

Alice H. Amsden

FROM HEAVEN TO HELL:
TWO AMERICAN EMPIRES IN THE DEVELOPING WORLD

FIRST DRAFT: COMMENTS ARE WELCOME

Chapter 5

Breaking the Barriers

With the dawn of decolonization in Africa, Asia and the Middle East, the mask of Empire peeled off the developing world. India ceased being Britain's "jewel in the crown" and instead became a squalid country ravaged by religious conflicts. East Asia was no longer Japan's model colony and instead became an over-populated region confronting left-wing insurgency, as in Burma, Korea, Malaya, Indonesia, the Philippines and Thailand. Africa stopped being the high-living Kenya of white settlers, the gold and diamond mines of the Oppenheimers, and the rich resources of the Congo and instead became a destitute mosaic of artificially drawn countries, each rent by tribal animosities and the greed of foreign mineral extractors. Once ruled by the United States and boastful of the highest level of education and political democracy, the Philippines was exposed as a land of the

super-rich and desperately poor, with few opportunities for middle class entrepreneurship. No longer defined by the Argentine pampas, Brazil's vast coffee estates, or endless tracks of railroad, Latin America came to be seen for what it was: a continent with high unemployment, small, inefficient firms and extreme income inequalities. By the 1950s, oil had become the major energy source of the world's factories and farms, but the Middle East exchanged colonial rule by Britain and France for neo-colonial rule by the "seven sisters", the world's most powerful private oil companies under British, French and American ownership.

The American Security Empire did not take responsibility for developing the Third World. It stopped meddling at the border, and occupied itself with the hottest fights of the cold war. Nevertheless, the United States did the developing world a great favor. It allowed it to use unorthodox economic policies to develop. Some Third World countries showed spectacular success in building the manufacturing skills that supported high-wage employment. Others lost their way, and left millions of people disappointed and desolate.

Present at The Creation

The huge task of economic development fell on the shoulders of Third World nationals. The initiative to move from underdevelopment to development was not taken by multinational firms, or international banks, or US technical

assistants, or the US State Department, no matter how much each portrayed itself retrospectively as a catalyst. Whatever role these foreign agents ultimately played, whatever influence the Bretton Woods institutions eventually had, they were not the first risk takers (lending to the Third World by the World Bank was anemic until at least 15 years after the end of World War II). Nor were the bush whackers that cleared the path for development former collaborators of colonial rulers---traditional tribal chiefs or clerics, plantation managers, or import-export merchants. Traders---called "indentors" or "compradores" in Chinese---preferred earning profits from importing rather than from investing locally in risky new ventures; they were opponents of industrialization. Instead, the movers and shakers, the new, foreign- educated cadre of risk takers, public and private, were the military men and business managers, the teachers, the distributors, the technocrats, and other professionals who despised colonialism but who were often Western in outlook or conversant with Western ways.

The new elite included the likes of Mahatma Gandhi, educated in London as a lawyer. Ho Chi Minh, son of a mandarin, was a ship's steward en route from Saigon to Marseilles, and then spent time in France. Inspired by Woodrow Wilson, Minh argued for Vietnamese liberation at the Versailles peace conference in 1919, only to be shown the door. Fidel Castro, the son of rich landowners and the

husband of one of the richest, was trained by the Jesuits. Chou En Lai, communist China's dapper Foreign Minister, attended Japanese and Western missionary schools and later studied in Paris. Singapore's Lee Kuan Yew majored in law in Cambridge, UK. Sukarno, Indonesia's father of independence, attended Dutch primary and secondary schools. Park Chung Hee, Korea's developmental president, learned the ways of the world by attending a Japanese military academy and joining the local communist party. The King of Thailand (Rama IX), born in Cambridge, Ma. was educated in Switzerland. Mahathir Mohamad of Malaysia went to an English school where he received top honors in writing.

Jomo Kenyatta attended a Scottish Mission School and then, in the 1930s, studied at the London School of Economics under the famous anthropologist, Branislaw Malinowski, publishing his thesis, Facing Mount Kenya, in 1938. Kwame Nkrumah, son of a goldsmith and father of Ghanaian independence, went to the US in 1935 for advanced studies, which he continued in England, where he also worked to form a Pan-African Congress. Leopold Senghor, Senegal's first modern statesman, went to a catholic school and then to the Sorbonne, where he developed the political and cultural movement of negritude. Julius Nyerere, who unified Zanzibar and Tanganyika, was the son of a chief and received an advanced degree in history and economics in the UK. Hastings Banda, first prime minister of Malawi (formerly Nyasaland), was a US-trained physician who later practiced

medicine in Scotland (around the time of his death in 1997, Malawi was suffering from mass starvation). Patrice Lumumba, the fiery liberationist of the Congo, attended a Protestant mission school. Eddison Zvobgo, one of the leaders of the Zimbabwe National Union, was a Harvard-trained lawyer.

