	13.3
Japan	15.9	17.5	20.8	8.9	10.1	15.8
U.K.	4.7	5.9	18.5	5.8	4.4	10.2
U.S.	5.5	8.1	18.5	5.7	8.3	10.0
USSR	10.8	8.3	20.6	4.2	na	11.9
World	6.4	10.2	20.4	6.1	8.1	11.1
Developed	7.0	10.0	19.0	7.6	7.2	11.3
Developing	3.6	6.7	25.8	3.2	11.4	11.0
N. Africa	1.9	13.9	23.7	-3.8	-1.4	10.8
Other Africa	4.8	7.3	19.9	-1.3	-0.5	7.9
Asia	4.1	6.5	29.8	4.5	13.4	12.5
Latin America	2.4	5.0	20.8	2.1	10.1	8.7

Notes: Nominal U.S. dollars. USSR data are for 1950–1980.

Sources: UNCTAD (1996), except USSR; USSR, UNCTAD (1990).

was well below the world average but not inconsequential in absolute terms. Exports grew annually at almost identical double digit rates in China, Indonesia, Malaysia, Thailand, Mexico, and Turkey despite different degrees of protection. The share of manufactures in exports also soared (least of all in Argentina and Chile) (see table 6.9). Thus, “the rest’s” postwar trade history is one of fast growth almost everywhere and spectacularly fast growth in two cases, Korea and Taiwan. Their average annual export growth in nominal dollars exceeded 20 percent for nearly half a century (see table 7.1).

What differed sharply among countries in “the rest” were *export shares in GDP*, a coefficient that crudely measures how exposed an economy is to international competition, how easily it can exploit economies of scale, how readily it can create employment for its “unlimited supplies of labor,” and how adroitly it can overcome domestic market recessions.² In some countries, this coefficient started low and stayed low. In other countries, it rose rapidly after World War II from a low or high starting point to a level that was possibly unprecedented in world trade history. By 1990 exports in GDP varied from single digit figures in some large countries, Brazil and India, to almost 50 percent in Taiwan and almost 80 percent in Malaysia (see table 7.2).

By way of explanation, if a firm operates in a large domestic market, it is more likely than otherwise to develop its products with a view toward selling at home, and given large international differences in per capita income, tastes overseas and at home may be expected to differ. A large domestic market is a valuable asset, so a larger country may be expected to be more protectionist than a smaller country (*cet.par.*). Given sunk costs of product development and assuming that home tariffs discourage exporting (ignoring other interventions), then the larger the country (measured by population), the smaller the export coefficient, by virtue of both size and protectionism.

Population density (people per unit of land) is also likely to affect exporting because resource scarcity (the essence of “density”) limits domestic income and purchasing power. Population density affects the supply of labor and hence real wages—the greater population density, the greater the labor supply relative to resources and the greater the downward pressure on wages. Both pressures, if great, make the production of exports relatively cheap.³ Thus, in terms of involuntary structural characteristics (those over which a country has no control), the greater population size, the smaller the export coefficient, and the greater population density, the greater the tendency to export.

Investment in new plant and equipment may be considered a determinant of trade because it influences the supply of technologically up-to-date products for overseas sale. Therefore, the greater a country’s rate of investment, the higher its export share is likely to be. If access to long-term preferential investment credit is made conditional on exporting, then the relationship between investing and exporting may be expected to be even stronger. Never-

Table 7.2. Share of Exports in GDP, Selected Countries

Year	Exports in GDP (%)	Year	Exports in GDP (%)
Argentina		Korea	
1910	24	1910	7
1970	6	1938	33
1980	5	1961	5
1990	10	1970	14
1995	7	1980	34
Brazil		1990	30
1910	16	1995	36
1970	7	Malaysia	
1980	9	1960	56
1990	8	1970	42
1995	8	1980	57
Chile		1990	77
1910	30	1995	90
1970	15	Mexico	
1980	23	1910	12
1990	34	1960	5
1995	28	1970	6
China		1980	11
1910	6	1990	16
1932	5	1995	13
1955	6	Taiwan	
1970	3	1910	32
1980	10	1938	34
1990	19	1960	12
1994	24	1970	30
India		1980	53
1910	11	1990	48
1960	5	1995	44
1970	4	Thailand	
1980	7	1960	17
1990	8	1970	15
1995	12	1980	24
Indonesia		1990	34
1964	14	1995	39
1970	13	Turkey	
1980	33	1910	14
1990	27	1963	9
1995	25	1970	6
		1980	6
		1990	13
		1995	21

Table 7.2. (continued)

Year	Exports in GDP (%)	Year	Exports in GDP (%)
United States		Russia	
1879–88	7	1910	8
1904–13	6	1959	3
1924–28	5	1965	3
1960	5	1970	4
1970	6	1980	5
1980	6	1989	5
1990	10	1994	4
1995	11		
Japan			
1878–87	5		
1908–13	15		
1918–27	18		
1965	11		
1970	11		
1980	14		
1990	11		
1995	9		

Sources: Unless otherwise noted, all data taken from UNCTAD (various years [b]). Data for 1960 represent exports/GDP and are taken from International Monetary Fund (various years). Data for the USSR represent exports/GNP and are taken from Steinberg (1990). The GNP estimates are Steinberg's. Data for 1994 also represent exports/GNP, are for the Russian federation only, and are taken from World Bank (1996). Data for the United States for 1879–1928 taken from United States (various years). Data for Japan for 1878–1927 from United States (various years). Unless otherwise noted below, data for 1930 taken from Hori (1994). United States (1819–1913) from Kravis (1972), and United States (1920s) from Kuznets (1967). Assumes imports and exports are equal. For 1970–1990, UNCTAD (1995). Data for “the rest” for 1910, Hanson (1986). “Data” are based on expert opinion. Russian figure (1910) is based on country statistics. China (1955) from Eckstein (1964). Russia (1959) from Kindleberger (1962). Mexico (1960) from Reynolds (1970). Turkey (1963–64) from Pamugoklu (1990). Korea and Taiwan (1938) and China (1932) from Hori (1994).

theless, because high rates of investment in infrastructure may be *domestic* market-oriented, the effect of investment on export shares is unprecipitable.

Finally, prices, especially of foreign exchange, may be expected to influence exporting to the extent that they make selling at home more profitable than selling abroad. If prices are neutral (undistorted), then they should have no influence on exporting.

To test these hypotheses, we estimate two regression equations using 1990 data for countries in “the rest,” the North Atlantic and Japan (see table 7.3).⁴ In general, the percentage of intercountry variability in export shares that is explained in these tests is large—the R^2 statistic for all independent variables reaches as much as 0.68 in a cross-section equation (regression 2). Even when only population size and population density are considered (regression

Table 7.3. Regression for Export Coefficient (Share of Exports in GDP), 1990

Regression	Export Coefficient as Function of . . .				
	Constant	Log of Population	Log of Pop. Density	Log of Investment's Contribution to Growth	Log of Distortion
1. Involuntary (R-square = 0.59)	0.77	-0.28 (-6.67)	0.17 (3.60)	—	—
2. General (R-square = 0.68)	6.40	-0.32 (-7.73)	0.15 (3.24)	0.14 (1.85)	-1.00 (-2.43)

Notes: Dependent variable: Export coefficient, 1990. Figures in parentheses are t-statistics. Investment's contribution to growth is the average for 1981–1990. The figure for each year is calculated by dividing the absolute growth in investment over the course of a given year by the overall level of GDP in the given year. The measure of distortion is based on a composite index derived by David Dollar that includes distortions introduced by trade barriers and exchange rate movements. Countries include: "The rest," Japan, the North Atlantic, Australia, New Zealand, South Africa, and Israel.

Sources: Distortion data from Dollar (1992); investment data from World Bank (1994); all other data from UNCTAD (1995).

1), the R^2 statistic is high—0.59. As expected, the sign on the coefficient of population size is negative (the greater the population, the lower the export share) while that of population density is positive (the higher the population density, the higher the export share). Thus, almost 60 percent of the variability in export shares among industrialized and semi-industrialized economies is attributable to *involuntary structural characteristics*. The unexplained residual of regression 1 is reduced somewhat by adding the variables "investment" and "exchange rate distortion" (shown in regression 2). As expected, the sign on investment is positive and that on exchange rate distortion is negative. But neither variable alone, nor the two together, adds much extra explanatory power.⁵

Given a country's population size and density, along with its investment rate and trade distortions, the difference between its *actual* export share in 1990 and its *predicted* export share (using regression [2] estimates) is shown in table 7.4. Underexporters were Brazil, India, and especially Argentina and Turkey. Overexporters were Chile, Indonesia, Taiwan, and Thailand.⁶ Given our previous analysis of knowledge-based assets, we may expect the over-achievers to exhibit the following characteristics: (1) relatively high prewar experience in *exporting manufactures* and (2) reciprocity between access to long-term capital and export targets. The more exporting is wired into capital formation, the easier it is for a firm to invest in the skills and production capacity necessary to export, and the greater the discipline over the firm's use of preferential loans.

Table 7.4. Differences between the Actual Export Coefficient and the Predicted Export Coefficient, 1990 (%)*

	Rc (actual 1990)	Rc (actual 1995)	Rc (predicted)	Residual
Argentina	10.0	7.0	17.4	-7.4
Brazil	8.0	8.0	12.1	-4.1
Chile	34.0	28.0	24.0	10.0
China	na	24.0	na	na
India	8.0	12.0	11.8	-3.8
Indonesia	27.0	25.0	15.3	11.7
Korea	30.0	36.0	30.1	-0.1
Malaysia	77.0	90.0	26.7	50.3
Mexico	16.0	13.0	16.6	-0.6
Taiwan	48.0	44.0	38.8	10.2
Thailand	34.0	31.0	22.0	12.0
Turkey	13.0	21.0	20.3	-7.3
Japan	11.0	10.0	21.3	-10.3
Russia	na	27.0	na	na
United States	10.0	11.0	11.2	-1.2
Australia	18.0	18.0	15.6	2.4
Canada	25.0	34.0	14.2	10.8
Israel	31.0	31.0	49.6	-18.6
New Zealand	27.0	31.0	33.4	-6.4
South Africa	26.0	24.0	19.7	6.3
Average, Europe	38.6	28.0	37.4	1.2

*Predicted by Regression 2 in Table 7.3.