Leadership in the Middle East and Northern Africa was no less international. Tunisian president Habib Bourguiba was the son of an army general who studied in a French lycee. Mohammed Mossadegh, Iran's democratically elected socialist leader deposed by the US, was educated in England. Reza Pahlavi, who replaced Mossadegh as Shah with American connivance, studied in Switzerland. Even the Ayatollah Khomeini, after expulsion from Iran in 1978 by Saddam Hussein, lived in exile in France.

But not all independence leaders were cosmopolitan. Gamal Abdel Nasser, born poor in Alexandria, studied at a local military academy. David Ben-Gurion, born in Poland, went to a Hebrew school founded by his father, an ardent Zionist. Saddam Hussein studied at the University of Cairo's Law School. Algeria's Houari Boumedienne went to university in Cairo and an Islamic institute at Constantine. Nor were all Western-trained leaders knowledgeable about Western ways, although by comparison with the politicians who ruled after 1980---virtually all of whom studied in the United States---the educations of the postwar independence heroes were more educated.

Those who led their nations down the road to independence and economic development tended to know more about the West than the West knew about their new nationalism, or mixture of nationalism and socialism. For most of the 1920s Ho Chi Minh was in China working for the Communist International. Then, in 1945, he justified political independence for Vietnam by quoting the American Declaration of Independence. Nationalist leaders also knew enough about the West to recognize that it was essential to deviate from Western economic models in order to grow. This was an article of faith in Africa, Latin America, and Asia, including Hong Kong, reputed to be a free trade model, but whose government owned all land, the scarcest resource in Hong Kong, and used revenues from property to balance its budget and finance low-income housing. Similarly, communist movements in the Third World knew enough to distance themselves from Russia. India and Turkey flirted with central planning but only for a short time. China broke away politically from Russia in 1958, a decade after the Chinese Revolution ended. Later, when China reformed its economy along the lines of Japan and Korea, it far outperformed Russia's reforms. Vietnam began an economic divergence from China's economy eight years after the Vietnam War ended. The exception is Cuba, which was ostracized by the US and imperialized by Russia. It barely grew.

Leaving the Free Market Model Behind

The Third World ditched the revered development model of rich countries because it didn't have their technological capabilities to compete in world markets. Without knowledge to produce efficiently, to expand at low cost, and to invent new products, the law of comparative advantage was violated. The low wages of the Third World were easily out-manuevered by the technology of the First World.

Europe and the US both christened a tight marriage between new technology and free markets, a happy relationship for over two centuries. Market forces provided incentives for the development of new products and processes, sometimes epochal. Eli Whitney's cotton gin, for example, a simple mechanical device, saved the "underdeveloped" American economy from stagnation after the War of 1812 by increasing raw cotton output in the south and cotton spinning and weaving in the north. In turn, innovations led to market power, earning the finance for further innovation. Whitney's invention was part of a popular movement, funded partly by the government, that conducted research on interchangeable parts for armaments and capital goods, a first step towards the path-breaking technology of mass production. In sharp contrast, no matter how free their markets, the Third World originally had no state-of-the art innovations, minor or major, labor-intensive or capital-intensive. Free markets simply meant deadly competition from experienced foreign firms, before

local enterprises had enough oxygen to compete at international prices. The thirteen American colonies prospered partly because their gap with England in technological capabilities and organizational skills was small. As Adam Smith stated: "The Colony of a civilized nation which takes possession either of a waste country, or of one so thinly inhabited, that the natives easily give place to the new settlers, advances more rapidly to wealth and greatness than any other human society."¹

The presence or absence of commercial and technological knowledge determined the difference in policy between early and late industrializers. One relished the free market, the other was ravaged by it.

Even in the most labor-intensive manufacturing industries, low wages were no match against the know-how of advanced countries, limiting the applicability of Ricardo's famous "comparative advantage" thesis. As the prestigious Pearson Commission observed in its study of the Third World in the 1960s: "*the American (and European) market is one in which the less-developed countries' price advantage alone is usually not sufficient without detailed knowledge.*" Ricardo himself did not assume that all firms in an industry have equal knowledge, but later interpretations of his work did. This false assumption turned out to be dogmatic and dangerous for actual policy making. At market prices, many poor countries had no comparative advantage at all!