By way of example, export promotion by Argentina, an underachiever, was strongly encouraged in a report by Raul Prebisch, the chief economist of the United Nations Economic Commission for Latin America (CEPAL), to the Argentine Provisional Government *as early as 1956*.⁷ The Prebisch doctrine, promulgated immediately after World War II, was held responsible by Washington for Latin America's export pessimism and "inward"-orientation and was bitterly criticized.⁸ Nevertheless, CEPAL's "inward-oriented" orthodoxy lasted only a decade, as indicated by the date of Prebisch's strongly worded advice to Argentina in favor of export promotion. Argentina soon adopted export promotion measures, which included export credits, exemptions for exporters from payment of sales taxes, refunds of duties paid on imported inputs (drawbacks), and ad valorem export rebates (in the 1970s an even wider set of instruments was employed). "Judging by . . . the rapid growth (in nontraditional manufactured) exports, it would appear that the incentive system was quite effective" (Mallon and Sourrouille 1975, p. 81). According to regression analysis at the time, the real effective exchange rate (adjusted for export subsidies) did not have a statistically significant impact on Argentina's export behavior. Instead, the important explanatory variables turned out to

be domestic productive capacity (the lower capacity utilization, the higher exports) and trade concessions connected with the newly formed Latin America Free Trade Association (LAFTA). Of Argentina's more than sevenfold increase in nontraditional exports between 1962 and 1968, over half was accounted for by LAFTA trade (Felix 1971). Not least of all, the growth of Argentina's nontraditional manufactured exports was found to be responsive to technological upgrading of import substitution industries. Nevertheless, nothing much happened in the way of exporting afterward; there were no attempts on the part of the Argentine government to coordinate investing and exporting, and no new dynamic industries arose (see chapter 6). In the

Table 7.5. Imports (%) of Capital Goods by Country of Origin, 1970 and 1990

	U.S.	Japan	Europe	World
1970				
Argentina	31.7	2.8	56.7	100
Brazil	32.2	7.5	53.6	100
Chile	45.1	4.0	44.5	100
China	na	na	na	na
India	17.5	6.0	42.9	100
Indonesia	15.8	30.0	39.6	100
Korea	24.4	43.6	30.8	100
Malaysia	18.1	27.7	43.1	100
Mexico	59.1	4.5	33.6	100
Taiwan	19.2	59.8	19.3	100
Thailand	15.7	43.0	35.1	100
Turkey	15.3	6.6	62.5	100
1990				
Argentina	22.9	8.7	35.5	100
Brazil	30.6	19.9	33.0	100
Chile	25.7	9.1	28.7	100
China	10.2	18.3	27.4	100
India	15.9	17.5	40.9	100
Indonesia	11.5	33.1	27.0	100
Korea	25.2	46.4	17.2	100
Malaysia	22.2	31.2	13.7	100
Mexico	63.6	6.6	17.7	100
Taiwan	na	na	na	na
Thailand	14.0	43.5	17.1	100
Turkey	7.7	9.9	61.6	100

Notes: 1970 includes categories 7.1 (nonelectrical machinery) and 7.2 (electrical machinery). 1990 includes categories 7.1 (power generating machines), 7.2 (special industrial machinery), 7.3 (metal working machines), 7.4 (general industrial machinery), 7.5 (office machines, ADP Mach), 7.6 (telecommunications sound equipment, etc.), and 7.7 (electrical machinery, apparatus, parts).

Source: UNCTAD (various years [a]).

long run, therefore, Argentina's poor export performance appears to have been heavily influenced by its failure to establish the skill- and capital-intensive industries necessary for a high-wage country to compete in world manufacturing markets. The same case can be made for Turkey's underachievement (see the discussion on high-tech industry in chapter 8).

In terms of overachievers, most were East Asian, with strong historical links to Japan. Strong postwar links in general are suggested by flows of capital goods. A capital good is a potential transmitter of know-how because it embodies technology. A seller of a capital good may also provide a buyer with long-term technical assistance. As indicated in table 7.5, in either 1970, 1990, or both years, Japan was the major supplier of capital goods to Indonesia, Korea, Malaysia, Taiwan, and Thailand.⁹

Japan itself had become an underachiever by 1990—its predicted export coefficient was above its actual export coefficient (see table 7.4). Nevertheless, Japan's export coefficient was high historically relative to that of its major market and later rival, the United States.¹⁰ Circa 1927, the Japanese coefficient was more than three times the American coefficient (see table 7.2). Japan's postwar share, moreover, tended to be understated.¹¹ In key mid-technology industries, Japan's export coefficient was extremely high.

We now examine the effects on exporting of prewar trade history and the institutions governing the extraction of exports from import substitutes.

Prewar Trade History

Japan and its neighbors were involved in an exchange of *manufactures* even before World War II (Hori 1994). A "colonial" division of labor, by contrast, characterized Latin America and the North Atlantic (O'Brien 1997).

Beginning in the 1880s intra-Asian trade grew faster than world trade and was possibly unique: "Intra-regional trade . . . certainly did not develop in other non-Western regions, at any rate to such a significant degree. For instance, the Argentine's trade with the West grew just as fast as Japan's trade with the West, and Brazil's trade with the West also grew fairly rapidly, but there was no great development of trade between the Argentine and Brazil.¹² Neither did it occur in Africa, for instance, between South Africa and West Africa" (Sugihara 1986, p. 710).¹³ Intra-Asian trade flows took many forms, depending on the year. In 1913, India exported raw jute, oil seeds, raw cotton, jute cloth, tea, wheat, hides, and skins; Southeast Asia exported rice and tin; and China and Japan exported raw silk. In addition, Japan exported cotton yarn to China and India, and India exported cotton yarn to China. While Southeast Asia mainly exported raw materials, it also exported a wide variety of processed foods: seaweed, dried, boiled, or salted fish and shellfish, isinglass, mandarins, dried vegetables and fruits, eggs, small

red and white beans, soya beans, millet, wheat flour, wheat bran, sago, jawar and bajra, salt, ghi, spices such as betel nuts, cloves, ginger, arcenuts, black and white pepper and chilies, tobacco, cigars and cigarettes, tea, and sake. The amount of this trade was greater than total Asian imports of processed food from the West, although in 1913, processed foods accounted for 21 percent of the exports of the United States to Asia (Sugihara 1986; Eysenback 1976).

As Japan's militarism in the 1930s engulfed Korea and Taiwan, which became loci for Japan's manufacturing production (see chapter 5), their trade in manufactures expanded as well. In 1938 Korea's export/GDP ratio is estimated to have been 32.5 percent, up from 8.3 percent in 1912. Taiwan's ratio is estimated to have been 34.4 percent, up from 27.4 percent (see table 7.2). These trade shares are comparable to postwar levels and are very high, as noted earlier. Moreover, in 1939 manufactures accounted for 58.3 percent of total exports from Korea and 60–90 percent of total exports from Taiwan (Hori 1994).¹⁴ This manufacturing content in trade is also extremely high for the time. Taiwan's manufactured exports were mostly (but not exclusively) processed foods (as in the 1950s), but Korea's manufactured exports were diverse. In 1935 Korea was among the world's top five exporters of raw silk (International Labour Office 1937, p. 65). Korea had more looms for cotton cloth manufacture in 1936 than Argentina or Manchuria. As noted in chapter 5, it manufactured more cigarettes in 1939 than Spain, or the Scandinavian countries combined (Norway, Sweden, and Denmark) (Woytinsky and Woytinsky 1953). Thus, "the pattern of external relations (of Korea and Taiwan) formed between the two World Wars was similar to the one formed after World War II" (Hori 1994).

The impetus to trade was also spread throughout Asia by Japan indirectly, as in the case of Indonesia in the 1930s: "Japanese economic penetration and foreign protectionism forced the (Netherlands) Government to adopt an active trade policy." On the one hand, import substitution increased for a wide array of products. On the other hand, exports increased, primarily from Java to the Outer Islands, involving such goods as beer, soap, car tires, bicycles, and woven textile products (Segers 1987, p. 67).

By World War II, trade had engaged both Asian countries with long histories of foreign exchange (Taiwan) and Asian countries with almost no trade histories at all (Korea). New patterns had been established and old nineteenth-century patterns had been left behind (such as the opium trade). In part, therefore, one could argue that *the manufactured exports of East Asia grew fast after the war because they continued an earlier trend of rapid expansion before the war*.

While the exports of primary products from Argentina, Brazil, and Mexico may have grown quickly before the war as well, these Latin countries had little experience in exporting manufactures. Of total world manufactured ex-

ports in 1937, Latin America accounted for 0.5 percent and Asia for 11.8 percent. In the same year, manufactures represented only 1.7 percent of Latin America's total exports while they represented 27.2 percent of Asia's total exports (Yates 1959). The inclusion in "Asia" of Japan and India creates the appearance of Asia's greater development relative to Latin America's. But still, as noted above, the trade nexus that included Japan and India also included the manufactured exports of other Asian countries, even if exports took the form of processed foods. Assuming intergenerational learning, trade history favored a faster expansion of manufactured exports after the war within the Asian trade nexus compared with the Latin American–North Atlantic trade nexus.

Import Substitution

Import substitution industrialization preceded exporting in almost all industries, whatever the average bias at the aggregate level between exporting or selling at home. Plants in continuous process industries were initially scaled for the home market; internationally efficient scale minima influenced how many domestic plants would be licensed to operate. Exporting in fabrication/assembly industries (typically machinery-building or automobile manufacture) awaited greater skill formation. Import substitution was the mother of export growth.