¹[Smith, 1776 (1976) #2359, PT II, p. 75].

Korea and Taiwan, now among the world's top ten exporters, could at first only export manufactures of plywood and wigs of human hair. Despite the pittance earned by their female workers, despite martial law and repression of trade unions, despite US aid for new equipment, despite two of the Third World's best education systems and physical infrastructures, *Korea and Taiwan could still not compete in the 1960s against the mighty Japanese textile industry at market prices and production costs.* Thus began their adventures with industrial policy and government economic intervention in order to help private firms build the assets they needed to complement their rock-bottom labor costs. Textile companies required better machinery, more experience in mixing raw cotton and setting the speeds and feeds of equipment, maintaining old equipment, and switching rapidly to manufacture the types of yarns and fabrics that came into vogue in different parts of the world. Without these skills and market information, which took more time and money to acquire than most private entrepreneurs could afford, Korea's and Taiwan's low wages couldn't match Japan's high productivity. Without an industrial policy to overwrite free trade theory, these countries were doomed to export products with the lowest skills.

Developed countries often remained Number One in labor-intensive industries, long after their comparative advantage in low wages had disappeared. Their skills, their protective tariffs, their high-end consumer tastes, and

their migrant labor kept them in business. Table 3.1 shows the market shares in the 1990s of developed and developing countries in garments and textiles, two of the most labor-intensive industries since the First Industrial Revolution. These industries are naturals for developing countries, but the market share of developed countries is still high. **add**

Thus, the life-and-death challenge of late industrializers was to exploit their wage advantage and *learn marketable skills*, moving up the ladder of comparative advantage from low-tech, mid-tech (industries like steel, cement, chemicals, rubber, glass, shipbuilding, machinery, and automobiles), to high-tech. Despite the diversity of developing countries, they shared this common compulsion to learn, which led to similar policies and organizations. Starting with Japan, the same seed grew in different flowerpots. Depending on the country, however, the flowers were more or less hardy. Some blooms perished at birth. Some were stronger and sweeter than others.

What, then, was the nature of the Third World's unorthodox system that enabled it to create skilled industries? Why were some countries far better at exploiting this system than others? How did the system work at all, given what critics later obsessed as the inevitable corruption and inefficiencies of government economic intervention?

The System

With their nationalist rhetoric and visions of wealth, the great leaders of colonial independence movements inspired hundreds of millions of poor people to sacrifice and save in the name of development. But late development was arguably less a product of charismatic leaders than of capable civil servants, managers and efficient bureaucracies, public and private, all entangled in the "developmental state."

Third World countries created their developmental institutions at roughly the same time. The "winds of change" that were blowing away imperialism (in the words of Britain's last colonial Prime Minister, Harold Macmillan), were buffeting the whole developing world. Independence, nationalism, socialism, Keynesianism, and economic development were all in the air, in the newspapers, and in people's minds.

Alongside this euphoria, something sinister was shaking the Third World's economic scaffolding, and the response mechanisms of the free market were not doing enough to fix it. Countries everywhere began to suffer from a balance of payments deficit. The motive in late industrialization behind government intervention thus became "necessitarian"-- governments intervened out of necessity, to solve one or another problem, and to exploit one or another opportunities that private domestic firms were too weak to exploit. To be sure, governments also intervened to enrich themselves and their friends. But if corruption were the main motive for

government intervention in the 1950s and 1960s, then the timing of such intervention would have been different. Instead of appearing everywhere at the same time, which the developmental state did, it would have appeared at different times in different places, because corruption itself wouldn't arise everywhere simultaneously.

Like clockwork, systems to promote skill-intensive industries were constructed in the late 1950s or early 1960s. In Thailand, a coup brought a general to power with pro-private business sympathies. A Promotion of Industrial Investment Act in 1960 created a Board of Investment that quickly began strengthening manufacturing activity. In Malaysia, a Pioneer Industry Ordinance of 1958 sparked industrial promotion that then intensified after race riots in 1969. In Indonesia, a new military government that came to power in 1966 under General Soeharto started the long road to industrialization using many institutions established by the deposed leftist president Sukarno. In Korea, industrialization accelerated after a coup by Young Turks in 1961 and the rise to power of Park Chung Hee, the closest approximation in the Third World to "the great man of history." In Taiwan, the Third Development Plan (1961-64) emphasized the need to promote heavy industry, and with the formation of an Industrial Development Bureau in 1970, major investment projects accelerated. In India, Parliament passed an Industrial Policy Resolution in 1956 that triggered intense efforts to restructure existing industries

and mostly to diversify into new basic manufacturing sectors. In Turkey, a 1960 coup led to the establishment of a State Planning Office and the start of Turkish postwar industrial expansion. In Brazil, the promotion of basic industries was the cornerstone of modernizing ideology and economic development. It started in the 1940s and raced ahead under President Kubitschek's 'Target Plan' in the 1950s. In Chile, the reconstitution of a development corporation in 1961 (CORFO) was the fillip behind more intensive industrial promotion. In Mexico, the new presidency of Miguel Alemán made industrialization his *only* economic goal and along with a "new group" of progressive industrialists, launched a vigorous plan to bolster manufacturing activity. Even China, with least tolerance for market forces and an entirely different political economy, intensified its attempts at industrialization in 1958 with a Great Leap Forward.

Argentina was the sad exception---nothing much progressed there organizationally in the late 'fifties or early '60s. Juan Peron's corrupt banks and nepotistic public agencies, dating from the 1940s or earlier, "crowded out" the professionally managed developmental machinery that arose in other countries. In the 1950s, the government of Arturo Frondizi adopted the American policy of welcoming foreign investment, but foreign investors never provided strong leadership for diversification. As the bureaucratic

machinery in other countries began to grind away, Argentina's once-rich economy atrophied.

Although not nearly as industrialized as Argentina, the Philippines' story is similar. No developmental machinery was created, and the state's role was among the smallest in the Third World (the US ruled from 1898 to 1946, and defeated communist insurgency in the early 1950s). The economics Nobel Laureate, Gunnar Myrdal, referred to the Philippines as a "soft state." Its bureaucracies were corrupt due to patronage, the wealthy evaded tax collection, and growth was feeble.

Budget Busters

After a short spending spree financed by the war, when wartime wind-falls in income, the Third World's foreign exchange became extremely scarce. Solving this problem involved the government's traditional macroeconomic ministries, especially the ministry of finance, as well as a new generation of bureaucracies related to industrial policy. In 1950, the Third World's dollar value of exports and imports was about equal. By 1960, imports exceeded exports by over ten percent, with no obvious way to pay for the shortfall (Victorian Britain paid its own shortfall with invisible exports like financial services and insurance). The traditional market remedy to balance of payments deficits was to let wages fall and thereby increase labor-intensive exports. But developmental states were in no

position to cut wages. They did something new, and some succeeded stupendously.

In the absence of tariffs, a typical balance of payments' buster was the family of air conditioners, TVs and sewing machines. Air conditioners were a godsend to the tropics, but however much they might help people work harder, they were originally an expensive luxury, preferred over locally made electric fans by those enjoying electric power. Television imports as well were a high-ticket item, prized for the foreign news and entertainment they provided in cities and electrified villages. In 1971, a radio cost about \$250 whereas a TV cost around \$3,000, or 12 times as much (in new Taiwan dollars).

In the family of transportation equipment, payments deficits were worse. To grow, countries needed trucks to move materials and buses to transport people. Demand for cars was lively among the elite. As imports of internal combustion engines climbed, the balance of payments was imperiled (especially if gas had to be imported as well). In desperation, governments tried to assemble locally imported "kits" of automobile parts and components, but sometimes assembling the kits of a car or bus cost more than importing the finished product.

As local demand sky-rocketed for the new, exciting consumer durables of the 1950s, deficits in the third world's balance of payments worsened.

There are two ways to reduce the foreign exchange gap: export more; or substitute domestic production for imports. The latter, "*import substitution industrialization (ISI)*," provided a roadmap to entrepreneurs of what products were in local demand. Governments provided state-owned enterprises and private-owned enterprises (SOEs and POEs) with tariffs and cheap finance to make IS investments feasible. Then they offered them other incentives to improve efficiency and improve product design. Import substitution increased output, saved foreign exchange and came to represent a prosperous era of industrial transformation in a newly politically independent Third World. It was during this Golden Age of import substitution that developing countries enjoyed the fastest growth rate in their history (see Table 1.1).