The Early Precedence of Import Substitution

In Japan, "unit costs were reduced by increased domestic demand and mass production before the export-production ratio in growing industries began to be boosted" (Shinohara 1982, p. 144; Krugman 1984).¹⁵ Similarly in Brazil, in the period 1960–1980 "exports resulted not only from further processing of natural resources, . . . which . . . enjoyed a comparative advantage, but also from manufactures that firms learned to produce during the import-substitution phase" (Edwards and Teitel 1986, p. 425; Teitel and Thuomi 1986).¹⁶ In fact, "export performance after the 1960s would not have been possible without the industrialization effort which preceded it as export growth was largely based on sectors established through ISI in the 1950s" (Abreu et al. 1997, p. 21). Later, "import substitution policies created the capacity to export; the dominant export sectors of the 1980s and 1990s were the auto industry and those intermediate and heavy industries targeted for import substitution in the wake of the 1973 oil shock" (Shapiro 1997, p. 8). In Mexico, the chemical, automobile, and metalworking industries were targeted for import substitution in the 1970s and began exporting 10–15 percent of their output in the 1980s (Casar 1994).¹⁷ "Much of the rise in non-

oil exports during 1983–88 came from some of the most protected industries” (Lustig and Ros 1993, p. 124). Regarding the Chilean economy and its ability to adjust to an abrupt change in policy in 1973, “a portion of this response capacity, especially in the export sector, was based on the industrial development which had been achieved earlier through import-substitution policies” (Ffrench-Davis et al. 1992, p. 97). In Korea, “the shift to an export-oriented policy in the mid-1960s did not mean the discarding of import-substitution. Indeed, the latter went on along with the export-led strategy. Export expansion and import substitution were not contradictory activities but complemented each other” (Lim 1999). In electronics, “the initial ISI phase of the 1960s was critical to the development of the manufacturing skills that enabled (the chaebol) to become the efficient consumer electronics and components assemblers of the 1970s. Indeed, ISI in consumer electronics parts and components continued in the 1970s after domestic demand from export production justified it” (Sridharan 1996, p. 50). By 1984 heavy industry had become Korea’s new leading export sector, exceeding light industry in value, and virtually all of Korea’s heavy industries had come out of import substitution, just as textiles had done in the 1950s and 1960s (Amsden 1989). In Taiwan “in the first half of the 1960s, most of the exports came from the import substitution industries. Protection from foreign competition was NOT lifted. Getting subsidies to export was extra” (Chu 1997). In Taiwan’s electronics industry,

there is no clear-cut distinction between an import substitution phase and an export promotion phase. Even though the export of electronics products speeded up since the early 1970s, the domestic market for electronics products was still heavily protected through high import tariffs. Whether protection was necessary for the development of local electronics firms is controversial. However, we do observe that the protection of consumer electronics products did force Japanese electronics firms to set up joint ventures with local entrepreneurs and to transfer technologies to local people which helped to expand their exporting capabilities. (San and Kuo 1991, p. 23)

Taiwan’s home market for electronics *consumption* was the largest in Asia outside Japan (about 38 percent of the Asian total). The ACER Group, Taiwan’s most successful national electronics leader (discussed in the next chapter), got its start at home by operating “as a distributor of electronic products within Taiwan” (Harvard Business School 1993, p. 2).¹⁸ In Thailand, approximately 50 percent of exports (excluding processed foods) in 1985 emerged out of import substitution (Thailand Development Research Institute 1987, pp. 4–23; Wiboonchutikula et al. 1989, p. 61). In the case of Turkey in the 1980s, “it is important to recognize that the growth in manufactured exports did not stem from the establishment of new export industries, but

from existing capacity in industries that before had been producing mostly for the domestic market (that is, industries which had originally been established from import substitution)" (Baysan and Blitzer 1990, p. 25).

Some exports did not come out of the import substitution process directly but were produced by *firms* that emerged out of it. The managerial and technological expertise of import-substituting firms in Asia gained them a business reputation and contracts with American contractors of original equipment manufacturers (OEM) in search of a lower wage locale than Japan to produce their parts and components. The details have yet to be written of this hand-me-down from Japan to Korea and Taiwan in such diverse industries as bicycles and consumer electronics. Clearly, however, American companies that had first subcontracted to Japan were attracted to Korea and Taiwan for their low wages and manufacturing experience, which was gained through import substitution (see chapter 5).¹⁹

Policies to Promote Import Substitution

Successful industrial diversification through import substitution awaited the formation of a reciprocal control mechanism to establish development banking (discussed in chapter 6) and to *rationalize tariff and nontariff trade barriers*. Before reciprocity, a motley set of trade policies had arisen in knee-jerk response to balance of payments crises (Bruton, 1998). "The rest's" rationalization of protectionism first occurred *pari passu* with its mobilization of five-year plans and developmental machinery—around the late 1950s and early 1960s. Trade reform, however, proved to be a recurrent process.²⁰

Sometimes reforms were *more* liberal—currency devaluations, for example, occurred around the late 1950s and early 1960s in countries ranging from Korea, Taiwan, and Thailand to India, Brazil, and Mexico. Sometimes reforms were *less* liberal—protection rose for leading sectors, as in the Korean and Taiwanese textile industries (see table 5.4). Mid-technology industries in general became and remained heavily protected at least through the 1980s, whether continuous process (steel, rubber, pulp and paper, and petrochemicals) or fabrication and assembly (machinery and transportation equipment) (Balassa Bela and Associates 1982) Thus, as new industries emerged, new trade regimes emerged to support them. Import substitution industrialization thus provided the impetus for trade reform as well as the products to supply to world markets.

Export promotion was as old as mercantilism, but it became a centerpiece of "the rest's" trade policies, operating side-by-side with measures to promote import substitution. Anti-export biases still existed in many countries in the 1970s, but were reduced "much more by export subsidies . . . than by (periodic) changes in the overall import regime" (Helleiner 1995, p. 16). In some

countries, exporting became the core of a long-term growth strategy. It is to variations in export promotion regimes that attention is now turned.

Japan and Its Emulators

The linkage between import substitution and export activity in Japan began to be forged soon after the Meiji restoration. All modern industries were started as import substitutes, but exporting became concentrated in a small number of products and began almost at once. Tea, raw silk and fabrics, and cotton yarn and fabrics accounted for as much as 63 percent of total exports in 1873–77 and 59 percent of total exports in 1928–32.²¹ In 1913, the *production-export ratio* was 77 percent for raw silk, 25 percent for cotton fabrics, and 30 percent for cotton yarn (Shinohara 1964). Persistently high production-export ratios signal an orientation on the part of producers that trade is not just a “vent-for-surplus” or a means to dispose of inventory that cannot be sold in the domestic market. Instead, *exports are built into import substitutes through long-range capacity planning*. Even after World War II, Japan’s exports remained concentrated, and around 1970 production-export ratios for selected products remained high: 25 percent for iron and steel and synthetic rubber, 33 percent for motor vehicles, 39 percent for synthetic fibers, and 60 percent for ships (Hollerman 1975).

Entering export markets early in an industry’s evolution, using a mass-volume leading sector like silk or cotton textiles, and cultivating import substitution industries with high production-export ratios was a pattern that proved relatively easy to emulate. In terms of export concentration, countries in “the rest” with silk reeling experience also had high specializations in textiles in their early exports:²² China, 28.8 percent; Korea, 41.1 percent; Taiwan, 21.0 percent; and Turkey, 35.4 percent (UNCTAD 1995). Notwithstanding the fact that textiles are heterogeneous and international marketing requires a sophisticated understanding of consumer tastes and quality standards, this heavy concentration in a single family of products made exporting easier, especially since marketing was often handled by Japanese trading companies.²³ Even in Asian countries without textiles as a leading sector, concentration in the early stage of exporting manufactures tended to be high. Indonesia’s largest three manufactures accounted for 68 percent of its total exports in 1982 (Hill 1996).

Japan’s tariff (and its variance) rose between 1893 and 1938, but overall remained “moderate”—only 24 percent at its peak in 1931 compared to a peak of 50–60 percent in the United States (Minami 1994, pp. 193–94) (see also table 7.6).

Furthermore, Japan’s exchange rate tended to be stable or deliberately undervalued, which also helped exporting. Between 1874–95, Japan was on

Table 7.6. Indicators of Tariff Levels in 1913, Selected Countries

Country	Tariffs 1908–12 (%) ¹	Tariffs ² on Manufactures (%)
U.S.	0.21	44
Argentina	0.22	28 ⁴
Brazil	0.37	50–70 ⁴
Mexico	0.34	40–50 ⁴
Japan	0.09	25–30
China	0.03	4–5
Thailand ³	0.03	3–4
Australia	0.12	—
Canada	0.19	—
New Zealand	0.17	15–20

1. Import duties as a percentage of special total imports.

2. Approximate average level of import duties on manufactured imports.

3. Siam.

4. Mainly levied on textiles.

Source: Adapted from Bairoch (1989, p. 139).

the silver standard, and since the price of silver declined relative to the price of gold, silver-based currencies (including many in “the rest”) depreciated (Nugent 1973). When Japan went onto the gold standard, it adopted the lowest price rung, keeping its currency cheap. It abandoned the gold standard in 1931, so the yen again depreciated (Minami 1994).

Notwithstanding an otherwise liberal trade regime, export support by the Meiji government included help at critical turning points in the silk and cotton textile industries, including the establishment of “model” factories (see chapter 4). Promotion also included trouble shooting: “As European competition revived in the world market after World War I, Japan’s exports staggered and export promotion became more important in her trade policy. Export promotion of various types was pursued in the 1920s and 1930s. One was to establish a quality control system for traditional industries. . . . Another was to encourage the penetration of new markets such as Latin America, the Middle East, and Australia by giving government guarantees to the bank acceptance of export bills to these markets,” not to mention providing markets “for the emerging exports of heavy manufactures (metals, chemicals, and machineries) in colonies like Manchuria and Kwantung Province” (Yamazawa 1975, p. 58).

The Japanese government’s commitment to exporting became more serious after World War II. Import substitution and exporting were deliberately connected in ways that were highly visible to the naked eye of Japan’s students: the idea was that “MITI should promote *both* exports and domestic sales” (Johnson 1982, pp. 229–30).²⁴ To do this, it formed a Supreme Export Council

composed of the prime minister; ministers of MITI, finance, and agriculture; the governor of the Bank of Japan; the president of the Export-Import Bank; and several top business leaders. "Its highly public function was to set export targets for the coming year and to publicize at the highest level of government the need to promote exports by all possible means." To implement the decisions of the Supreme Export Council, "the Japanese government provided specific policies to cover specific needs, thereby making the scale of each measure small" and difficult to measure (Okita 1975, p. 228). Typical of the incentives "the rest" eventually introduced, Japan also gave exporters generous tax breaks because the United States objected to outright subsidies (Okita 1975, p. 223). In the 1960s, *Korea established an organization that was almost identical to Japan's Supreme Export Council*, with the same functions and the same urgent commitment to expand export activity (Rhee et al. 1984). In the 1980s China did likewise (discussed below).