The virtues of exporting over import substituting for the balance of payments were calculated by the great Enlightenment economists: exporting respects the law of comparative advantage. By manufacturing at free market prices those products that require inputs widely available locally, efficiency and exporting are maximized. Efficiency is NOT maximized and exporting is not possible with import substitution, because *any* import can be produced and sold locally if its tariff protection is high enough, and due to human nature, most tariffs never tend to fall.

Agriculture and raw material processing were still considered the developing world's comparative advantage at

the end of the 1960s. Almost 90 per cent of Third World exports derived from primary products. In 75 percent of countries, these exports were concentrated in three crops. If their price fell, a farmer's livelihood plummeted. Certainly agriculture in the early postwar years deserved more public spending than it got--farming, after all, is what most people did to survive. But the developmental state rejected agriculture as the engine of export-led growth. Chile was the most successful country to target agriculture, exporting counter-seasonally subsidized tropical fruits and vegetables to the US. But Chile had a highly unequal income distribution due to the concentration of raw materials. It also started the postwar period with a per capita income roughly twice that of Taiwan's, an emerging manufacturer, but ended the century with a per capita income barely half that of Taiwan's. Manufacturing was at the heart of modern economic growth because it had the power to create new skills and pay higher wages.

Raul Prebisch, the Argentine who headed the United Nation's regional office in Chile, was one of the fathers of import substitution theory. He argued in the 1950s that there was a systematic tendency for the prices of many primary products to fall relative to those of manufactures, which benefited from intellectual property rights and new technologies that replaced natural resources with synthetics. As incomes in developed countries rose, their demand for raw materials rose but by less. The

deterioration in the "terms of trade" was impoverishing. More raw material exports had to be given just to get the same amount of manufactured imports in exchange. For his heterodoxy of attacking comparative advantage, Prebisch was "satanized" by the American development establishment, as described by a former head of Peru's central bank, Richard Webb. But Prebisch was right, both in terms of the Third World's long-run deterioration in the terms of trade and its disruptive short-run commodity price fluctuations. Even at the end of the century developing countries were acutely suffering from terms of trade losses. The loss was about \$5 billion a year from 1981-85, almost \$55 billion a year from 1989-91, to \$350 billion for the period 1980-92. The terms-of-trade loss was a major factor in the rise of these commodity exporters' foreign debt, as they strove to maintain a minimum of essential imports.² The burden of commodity price recession fell disproportionately on sub-Saharan Africa, the least able region to make structural adjustments.

Escaping from being a farm hand, and entering school for a better job, were the dreams that drove the struggle for colonial independence. Upward mobility inspired millions of youths to migrate from the countryside to the towns. The imperial idea that natural resources would forever be the engine of growth---especially when they already accounted for nearly 90 percent of total exports---

² {MAIZELS, 2003 #2431}

was politically and economically disdained and discarded, especially since life as an agricultural worker was so hard. In the case of tea growing in Sri Lanka, for example, women walk from the huts where they live to report for work at 6AM. They are then assigned a field to pick which may be miles away. The work is hard and hot. By noon the temperature may reach 90F degrees and the head baskets of pickers are heavy. The women take one hour breaks, then work until 5 or 6PM, and finally return home to make dinner for their family. There is no water or electricity to help in the preparation, and the lines of huts where they live were built over 100 years ago by British imperialists.

Right or wrong, hostility towards agro-led growth, and resentment towards comparative advantage, cleared the way for Third World industrialization.

Much hotter as an engine of growth than exporting natural resources was exporting *manufactures*. This was a real possibility in the 1960s at the lowest end (hand assembly of, say, integrated circuits). By the 1970s exporting was starting in "mid-technology" industries (such as automobiles, chemicals and shipbuilding). Industrialization was really getting underway.

But labor-intensive manufacturing had its own intellectual critics. Whether in industrial estates or urban neighborhoods, labor-intensive exporting went hand-in-hand with low wages, unsafe working conditions, and dead end jobs, as foreign investors moved on to yet lower-wage

locales. Nevertheless, exporting labor-intensive manufactures gave a developing country an enormous boost. Employment expanded, and everyone wanted a job. Young women workers found new freedom away from their families, and to reduce labor turnover, companies producing labor-intensive products like textiles sometimes provided high school educations for their employees. Savings rose and foreign exchange became slightly more abundant. Local managers in foreign plants got state-of-the-art experience. In Taiwan, foreign-owned firms were a rarity by the 1990s, especially in electronics, but most top managers in the 2000s' apprenticed with a foreign TV company in the 1960s.

The mother of exporting labor-intensive manufactures to high wage countries was Japan, which also was a leader in import substitution. When Japanese wages rose rapidly in the 1960s under Japan's "growth-doubling" plan, foreign firms fled, seeking cheaper labor in Japan's backyard--- Korea, Taiwan, Hong Kong, Singapore, and later Thailand, Malaysia and Indonesia. To attract these escapees, East Asian countries created *export processing zones*---companies locating in these zones could import all their inputs duty free so long as they exported all their output. Washington played along, listening to the voices of America's big foreign investors. No tariffs were paid in the US on the share of an import accounted for by an American-made component or part. Only the labor costs of foreign assembly

got taxed. By the 1960s, the sonic boom in out-sourcing from the US and importing from the Third World had begun.

The problem with export was not exploitation, but not enough exploitation. Because of intense competition for foreign investments, only a handful of Third World countries benefited from export-led growth. Asia surpassed all others, owing to contacts with Japan and relatively reliable trans-Pacific transportation. Asia also had good infrastructure and *extremely* low wages, given its high population density. Low wages made all the difference. Televisions, for example, were one of the first American industries to relocate overseas. Producers like RCA assembled in Mexico, but wages were too high there, and they headed for Taiwan.

Over time, more and more American, European and Japanese enterprises chased cheap labor, and moved their labor-intensive operations overseas. But export-led growth lacked the punch it had when it was concentrated in only a few countries. By the mid 1990s, production was spread over as many as 225 export processing zones in Asia and 41 in Latin America. Owing to an excess of suppliers, exporting low-end manufactures ceased being an engine of growth

Exporting more skill-intensive products was a better bet, of course, but infinitely harder. Korea, for example, built a chemical plant in the 1960s to serve both the domestic and export markets. During construction, the minimum efficient plant scale rose worldwide. At great

cost, Korea enlarged its capacity. When it finally began exporting on the international market, existing firms in the chemical industry began dumping, driving down the price. Korea's shipbuilding giant, part of the Hyundai group, was late delivering the first three ships it ever built. This gave buyers the chance to cancel their contracts in a soft market. Hyundai was thus stuck with a huge inventory. So it diversified further, created a merchant marine company, which then bought its own three ships. What saved the day was the Korean government's decree that all crude oil exported to Korea had to be carried in Korean-owned vessels.

These are not the stories of export markets inciting private entrepreneurs along free trade lines. These are more complicated stories of the developmental state at work, from building export processing zones to keeping an infant shipbuilder afloat. Only one simple story tends to repeat itself: behind the rise of every export was an earlier import substitution investment.

Import Substitution

Developing countries with small domestic markets, many in Sub-Saharan Africa, achieved a light dusting of manufacturing industry in the 1960s and 1970s. They produced beer, flour and other foodstuffs, building materials like bricks, steel tubes and cement, and miscellaneous manufactures like matches, metal boxes, and the assembly of consumer durables including cars. But

virtually all small countries failed to enter the orbit of modern world industry because they were so far behind the world technological frontier, in contrast to their North Atlantic peers one hundred years earlier, when small could be beautiful and markets could be free.

Some of the North Atlantic's biggest firms in the nineteenth century emerged in the smallest countries. They did so by innovating in industries with a high content of skilled labor, which were becoming a big part of world trade. From these specializations came great manufacturers in small countries: Burmeister in Denmark, Carel in Belgium, Werkspoor and Philips in the Netherlands. In Switzerland, Geigy (1864), CIBA (1884), Sandoz (1886) and Hoffmann-La Roche (1894) innovated new products in aniline dyes and pharmaceuticals, and on the basis of these innovations established multinational firms. World leaders in mechanical engineering, Sulzer, Brown Boveri, Escher Wyss, were also Swiss. Even Sweden, considered extremely backward by North European standards, accelerated its industrialization after the 1860s with inventions that became the origin of blue ribbon multinational firms: the telephone (L.M. Ericcson, 1876); the separator (Alfa Laval, 1879); electrical equipment (ASEA, 1890); and bearings (SKF, 1907).

No small Third World countries had skill endowments comparable to those of their forebears a century earlier, so most failed at both import substitution and export-led

growth. Many large countries succeeded at both (Brazil, Mexico, Turkey, India, Iran, China, Indonesia and Korea). But some failed (Argentina, Bangladesh, and Pakistan). Country size is thus a poor predictor of success. But it is noteworthy that import substitution operated in the developing world at all *stages* of industrialization---early, middle and late---and some small countries succeeded along the way.