During the early process of economic development, Japan more than the United States relied on Southern markets for its exports. Between 1899 and 1929, about half of Japan's total exports were sent to developing countries (the comparable average for the United States was only around 25 percent). Between 1937 and 1957, about two-thirds of Japan's exports went "South" (compared with around 50 percent for the United States). If *manufactured* exports only are considered, both Japan and the United States had higher South-bound percentages than for their total exports, but more so in the case of Japan than the United States (Maizels 1963).

Profile of Overachievement

Key characteristics of Japan's trade history thus included a relatively high export propensity based on early entry into export markets, concentration on a few export products, a leading sector that generated employment and entrepreneurial opportunities (silk and cotton textiles), relatively low tariffs, aggressive exchange rate devaluations, a highly directive export promotion regime (especially after World War II), and trade diversification that exploited regional markets (the infamous prewar "Greater East Asia Co-Prosperty Sphere"). Overexporters, as defined earlier, deviated from this pattern in crucial respects. Typically, they did not go as far as engineering aggressive exchange rate devaluations. They also went further than Japan in tying the right to import or sell domestically to an obligation to export. Overall, however, an approach akin to Japan's is evident in all five countries whose actual export shares in GDP surpassed their predicted shares, even Chile(!), whose case, along with Indonesia's and China's, is examined below.

Chile's Traditional Exports After a coup d'état in 1973 which dismantled the developmental state, Chile continued to rely on its state-owned copper indus-

try for exports. It also groped painfully toward a new trade model. This model resembled that of Japan in two respects. It relied on new techniques to produce traditional products, and these few products comprised a large share of total exports. Roughly 90 percent of Chile's exports at the end of the twentieth century came directly or indirectly from four sectors: forestry, mining, fisheries, and fruits and vegetables. Mining was subject to significant technological improvement by foreign concessionaires, although mine ownership remained public (Duhart 1993). In the other sectors, high quality products were developed for North Atlantic markets using scientific methods of farming and food processing (Perez-Aleman 1997; Gwynne 1993). These exports benefited from state-sponsored *long-term* investments in agro-industry before the start of the Pinochet dictatorship in 1973: "the growth in Chile's exports of fresh fruits requires an explanation that takes into account a long historical process to increase both planted acreage and technical capacity" (Pietrobelli 1993, p. 303). Chile's agricultural exports benefited from vigorous export promotion, which even after Pinochet seized power, ranged from tax incentives to aggressive trade-related services (Ffrench-Davis et al. 1992; Ffrench-Davis et al. 1997).

Indonesia Indonesia's plywood industry, a leading sector, had only two mills in operation in 1973, but within less than two decades Indonesia controlled 43.3 percent of world exports of plywood and plywood accounted for about one-fifth of Indonesia's total exports. The basis for the increase was a performance standard placed on forest concessionaires by the Indonesian government to the effect that in exchange for the right to exploit Indonesia's rich forest reserves, exports of wood had to be processed at least to the stage of plywood, the objective being to create employment and manufacturing experience. Forest concession-holders were obliged to develop their own processing facilities. At first a ban was placed on raw wood exports. After objections from GATT,²⁵ prohibitive taxes were substituted for the ban. Criticisms of the program by economists were legion, ranging from allegations of corruption to the inefficiency of Indonesian plywood mills (see, for example, Hill 1996 and Repetto and Gillis 1988). In the 1960s, however, raw wood *from Indonesia* was processed in Korea and Taiwan and then exported as plywood, so there was a respectable model of processing to follow.

The plywood export marketing policies of the Indonesian government resembled those of Taiwan which, in turn, shared much in common with those of Japan (depending on the industry).²⁶ To support Indonesia's entry into international markets, the government encouraged foresters-cum-plywood makers to form a producer and exporter association, APKINDO. When plywood prices began to fall in 1986, APKINDO acted as a cartel and adopted a policy to control supplies and export quotas. Firms were also encouraged to form export clubs in order to coordinate sales to the same overseas region.

To avoid cutthroat competition among Indonesian sellers, exporters were required to obtain approval for overseas sales from a Joint Marketing Board, under government control. As expected, Indonesia's success in plywood exports encouraged new entrants from Malaysia and the Philippines, which kindled competition. The issue of using more advanced technology to sustain Indonesia's position in the plywood industry, therefore, came on APKINDO's agenda (Messi and Basri 1997).

China After introducing Japanese-style export promotion measures, China's export coefficient soared from 10 percent in 1980 to 24 percent in 1994 (see table 7.2).

China's trade policy after 1978 included exchange rate devaluations as well as retention of import tariffs and other trade barriers. The Chinese government treated its industrial base like a giant infant industry and quantitative restrictions and high tariffs were maintained to encourage import substitution.²⁷ Exports were promoted simultaneously:

A wide variety of mercantilist measures were introduced to stimulate exports. Priority export sectors retained a large share of foreign exchange earnings which were highly valued for their importance in capital expansion and technology acquisition. Exporting firms were given rebates of industrial and commercial taxes, and direct rewards. Large exporting firms were given preferential access to imported technology. Targeted export industries were given cheap credit for technical upgrading, and priority access to low price power and raw materials. Chinese exporters enjoyed access to land at negligible prices by world standards. (Nolan 1996)

Textiles and clothing became China's leading sector, accounting for almost one-third of its total exports in 1990, as noted earlier. The province whose exports grew the fastest was Guangdong. "While it would be tempting to attribute Guangdong's success entirely to its proximity to Hong Kong and its large share of China's foreign-invested enterprises," in fact, "half the growth between 1985 and 1990 was due to expanded international sales by indigenous firms in the region" (Lardy 1992, p. 711). A careful study of reforms in Guangdong observed, "state-owned enterprises led export growth, accounting for 83% of provincial exports in 1987" (Vogel 1989, p. 374-75). Thus, trade reforms were overlaid on an existing firm structure, although not all firms or structures survived; foreign trade organizations, for example, were gradually stripped of their monopoly powers.

In practice, a Sino-Japanese strategy meant

1. Targeting specific industries for export at the highest possible political level (equivalent to Japan's Supreme Export Council) and then implementing top decisions bureaucratically to insure that no barrier, including long-term investment finance, stood in the way of export expansion;

2. Continuing to protect import substitution industries while promoting exports (including repeated devaluations of the yuan), in order to insure a stream of new export products coming to market;
3. Setting export targets in exchange for exporters being allowed to gain access to valuable assets (especially foreign exchange); and
4. Establishing export processing zones with subsidized infrastructure to enable foreign firms to access duty free imports in exchange for a commitment to export 100 percent of their output (or otherwise to negotiate alternative performance standards for the right to sell in the domestic Chinese market). In 1996, of Asia's 225 export processing zones, as many as 124 were in China (UNCTAD 1998a).

In short, "China's strategy recalls that of Japan in the 1950s and 1960s" (Nolan 1996, p. 9).

The United States and Its Emulators

Being latecomers to exporting manufactures, the trade patterns of "the rest" typically resembled the trade patterns of one or another earlier industrializer, as we have just seen in the case of Japan. Given similar structural characteristics (especially low population densities and rich raw materials), the post-war trade patterns of Argentina and Brazil, both underexporters, tended to resemble the prewar trade patterns of the United States. The export coefficients of all three countries was low (see table 7.2). For various reasons, however, following the American trade-route to riches appears to have been harder than following the Japanese style.

First, the United States pattern was devoid of a "leading sector" on a par with cotton textiles. The United States entered world trade late in its industrial history. In 1883 it accounted for only 3.4 percent of total world trade, not much more than the 2.4 percent that India accounted for in the 1940s (Verma 1996). Initially, U.S. exports were overwhelmingly agricultural and even manufactures tended to be raw material-based.²⁸ Light manufactured exports were negligible. Despite the innovativeness of the American textile industry, of total U.S. exports, cotton textiles accounted for less than 1 percent in 1872 and only 1.8 percent in 1900 (Eysenback 1976). Like the United States, Latin America's most industrialized economies were not internationally competitive in textiles before or after World War II (see chapter 2).²⁹ Argentina, Brazil, and Mexico, therefore, were at a great disadvantage compared to Asia in lacking a leading export sector with high opportunities to expand manufacturing employment and promote entrepreneurship among small-scale firms.

Second, the United States was a hard act to follow because it was a pioneer in the exploitation of nonreproducible natural resource industries. Including

petroleum, resource related exports accounted for about half of all American manufactured exports before World War I (Wright 1990). By the 1960s–70s, Brazil (and Mexico) was also investing heavily in the resource-based industries in which U.S. exports had once been concentrated, such as iron and steel and pulp and paper. But even if Latin America’s natural resources were as rich as those of the United States a century earlier, they faced greater competition after World War II due to more global commercial development (Wright 1990). Countries no longer required their own domestic supplies of raw materials to become internationally competitive in raw material-based industries, as demonstrated by Japanese and Korean steel makers.

Third, the United States did not have a few high-volume exports that could easily be “targeted” for promotion. “Iron and steel” allegedly accounted for 37 percent of total U.S. exports in 1929, but this category actually comprised heterogeneous products with diverse steel contents: the 37 percent figure was divided among iron and steel products (5.4 percent), machinery (16.4 percent), and automobiles and parts (15.7 percent) (Wright 1990). Latin America couldn’t possibly replicate the product composition of the United States even roughly and thus had to improvise its own export basket. This was more difficult than following a ready-made path, such as the one Japan left for its followers.

Fourth, both resource-intensive and other manufactured exports of the United States were *driven by advanced technological capabilities* in the hands of “national leaders”: “among such leading industrial firms as those making Kodak cameras and Singer sewing machines, constant attention to improved technology and new products secured more markets for American manufacturers and kept American producers in advance of their potential foreign competitors in key industries” (Becker 1982, p. 50).³⁰ Latin America, however, lacked the technological capabilities that made American exporting dynamic. Without such skills, Latin America was handicapped by relatively high costs of capital and labor and an absence of obvious products to promote.