An example of a low-tech transformation was Korea, which then moved up the ladder to the top. To modernize its textile industry in the 1950s, Korea turned to import substitution behind the back of the American Security Empire, which was helping it buy textile machinery. Korea closed its markets to foreign exporters, including the most ferocious competitor of all, Japan. It also prohibited Japanese textile companies from acquiring Korean textile companies. Then Korean firms set out to learn. A major source of know-how was Korea's textile machinery suppliers (British and Japanese). Independent Japanese textile engineers---either moon-lighters or retirees---were hired as consultants. The Korean government created a graduate engineering major in textiles at Seoul National University, which was modeled along the lines of Tokyo National University. The government also pushed companies to export (tariff protection was made contingent on exporting), and with larger scale, textile companies diversified into the manufacture of garments. With integrated production,

textiles and apparel became a huge employer. It was a cradle for small- and medium-size Korean enterprises and earner of foreign exchange

Automobiles, the big balance of payments buster, emerged early almost everywhere in the Third World by dint of import substitution. One of the most frequently cited horror stories concerned Chile, a country with less than 10 million people in the 1960s. Thanks to government incentives, Chile attracted around 20 automobile assemblers, each operating on an infinitesimally small scale. The government considered restricting entry to only one or two firms, but didn't know what criterion to use. There was no weeding-out process by the market, leaving one or two players to compete, and soon Chile's entire automobile industry collapsed. Brazil was the first latecomer to impose "local content" requirements on automobile assemblers, an import substitution policy designed to ease balance of payments constraints, create small- and medium-size national companies, and strengthen technological skills. "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.”³ Generally, by forcing final assemblers to buy parts locally, assemblers were given a strong incentive to make their local suppliers more efficient. The whole local content process became an intense learning experience for small parts suppliers, which also became an important political ally of many governments.

Taiwan failed to develop an automobile assembly industry but then succeeded through import substitution in creating a parts industry with export potential. Over 40 years later, Taiwan’s computer industry was using a variant of import substitution to grow. When desktop computers were first being assembled in Taiwan in the 1990s, local companies imported almost all their active parts. Slowly, the government, in conjunction with the private sector and academe, targeted parts for import substitution, such as CD-ROMs and TFT-LCDs.⁴ But instead of giving tariff protection to new part producers, the government gave them stronger subsidies and technical services in the form of government R&D and science parks.

From Import Substitutes to Exports

Whatever the stage of development, import substitution has tended to occur *before exporting*, according to country reports.⁵ Economists separated import substitution and export-led growth analytically, as though they were bi-polar

³{Shapiro, 1994 #335, pp. 81-83}

⁴ TFT-LCDs are thin film transistor liquid crystal displays.

⁵ The sources of the quotations in this section may be found in {Amsden, 2001 #727}.

opposites, one bad, one good, but the two were tightly intertwined insofar as one preceded the other. 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." 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." 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." 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." In Mexico, the chemical, automobile and metalworking industries were targeted for import substitution in the 1970s and began exporting 10%-15% of their output in the 1980s. "Much of the rise in non-oil exports during 1983-88 came from some of the most protected industries." 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."

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." 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." 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.

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." 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 forced 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." In Thailand, approximately 50% of exports (excluding processed foods) in 1985 emerged out of import substitution. 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)."

Decades later, China's leading firms were also first building their capabilities through import substitution, and only then venturing into export markets. TCL was formed in 1981 with a \$5,000 loan from a local government in Guangdong province, and became a leading Chinese brand name in TVs, personal computers, air-conditioners and cell phones. TCL "aims to become a global household name, but first it has to succeed at home," where it faces local competitors battling for turf on the basis of low wages, and multinationals leveraging their reputations and know-how. "What TCL lacks, as with most Chinese consumer electronics companies, is proprietary technology, something it aims to rectify with the establishment of five

research and development centres, including one in Guangdong with 700 researchers.”⁶

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 firms searching for a lower wage locale than Japan to produce their parts and components. This sequence was also true of most of the Third World’s diversified business groups, which was the model of big business after World War II in Asia, Latin America and the Middle East given their absence of proprietary technology. These groups typically first began serving the domestic market and then diversified into exporting.

Simply exporting proved to be too tough a first step for firms lacking original know-how or connections to advanced-country markets, no matter what the Enlightenment Fathers and market theorists said. Subsidization of domestic capacity was the only practical policy to stem the hemorrhaging in the balance of payments, and to industrialize without world-class technological skills.