Fifth, export promotion in American history was largely restricted to information-gathering by diplomatic consuls, extensive technical assistance for agriculture, and military expenditures to develop defense-related products. Aircraft became the single most important postwar U.S. manufactured export. Military aid was tied almost entirely to the procurement of U.S.-manufactured goods. These supports apart, American export promotion was virtually nil: “Foreign sales (in 1893–1921) were achieved for the most part without assistance from the US government” (Becker 1982, p. 50). This was mainly because American exports began to be undertaken primarily by big businesses on the basis of innovative technologies. Therefore, U.S. exporters required little government help and the United States became a poor model for export promotion.

In one critical—and ironical—respect the American pattern was very easy to follow: *it had high tariffs*. In its early stage of development, the United States adopted tariffs that were among the world's highest. In 1913, the United States average was almost twice that of Japan (see table 7.6).³¹

In 1913 Argentina's tariff level (import duties as a percentage of special total imports) was almost identical to that of the United States—21.6 percent and 21.4 percent respectively (table 7.6).³² The system in force in Argentina just before World War II “could be described as a form of protectionism half-way between the moderate protectionism for the Western European countries and the strict protectionism of the United States” (Bairoch 1989, p. 152). Argentina's average (nominal) tariff rate was as much as 148.8 percent in 1960–65. Thereafter, however, nominal tariffs in Argentina settled down to slightly below 40 percent, the American “McKinley” rate.

Brazil emulated American tariff behavior starting in the nineteenth century.³³ After the American Congress passed the McKinley Bill of 1890, which called for a large 40 percent protective tariff regime, the Brazilians passed a similar bill. Thereafter “the ultra-protectionist Brazilian tariff of 1897 . . . encouraged the imitation of the United States model” (Teixeira Vieira 1951, p. 248, emphasis added).³⁴ In 1913 Brazil's average level of import duties on manufactures ranged between 50–70 percent (table 7.6). Measured in terms of average tariff rates, it was 42 percent. In fact, tariffs were largely restricted to textiles (Versiani 1980). After the war, however, Brazil's average tariff rate spiked in 1960–65 to as much as 85 percent and covered a wide range of products. It then quickly settled down in nominal terms to around 40 percent, precisely the “McKinley” rate (see table 2.4).³⁵

Even before the first energy crisis in 1973, Brazil, along with other countries in “the rest,” became much more aggressive in promoting exports. Import substitution industries such as steel, chemicals, and later automobiles and machinery began to supply products to markets overseas. Export growth in the 1980s had more to do with the rising competitiveness of Brazilian industry than changes in world demand (Bonelli 1992). The government's signal of its interest in raising national exports created business confidence in the sustainability of export-friendly policies and made exports less a reflex of domestic demand conditions.³⁶ “By undertaking a host of measures to stimulate manufactured exports the government reduced the risk attendant in export activities, as perceived by potential exporters. . . . Increasingly the Brazilian government committed itself to export expansion, and this commitment in itself had a beneficial effect on exports” (Tyler 1976, p. 269).³⁷ In addition to regular mini-devaluations that prevented gross overvaluation of the cruzeiro, various tax rebates, duty drawbacks, and export financing were put into effect. The most aggressive Brazilian export incentive was the “BEFIEEX,” as discussed in chapter 6, a program whereby mostly large firms could ne-

gotiate a package of incentives with the government, including the ability to import capital goods under free trade conditions in exchange for a commitment to export over what was usually a ten-year period (Fritsch and Franco 1991).

Generally, the effects of Brazil's export incentives were positive. "Available estimates of static efficiency indicate that these exports were not excessively costly forms of earning foreign exchange" (Edwards and Teitel 1986, p. 426). In terms of dynamic efficiency, it was estimated that "an export subsidy in Brazil is likely to have positive effects on national welfare through externalities and dynamic benefits" (Arantes Savasini 1978, p. 51). Nevertheless, Brazil scrapped its export promotion policies under pressure from the United States in the late 1980s. Although exports in the early 1990s grew fast in constant cruzeiros, their growth in U.S. dollars was modest (see table 7.1). Export growth was also associated with stagnant domestic demand—exports thus remained in the nature of a "vent for surplus" (Shapiro 1991). Thus, however energetic Brazil's export drive, and however beneficial its mini-devaluations, it was only with great difficulty and moderate success that Brazil broke out of the mold of a large country, rich in natural resources but poor in manufactured products that enjoyed high export-production coefficients (the paper and shoe industries apart). Brazil may or may not have taken longer than the United States to create an export mentality among its leading firms, but protection of the domestic market without American technological mastery, without a leading sector that could generate jobs, without a small number of manufactured export products that could be targeted, without a "first-mover" advantage in exploiting nonreproducible raw materials, and without a demonstration effect of how to promote exports did not necessarily constitute a recipe for dynamic expansion.

Late Traders and Role Models

The United States and Japan did not exhaust historical trade patterns. Europe was a major trading partner of Latin America and exhibited its own unique pattern, one of high-end, skilled and precision-engineering goods. "Free trade" was another model, and the most compelling one of all theoretically.

Looking first at the European pattern, a striking characteristic of European trade was its *dense network of intra-regional exchange* (and relatively high export coefficients) (United Nations Conference on Trade and Development, various years). By 1830, 67.6 percent of Europe's trade was estimated to have been internal (Bairoch 1989; Woodruff 1966). By 1990 that figure had risen further to 79.5 percent.³⁸ Between 1970 and 1995 the European pattern became more evident in "the rest." Almost every country began to export more to regional neighbors (see tables 7.7–7.9).³⁹ In 1970 Indonesia, Malaysia, Tai-

Table 7.7. Direction of Trade, Latin America

Year	Exports to			Imports from		
	United States	Europe	Local*	United States	Europe	Local*
Argentina						
1970	10.3	55.5	21.1	27.6	39.2	22.9
1980	10.5	31.9	24.5	23.6	34.5	21.4
1995	9.0	22.5	47.2	22.3	31.4	21.3
Brazil						
1970	26.2	43.5	11.7	34.7	35.6	12
1980	18.6	32.2	18.1	22.5	11.3	12.5
1995	11.8	27.9	23.3	26.0	30.4	21.2
Chile						
1970	14.4	30.9	11.5	38.2	31.7	21.6
1980	11.5	41.7	24.7	27.1	20.4	28.6
1995	13.2	27.0	19.9	27.6	21.2	27.8
Mexico						
1970	71.2	11.1	10.5	65.7	22.1	3.7
1980	66.0	16.2	6.9	68.0	17.1	5.8
1995	86.2	5.0	6.1	76.2	10.5	2.8

*"Local" is defined (according to UNCTAD classifications) as "developing America" for Argentina, Brazil, Chile, and Mexico.

Source: UNCTAD (1996).

Table 7.8. Direction of Trade, India and Turkey

Year	Exports to			Imports from		
	Eastern Europe	Europe	Local*	Eastern Europe	Europe	Local*
India						
1970	20.4	20.1	10.0	14.9	110.8	10.8
1980	20.3	25.3	10.7	5.8	20.7	32.9
1995	0.5	21.1	20.9	0.6	28.3	21.2
Turkey						
1970	14.2	60.3	10.4	13	53.8	11.1
1980	16.9	51.7	31.8	10	37.7	66.0
1995	4.9	52.7	17.7	3.0	41.7	16.1

*"Local" is defined (according to UNCTAD classifications) as Asia for India and as OPEC plus West Asia for Turkey.

Source: UNCTAD (1996).

Table 7.9. Direction of Trade, East Asia

Country	Exports to			Imports from		
	Japan	United States	Local*	Japan	United States	Local*
Indonesia						
1970	33.3	14.1	29.4	29.5	18.1	20.1
1980	41.3	11.8	16.7	31.5	13.9	22.7
1995	27.1	14.7	33.5	22.7	13.7	26.8
Korea						
1970	27.7	41.4	7.0	40.8	30.6	10.1
1980	17.3	28.4	14.7	26.2	23.6	8.9
1995	13.7	21.5	34.3	24.6	24.7	16.7
Malaysia						
1970	18.3	20.9	33.1	17.5	10.7	34.9
1980	22.8	18.0	33.3	23.0	16.1	25.7
1995	12.7	14.2	44.4	28.1	17.1	32.1
Taiwan						
1970	15.1	46.4	20.3	42.8	25	10.4
1980	11.0	36.6	17.7	27.2	25.0	10.2
1995	11.8	25.0	40.7	29.5	21.4	11.9
Thailand						
1970	26.3	13.6	30.7	37.6	15.7	8.4
1980	15.3	13.2	26.9	20.7	18.0	22.2
1995	16.8	19.0	35.5	30.7	12.7	26.8

*"Local" is defined (according to UNCTAD classifications) as "other Asia" for Indonesia, Korea, Malaysia, Taiwan, and Thailand.

Source: UNCTAD (1996).

wan, and Thailand exported 20–30 percent of their total exports to other Asian countries. By the 1990s, although nothing close to European levels of intratrade were reached, the average for East Asia rose to 30–40 percent. After economic reforms, between 40 and 50 percent of China's total exports were sent to other Asian countries (intra-Asian trade for India also increased) (UNCTAD 1995). The reasons behind this explosion in intra-Asian trade were diverse. In part, rapid growth rates of manufacturing output were the driving force. In part, trade and direct foreign investment complemented one another (see, for example, Van Hoesel 1997).

With the exception of Mexico, which was and remained heavily oriented toward trade with the United States, Latin American countries began trading

more with each other as well, spurred by the formation of MERCOSUR, a free-trade area in the Southern Cone. Latin American intraregional trade became of critical importance in at least two industries, automobiles and steel, but intraregional trade was typically higher among Asian than among Latin American countries.

Free Trade

As a catch-up strategy, free trade appears to have been limited to Switzerland and Hong Kong. That is, whatever the historical time period, these are the only two obvious “countries” that managed to achieve high per capita incomes without tariff protection or export promotion. Therefore, despite free trade’s appeal in terms of administrative simplicity, and despite its theoretical claim to “pareto optimality” (assuming perfect knowledge), its practical significance for latecomers was relatively small. The question then becomes, *if free trade has so much to recommend it, why were its adherents so few?*

To the extent that vested interests are held responsible for protectionism, then the absence of vested interests ought to mitigate in favor of free trade (see, for example, Bhagwati 1988). But one fails to perceive any compelling evidence showing that Switzerland and Hong Kong were devoid of vested interests. Probably Switzerland and Hong Kong *had* vested interests like any other economy, but these interests favored free trade. Given Switzerland’s and Hong Kong’s diminutive size, competing on the basis of the domestic market was out of the question. Both economies, therefore, simply had to brace the full force of free markets in order to develop.

The question then becomes, how *did* they brace the full force of free markets, especially when their neighbors behaved as though their own survival depended on protectionism? By way of an answer, *both Switzerland and Hong Kong enjoyed extraordinary assets by neighboring country standards*, rendering protectionism and other forms of government support unnecessary.

Switzerland’s wealth lay in its rich human resources combined with its exceptionally cheap labor: “Switzerland is an interesting example of industrial progress under free trade conditions, but at the price of successive and sometimes painful adaptations and of extremely low wages for labour” (Crouzet 1972, p. 103). Behind its economic success in the early nineteenth century was “freedom from a parasitic landed nobility (a “vested interest”) and from its power to legislate in favour of agrarian interests; social mobility and urban self-government; the Calvinist-Protestant religion and the high level of education achieved; and associated with all of these, an active, innovative class of entrepreneurs, managers and engineers” (Pollard 1990, p. 27). Thus, “in comparison with the rest of Europe, the degree of literacy in Switzerland was remarkably high: *there can hardly be any doubt that human capital was the*

mainstay and the most important stimulating factor of the economic growth” (Fritzsche 1996, pp. 137–38, emphasis added).

However remarkable Switzerland’s educational standards were, its applied engineering skills were equally outstanding. “*Swiss engineering ingenuity was most remarkable*. Possibly the precision work required in watch making may have contributed to this. Steam power came late, but it was in textile machinery that the early engineers showed their skill and innovative abilities” (Pollard 1990, p. 28, emphasis added). In the early part of the nineteenth century, engineering genius was centered on the individual: “One reason why technologically oriented entrepreneurs in Switzerland were getting ahead of the British was Johann George Bodmer, a Swiss-born mechanical genius. . . . He not only gave Swiss compatriots free access to his inventions, which they sometimes could use before they had won a British patent, but also trained young Swiss mechanics in his shop” (Fischer 1991, p. 145). By the 1850s, machinery exports greatly exceeded imports, and *tariffs in neighboring countries were circumvented by exporting to North America, Latin America, the Levant, and Far East*. During the Second Industrial Revolution, Switzerland managed to stay in the vanguard of technological and institutional developments, and grew some of the world’s largest businesses (Daems 1986).⁴⁰ Swiss national leaders included Ciba, Geigy (the two later merged), Roche, and Sandoz in pharmaceuticals; Nestle, Maggi, and Suchard in processed foods; and Escher-Wyss, Sulzer (the two later merged), Oerlikon-Bührle, and Schindler in machinery (Schroter 1997).

After World War II, Switzerland continued to maintain its international reputation as a manufacturer even as its financial sector expanded. The share of manufacturing in GDP, although declining, was still as high as 26 percent in the mid 1990s (UNIDO various years [b], 1990 dollars). The international competitiveness of many Swiss specialties continued. As reliable, inexpensive electronic watches appeared in world markets, often made in Hong Kong, Swiss watchmakers struck back with the Swatch watch, a Swiss-made design also using an electronic movement. In 1990–91, watches and clocks were still Switzerland’s largest single export, accounting for 7.6 percent of total exports. Next in importance came high-end exports of pharmaceuticals, machine tools, and machinery for the textile and specialty industries (UNCTAD 1995).

Hong Kong’s specializations starting in the 1950s were virtually identical to those of Switzerland (ignoring shipping and chemicals): textiles, watches, and banking. But Hong Kong’s *knowledge-based assets* were not nearly as rich as Switzerland’s, particularly its engineering capabilities. By the end of the twentieth century, when Hong Kong manufacturers could no longer compete on the basis of low wages, Hong Kong all but deindustrialized. Whereas manufacturing once accounted for roughly one-third of Hong Kong’s GDP,

by the end of the century it barely accounted for one-tenth, and reexports were of greater importance than exports (Amsden 1997b).

Hong Kong transformed itself into a service economy, transferring virtually all manufacturing activity to China, where wages were barely one-tenth of those in Hong Kong (Amsden 1997b). Hong Kong could thrive as a provider of services owing to extraordinary assets: its prime location and its long-established commercial activity. National leaders comparable to Switzerland's multinationals existed in Hong Kong in the form of trading companies, such as Jardine Matheson. Few, if any, late-industrializing countries had comparable assets to sustain the loss of their manufacturing sector and to support themselves on the basis of finance, tourism, and the "China trade."

In fact, with fewer assets than Switzerland, Hong Kong was not as purely free market. Land was Hong Kong's most scarce resource, and the government owned and controlled all land (Hong 1995). The government leased unused land in small quantities each year partly for purposes of earning public revenue. Owing to land ownership, the government never had a real budget deficit, and built Hong Kong's highly competitive infrastructure, including housing. Worker's housing typically received a 50 percent state subsidy (World Bank 1993). Moreover, when Hong Kong's stock market teetered on the verge of collapse in 1997 after a region-wide financial crash, the government intervened heavily to bolster prices.

Hong Kong's manufacturing economy in the early postwar period also deviated from free trade. It was built on cotton textiles and clothing, with know-how of spinning and weaving transferred by Chinese textile entrepreneurs from prewar Shanghai. Despite higher costs of cotton sheeting in Hong Kong than Japan in 1960 (see table 5.4), Hong Kong's textile industry, unlike those of Korea and Taiwan, was able to survive without tariffs because it enjoyed Commonwealth preferences, and Commonwealth members had a common tariff against the exports of other countries, including Japan (see chapter 5). Later, Hong Kong switched to exporting its cotton goods almost exclusively in the form of clothing, and benefited from the relatively high-end American fashion houses that chose Hong Kong as a locus for their production owing to Hong Kong's stable colonial government and excellent communications infrastructure, which enabled fashions to get to market quickly. Among developing countries, Hong Kong enjoyed a *first-mover advantage in apparel*. Hence, in the global managed trade of the textile industry, Hong Kong was assigned higher export quotas than any other developing country.⁴¹ In 1975, 51 percent of Hong Kong's exports consisted of textiles (of which clothing accounted for 42.6 percent). Other important export products were toys, telecommunications equipment (mainly plastic telephone boxes), and clocks and watches (using imported Japanese mechanisms) (UNCTAD 1979).

Arguably, then, free trade as a "catch-up" strategy was restricted to only two countries, Switzerland and Hong Kong, because only these two countries

had the requisite assets to build their industries without being overwhelmed by imports or unable to export. In the absence of comparable assets, other latecomers had to, and did, rely on institutions other than free markets to grow.

Conclusion

Countries that were late to industrialize were also late to export manufactures. Therefore, when such countries finally succeeded in entering world manufacturing markets, their exporting tended to follow one or another established trading norm. One such pattern was defined by the United States, a large country with a low population density, rich raw materials, and a low export coefficient. Another such pattern was defined by Japan, a somewhat smaller country with a high population density, poor raw materials, and a relatively high export coefficient. The American pattern involved late entry into export markets, a wide range of “high-tech” specializations (that followers could not easily emulate), protection of the domestic market, and minimal institution building. The Japanese pattern involved early entry into export markets, concentration on a few products with high export/production ratios, relatively low tariffs (ignoring “structural impediments,”) and a set of institutions that made exporting an integral part of capital formation.

Whatever the country, capital formation and exporting were intermediated by import substitution. Virtually every manufactured export, save the most labor-intensive (apparel and software), emerged out of an import substitution industry. The superprofits earned through selling in the protected domestic market helped to finance the learning and scale economies necessary to export. At a moment in time the trade regime of a whole country might be biased toward exporting or import substitution (depending on some price aggregation). Individual industries, however, shifted over time from one mode to the other, making any general characterization of them problematic.

Despite the ubiquity of import substitution, the timing and scope of exporting differed among latecomers, depending on their role model—American, Japanese, European or Russian. The European model, of high-skilled, high-end specializations, was possibly the hardest to reproduce. The Russian model—of quasi-autarchy (depending on politics)—was influential in Turkey (in the 1930s) and in India and China (in the 1950s). East Asia’s spectacular entry into world markets followed Japan’s lead insofar as exporting was made a performance standard for import substitution industries to receive long-term subsidized capital.

The influence of industrialized economies on “the rest’s” trading patterns thus suggests that a “role model” is a knowledge-based asset of a sort that

can impact positively or negatively on profits. Whatever the history of cooperation and conflict between a teacher and a student, whatever the mixture of love and hate, a role model may provide intimate insights into how a world-class economy works. Foreign ideas and practices are heavily filtered, and the *selectivity* of a country's seclusion (the term is Henry Rosovsky's) rather than simple openness becomes the key to success.

Hong Kong already had a high volume of textile exports by 1962, when quotas were allocated on the basis of existing market shares.

15. For Korea, see Cole and Lyman (1971), Jones and Il (1980), Amsden (1989), and Fields (1995). For Taiwan, see Gold (1986), Wade (1990), and Fields (1995).

Chapter 6

1. In Latin America, “at the outbreak of the Second World War, a good share of the Latin American social overhead capital and industrial capacity was already stretched thin and at the verge of obsolescence; war shortages were to aggravate these conditions” (Diaz Alejandro 1984, p. 48). Conditions tended to be even worse in Asia (Indonesia and Malaysia, for example) due to wartime destruction.

2. The World Bank was supposed to finance third world development. Unlike the Marshall Plan, however, World Bank assistance included no grants, and loans were typically not oriented toward manufacturing. Turkey was a special case that proved the rule. It was covered by the Marshall Plan, but the idea was to develop Turkish agriculture (Pamugoklu 1990).

3. In the case of coal, iron and steel, fertilizers, electric power, and ocean shipping, the Reconstruction Finance Bank (1951) supplied 84 percent of the total funding for Japan’s postwar capital investment. Its resources came from the government in the form of bonds and equity (Japan Development Bank and Institute 1994). Japan’s first development bank was the Yokohama Specie Bank, which helped to finance the Japanese silk and cotton textile industries in the late nineteenth century (see chapter 3).

4. The postwar development bank in “the rest” appears to have been *sui generis*. Gerschenkron (1962) emphasized the importance of innovative institutions in catching up, but when he discussed his prime example, Russia, he mentioned only an aggressive fiscal policy before 1890 and then the emergence of a private banking system. He did not mention any institution resembling the postwar development bank. Mexico’s development bank, Nacional Financiera, “had no counterpart in the United States unless it was a combination of the Reconstruction Finance Corporation (of the New Deal) and the old J. P. Morgan and Company” (Myers 1954, p. 588). A joint-stock bank created in 1822 by King Willem I in Belgium was endowed with state properties and was supposed to undertake investment projects (Cameron 1993). It failed, and many investment banks (*société general*) emerged thereafter, but they were private and did not support nor take equity positions in both private and public enterprises, nor did they impose performance standards on clients. For state involvement in the development of financial institutions, see Sylla et al. (1999).

5. For planning, see Hanson (1966), Streeten and Lipton (1968), and (Chakravarty 1991).

6. For immediate postwar macroeconomic history, see Diaz Alejandro (1970) for Argentina; Abreu et al. (1997), Baer (1965), Fishlow (1972), and Leff (1982 and 1982) for Brazil; Lieu (1948) for the three-year interval between the end of World War II and the communist takeover in China; Mamalakis and Reynolds

(1965) and Instituto de Economia, (1956, and 1963) for Chile; Bhagwati and Chakravarty (1969) and Vaidyanathan (1982) for India; Cole and Park (1983) for Korea; Lee (1974) for Malaysia; and Reynolds (1970) for Mexico.

7. The Industrial Finance Corporation of India, India's first development bank, was founded shortly after independence in 1948. Its initial activities were haphazard and funds tended to be provided on a "first come, first served basis." As a result, the early lending pattern of IFCI tended to represent the existing industrial structure in India rather than infrastructure needs, with the largest share of funds going to the food and textile industries (Saksena 1970). See also Ahluwalia (1985, p. 73) and Gulyani (1999).

8. For Malaysia, see Hoffmann and Tan Siew (1980), Peng (1983), and Rasiah (1995). For Brazil, see Evans (1979) and Newfarmer and Mueller (1975).

9. In Canada, government spending as a share of gross fixed capital formation (G/C) was estimated to have been only about 7 percent at the turn of the century and then rose and fell and rose again to about 10 percent in the late 1920s. For the United States, estimates of Simon Kuznets suggest that G/C was very low initially, and then no higher than 16.3 percent for 1929–55. For the United Kingdom, according to estimates of Charles Feinstein, G/C rose from under 10 percent in 1856–75 to around 28 percent in 1920–38. In Sweden, G/C was not above 10 percent before 1900 and then was about 20 percent in 1920–40. In Germany, the pattern differed somewhat from other countries: the public sector share started at around 30 percent in the 1850s, rose to a peak of 36 percent in 1875–79, and then fell to a range of 14 percent to 18 percent from 1885–1914. The peak coincided with a railroad boom (Reynolds 1971). Tanzi and Schuknecht (1998) compare forms of government spending in the North Atlantic other than investment before and after the war.

10. See also Nacional Financiera (1971).

11. Corporacion de Fomento de la Produccion.

12. Preferential loans were at least 50 percent of all bank loans even in the early 1980s (Ito 1984).

13. Banco Nacional de Desenvolvimento Economico e Social (the "Social" was added in 1982).

14. The weakness of development banking in Malaysia is indicated by the fact that the Malaysian Industrial Development Finance Berhad accounted in 1988 for only \$292.5 million industrial loans (including short-term loans) compared with \$9,391 million by commercial banks, \$600.7 million by finance companies, and \$895 million by merchant banks (Malaysia 1989).

15. Starting in the 1980s the International Monetary Fund prevented governments from using IMF loans to on-lend to state-owned enterprises; only private enterprises could be financed with IMF credit. For Brazil, see Monteiro Filha (1995).

16. Governments in "the rest" were typically required to give sovereign guarantees of repayment to induce private foreign lenders to provide credit to private or public domestic borrowers. Governments used such guarantees to gain control over foreign credit in order to allocate it to particular firms and industries.

17. Within Latin American governments, the distribution of public investment expenditures also heavily favored autonomous agencies and public enterprises over central, state, and municipal governments. In 1966 public enterprises and autonomous agencies accounted for 69.1 percent of government investment in Brazil, 71.4 percent in Chile, and 55.2 percent in Mexico (CEPAL 1968, as cited in Baer 1971).

18. From the viewpoint of an IMF director: ‘“*cherchez le deficit.*” . . . If it is not in the central government accounts, it will be in the state-owned enterprise accounts. If not there, the central bank is likely to be running a large quasi-fiscal deficit, providing subsidized credit to farmers, or investors’ (Fischer 1995, p. 24).

19. Compare these estimates of budgetary stance with those of Sachs (1989).

20. Postal savings (under the Trust Fund Bureau) accounted in the mid-1980s for around 100 percent of individual saving in deposit banks (Suzuki 1987, p. 290).

21. An industry-wide breakdown of expenditures by the Board of Investment in Thailand is not available until the 1990s.

22. In Japan, it was recognized that the type of export to be promoted should have a high income elasticity of demand by international standards and the comparative growth of technology had to be high. This led Japan to promote strongly the machinery industry, which ultimately achieved an unprecedented share of total exports by world standards (Shinohara 1982).

23. Between 1948–59 textiles each year in Mexico received around 10.7 percent of NAFINSA’s total credit allocation. In the case of Malaysia, with extremely rich raw materials and a history of labor scarcity, textiles were not targeted at all. In Brazil, rather than supporting textiles, promotion went to footwear, which became a highly successful foreign exchange earner (Lücke 1990.).

24. Given that business groups in “the rest” typically did not compete against state-owned enterprises (each operated in different spheres) and could not compete head-on with multinationals (see chapter 8), domestic competition within “the rest” depended on how vigorously groups competed with one another. Intergroup competition, in turn, may be said to have depended on (1) how rapidly industry was expanding (the more rapid growth, the less need for collusion) (Amsden 1994) and (2) the ownership structure of business groups. Assuming a closed economy, the less groups held shares in one another (“cross-holdings”) and the more they entered the same industries in order to maintain parity in their overall group size (“full-set” oligopoly) then the greater competition, as exemplified by the Japanese *zaibatsu* and the Korean *chaebol* (for the “full-set principle” see (Miyazaki 1980 [orig., 1965])). If all groups have mutual share holdings, and each network of groups has an affiliate in every industry, then there is less incentive for groups to pressure governments to open industries to new entrants and for a single group to diversify widely into all industries (since each group has a financial stake, however small, in every industry). Each group will also tend to be relatively small. Countries in which groups held equity ownership in each other included Argentina, Brazil, Chile, India, Indonesia, Malaysia, Mexico, Taiwan, and Thailand. In practice, full-setism may lead to oligopolistic collusion and overcapacity, as in the Japanese and Korean petrochemical and automobile industries (Hikino

1998), and cross-holdings may still be complementary with competition (in India, there was said to be “intense competition and rivalry not only among different groups to control the companies belonging to other groups, but also among the individual members of a group to control the companies of the same group. Often this competition was as ruthless as among the firms in the competitive markets” [Sandesara 1992, pp. 136–37]). Without comparative, cross-country information on industry-level market structure, the issue of domestic competition in “the rest” cannot be pursued much further. But for the 1990s, see Singh (2000) and Tybout (2000).

25. Data were collected and analyzed by Joana Behr Andrade and Dulce Correa Monteiro Filha, both of the BNDES.

26. The “own” capital requirement of a project was not always publicly known. In Korea, however, it is claimed that “entrepreneurs with little capital of their own were able to inaugurate new or expand businesses simply by applying for commercial loans and obtaining the Economic Planning Board minister’s approval” (Hattori 1997, p. 464).

27. In the case of Indonesia, one of the least industrialized countries in “the rest,” “the poor performance of state banks in channeling medium- and long-term credit to finance fixed investment in selected quick-yielding projects during the first two development plans showed their inexperience in this new field” (Nasution 1983, p. 67). No evidence is presented to support this presumption of technocratic inexperience, and capable technocrats existed, since those responsible for macro-economic policies received lavish praise (Cole and Slade 1996; Hill 1996). But it is not surprising that there was incompetence if there was inexperience. For Indonesia’s economic history generally, see Booth (1998).

28. See also Anderson (1963).

29. A fuller discussion of exporting appears in chapter 7.

30. See, for example, Krueger (1995), Nam (1995), and Rodrik (1995; 1996). The standard methodology of calculating export incentives was developed by Bhagwati (1972) as a way to determine whether firms faced a profitability bias in selling at home or abroad.

31. According to one Latin American assessment: “Employment effects are also insignificant—they are generally confined to unqualified female labour [*sic*]” (Fritsch and Franco 1991, p. 78, emphasis added). Some countries, however, wisely attached importance to the employment of such labor.

32. In 1996, Asia had 225 export processing zones while Latin America had only 41 (UNCTAD 1998a, p. 59).

33. The same turnover among business groups was evident in India. “Though the Tatas and Birlas have remained at the top, there has been a considerable reshuffling in the ranking of other groups in the context of the top 20 or top 75 or top any other number. Some new groups have entered, and some old groups have dropped from these numbers” (Sandesara 1992, p. 136).

34. Instead of protecting domestic parts and components production with a single omnibus tariff or quota, one that would allow final assemblers to choose which specific parts and components to source locally, local-content requirements typically specify the exact inputs that assemblers must produce domestic-

ally in order to fulfill development criteria, such as the maximization of national skills.

35. The theoretical framework used to evaluate local content rules tended to assume that performance standards by their very nature could lead to no outcome other than a distortion. Learning effects were ignored (see, for example, Grossman 1981).

36. For price controls on Mexican sugar (to keep down living costs), see Bennett and Sharpe (1982).

37. According to one study, “the price-aggressiveness of the South Koreans in international markets is attributable in significant part to Korean competitive strategy. Steel facilities are operated at a high rate of utilization, substantially reducing unit costs, while surpluses are exported at low prices with the assistance of government export promoting measures” (Howell et al. 1988).

38. Until 1987, the Korean government surveilled as many as 110 commodity prices to dampen inflation (Amsden 1989).

39. According to Korean antitrust law, monopolists and oligopolists had to hand in their cost data to the government. Then the government decided on a price. Automobiles were subject to this regulation. A Korean advisor to the government who taught at the Massachusetts Institute of Technology in Mechanical Engineering, advised the government in 1980: “Until there is reasonable competition the price of the vehicles should be regulated through tax incentives and other appropriate measures, allowing a sufficient profit margin for reinvestment and an adequate return on investment” (Suh 1980, p. 13).

Chapter 7

1. This chapter builds on an earlier examination of exporting in chapter 6.

2. To identify “openness” with the export coefficient (export share in GDP) is to take an *ex-post* approach: the actual incursion of foreign imports in domestic GNP is measured. To identify “openness” with the degree of price distortion is to take an *ex ante* approach: the potential for trade is measured if barriers come down. That potential may not be realized, as in an example provided by Edwards (1993) and Taylor (1998), to the effect that if trade barriers fall between two identical economies, trade will not increase despite greater liberalization. Ironically, Taylor (1998) uses this curious example to criticize the *ex-post* approach.

3. Instead of population density to capture the wage level effect, Kuznets (1966) uses per capita income.

4. To increase the sample size of industrialized countries, we also include data from Australia, New Zealand, South Africa, and Israel in our regressions.

5. Distortions alone accounted for only 28 percent of variability in export growth in an estimate of Dollar (1992). By contrast, they are all important in an estimate of Taylor (1998).

6. Because reexports inflated Malaysia’s export share, we do not discuss Malaysia below.

7. Before export promotion was introduced in Argentina, its manufacturing sector barely exported—less than 5 percent of output, excluding meat packing

houses, sugar and flour mills, and vegetable oil producers (Katz and Kosacoff 1996).

8. “Growing ‘pragmatism’ at the operational level (of the World Bank) co-existed with a measure of continuing, underlying, pro-openness ideology. This was done, in part, by *caricaturizing and satanizing Prebisch and CEPAL*” (Webb 2000). For academic critiques of Prebisch’s ideas, see Baer (1962), Di Marco (1972), and Flanders (1964).

9. In 1987, for example, 50 percent of imports of technology-intensive manufactures of Korea and Taiwan were obtained from Japan, compared with 40.5 percent in 1980 (Park and Park 1991).

10. In 1913, the ratio of merchandise trade to GDP was 12.5 percent in Japan and 6.1 percent in the United States (Feenstra 1998).

11. Japan had the highest percentage among North Atlantic countries of manufactures in its total exports. Intermediate manufactures that are used to produce final exports, however, are not counted in a country’s export total. Assuming that inputs of intermediate manufactures tend to be greater in final manufactures than in raw material products, then the higher the percentage of manufactures in total exports, the more total exports are understated (Hollerman 1975). As late as 1990, the share of manufactures in total exports was 95 percent in Japan and only 77 percent in the United States (see table 6.9).

12. In the 1920s, “as an element of a network of international economic transactions, the Argentine Republic was positioned on the Atlantic, in-between the United States and Great Britain, *more than on the South American continent* (Fodor and A. O’Connell 1997, emphasis added, p. 9).

13. See also Latham and Kawakatsu (1994), Miller et al. (1998), and Sugiyama and Guerrero (1994).

14. For Taiwan, see also Hsiao and Hsiao (1995).

15. The progression from import substitution to export activity has been described as a “flying geese” formation (Akamatsu 1961 [1938]; Shinohara 1982).

16. It is argued that “protection provided during the 1950s and 1960s to metalworking and metallurgical industries producing consumer durables, capital goods, and transportation equipment has been later reduced, and efficiency has evolved leading—sometimes in spite of significant antiexport policy biases—to a substantial volume of exports in the 1970s” (Teitel and Thuomi 1986, p. 486).

17. For an industry level example of import substitution generating exports, sometimes indirectly in the form of embodiment in exported final products (as discussed in chapter 8), see the chemical industry in Argentina (Chudnovsky 1994); in Brazil (Clemente de Oliveira 1994); in Korea (Enos 1988); and Taiwan (Chu 1996).

18. For the import substitution underpinnings of exporting in Taiwan’s personal computer industry, see Chang (1992).

19. As relocation from high-wage countries reached Southeast Asia, the interconnections between import substitution and exporting within a single firm became even more complex. In the case of the Astra Group of Indonesia, for example, after a sharp decline in oil prices in 1983, the Indonesian government

shifted its economic policies from import substitution to exporting, and “the machinery segment of the Astra Group, which had been a typical import-substitution industry, commenced exports of certain parts, such as batteries and spark plugs, as well as (Toyota) engines and (Komatsu) forklift frames in 1988–89.” Nevertheless, “the selection of export items, export volume, and destinations, generally depended on the global strategies of the Japanese principals that were the parent companies of the joint venture.” As a consequence, “apart from these exports by the existing joint ventures, the Astra Group set up export-oriented machinery joint ventures with foreign companies that were newly coming into Indonesia as part of their relocation of production base.” The relocations involved forging parts for heavy machinery from Japan, TV set assembly from Korea, and semiconductor assembly from Singapore (Sato 1996, p. 260).

20. For overviews of trade reforms at various different time periods, see among many others, Agosin and Tussie (1993), Bhagwati and Srinivasan (1975), Cardoso (1987), Edwards (1993), Helleiner (1995), *Journal of Developing Economies* (1994), Krueger (1995), Ocampo and Taylor (1997), Papageorgiou et al. (1991), Rodrik (1997), World Bank (1992), and Taylor (1993).

21. Concentration also characterized the manufactured exports of some North Atlantic countries before the First World War. In 1913 textiles accounted for as much as 48 percent of the United Kingdom’s exports, 40 percent of France’s and 49 percent of Italy’s (Yates 1959).

22. Data are for 1970 except for China, whose data are for 1990.

23. No country in “the rest” came close to creating general trading companies on a par with Japan’s *sogo shosha*. Korea came the closest, but even Korea’s general trading companies handled mostly their own group’s export business. They did not offer the diversified services offered by trading companies from Japan (Amsden 1997). “The rest” continued to struggle in the 1990s with other aspects of a trading system: administrative honesty at ports and at bureaucracies responsible for tariff rebates (duty drawbacks) and marketing in the case of small-scale firms. For Indonesia, see (Poot et al. 1990). For the role of Japanese general trading companies in Taiwan, see Chu (1989).

24. MITI refers to the Ministry of International Trade and Industry.

25. General Agreement on Tariffs and Trade.

26. When Korea and Taiwan were still protecting their cotton textile industries in the 1960s, they began promoting cotton textile exports (see chapter 6). *The right to sell in the protected domestic market, whose profitability was inflated from import barriers, was made contingent on exporting*. Taiwan used publicly regulated private cartels to enforce this, not just in cotton textiles but also in steel products, pulp and paper, rubber products, cement, woolen textiles, and later drilling machines and telephones (Wade 1990). Korea used export targets negotiated between business and government in the context of the Supreme Export Council mentioned above (Rhee et al. 1984).

27. “In many sectors, tariffs, quotas and other barriers still provided significant protection to Chinese import competing industries” (Lardy 1992, p. 710, fn. 46).

28. In 1879–81, manufactured and semimanufactured articles (excluding foodstuffs) amounted to only 16.2 percent of United States exports (Bairoch 1989).

29. Only during the war had Mexico and Brazil exported a small value of textiles to other Latin American countries (Wythe 1949).
30. Comparing exports in the United States and Brazil, “the United States, like Brazil, a large primary-product exporter with a favorable natural resource endowment, did not have a large discontinuity in its marginal comparative advantage in different export activities. By the last quarter of the nineteenth century, the United States had become a large exporter of manufactures. The key difference with Brazil seems to have been the United State’s large stock of human capital, which was embodied in its industrial exports” (Leff 1982, fn. 73, p. 193).
31. Different measures of tariffs appear in (Little et al. 1970, p. 162), but the orders of magnitude are the same. See also (Minami 1994, pp. 193–94). Whatever the measure, the United States tends to have had among the world’s highest tariff rates.
32. In the 1920s, “there are grounds to believe that the level of effective protection of manufacturing activities in Argentina was in fact much lower than in other ‘new’ countries with apparently comparable tariff height” (O’Connell 1984, p. 39).
33. In Mexico, by contrast, between 1939–61, duties as a percent of exports (11.1 percent) exceeded duties as a percent of imports (9.6 percent), showing Mexico’s lack of enthusiasm for either import substitution or export promotion (Reynolds 1970). Mexico did not join the GATT until 1986 and, therefore, used nontariff barriers as well as tariffs to protect domestic industry and balance of payments. As much as 80 percent of imports after the war were estimated to have been covered by nontariff barriers (Reynolds 1970).
34. At the time, Brazil also imitated the American political model of loosely federated states (Callaghan 1981).
35. The McKinley Tariff also contained a limited reciprocity clause under which bilateral reciprocity agreements were negotiated with a number of Latin American governments. While such reciprocity laid the foundation for mutual reduction of tariffs, this experiment was short-lived because Democrats in the American Congress refused to extend the reciprocity clause a few years after. The average ad valorem equivalent of the rates of the McKinley Act “was a high 49 percent” (Dobson 1976, p. 19).
36. In Mexico, too, exports were found to be highly responsive to perceived government support for exporting (Maloney and Azvedo 1995).
37. See also Fasano-Filho et al. (1987). For export promotion policies, see Arantes Savasini (1978) and Shapiro (1997).
38. Includes the intratrade of the European Union (fifteen countries) and the European Free Trade Association (six countries) (UNCTAD 1995).
39. For South-South trade, see Amsden (1976 and 1986) and Beers (1991).
40. Laissez-faire in Switzerland did not always mean competition. “Switzerland surely belonged to the set of most cartelized states in Europe. In 1939 about 500 cartels were active in Switzerland” (Schroter 1997, p. 195).
41. As noted earlier, “Hong Kong possessed larger export quotas than Taiwan and South Korea, and especially other LDCs” (Ho and Lin 1991, p. 277).