Unfortunately, government economic intervention is typically vulnerable to corruption, abuse, and inefficiency. “Government failure” may be as detrimental to development as “market failure.” But the presumption that governments

⁶ {McGregor, 2001 #2430}.

simply throw subsidies around without any controls on them turns out to have been misguided.. What lay behind successful postwar industrialization was a monitored system of controls on subsidies. Neither import substitution nor export-led growth was a free-for-all.

Performance Standards

To minimize the inefficiencies of import substitution, countries built a complex set of institutions that amounted to a control system. These systems attached performance standards to subsidies, including the tariffs, entry restrictions, and cheap credit that governments gave away to pioneering enterprises. Just as developed countries gave innovators patents by way of an incentive and reward, developing countries gave learners protection and other financial aids, but not for nearly as long as the duration of a patent, and not for nearly the same amount of imperial support. The guiding principle of the best bureaucracies--- politics permitting---was to give nothing away for free. Reciprocity was the ideal. If the government gave a firm a financial incentive, the firm would have to give something back to the government in exchange, like reaching a certain export target, or output level, or investment rate, or management practice.

The development bank, flag star of the developmental state, subjected its clients to monitorable performance standards.⁷

In the case of Brazil's preeminent development bank, BNDES,⁸ its contracts with borrowers stipulated clear and comprehensive performance obligations. A contract with a leading pulp and paper manufacturer in the 1970s, for example, stated that the company had to prove that it had hired a Brazilian engineering company to do the detailed design for an expansion; BNDES had to approve the company's general plans to establish an R&D Department; the company had to have its technology contracts registered with the appropriate government organization to insure that they were not overpaying for foreign technology. Another company had to hire two consultants (one Swedish, one Finnish) and these consultants had to approve the company's choice of technology. BNDES had to approve the company's contracts with the consultants.

A contract for financial strengthening between BNDES and a leading capital goods manufacturer, 1983-1986, specified that 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. Another capital goods supplier had to show BNDES a plan for relocation of certain production capacity, improvement of productivity and strengthening of

⁷ See {Amsden, 2001 #727}.

⁸ Banco Nacional des Economie et Social.

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 company's 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 a steel contract for expansion, the steel maker was required by BNDES 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 upgraded with a view towards reducing its number of personnel as well as inventory, according to pre-specified benchmarks.

With respect to finance, BNDES made clients reach a certain debt/equity ratio and liquidity ratio to insure financial soundness. The debt/equity ratio (amount of debt a company carried in relationship to the equity it held) was based on American banking standards, possibly because the US had been an early lender to BNDES. Brazil's debt/equity ratio was low by East Asian standards---typically debt could not exceed 60% of total assets . Hence, "large" Brazilian companies tended to be small by East Asian standards, whose debt equity ratios were around 3.1 or even 4.1 Through its performance standards BNDES could thus influence firm size. Bank 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 non-production related assets.

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 towards 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."

In all countries, performance standards with respect to policy goals, as distinct from technical goals, were specified at the highest political level; bureaucrats only implemented them, but this gave them a lot of power. Export expansion was a major policy goal and performance standard.

South Korea, with the world's highest postwar growth rate of exports, induced firms to become export-oriented by making their subsidies---especially tariff protection of the domestic market---contingent on achieving export targets.

In exchange for tariff protection, firms had to reach a certain export goal. This reciprocity was negotiated jointly by business and government and aired at high-level monthly meetings, as in Japan. 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. Reciprocity also involved long-term policy 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." The more a company exported, the more likely it was to receive cheap, long-term loans. 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. 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 1965-1985.

The reciprocity principle in Korea operated in almost every industry. In electronics, for example, a publication from Japan's trade organization, JETRO, states "the question could be asked why the chaebol (big company)-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."

Taiwan, with the world's second highest growth rate of exports, 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. Permission to sell in Taiwan's highly protected domestic market was made conditional on a certain share of production being sold overseas. 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% of their output (only parts producers succeeded).

Other countries also connected subsidies with exporting, only in different ways and with different degrees of success. Thailand's Board of Investment changed its policy towards 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. In

terms of labor "exports" of high-tech managers from Japan to Thailand, to run Japan's Thai subsidiaries, the government allowed only short-term import contracts so that Japanese companies had to train Thai replacements.

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 non-traditional 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. Moreover, joint venture banks and branches of foreign banks were required to allocate at least 50% of their total loans, and 80% of their offshore funds, to export activity (a policy that the East Asian financial crisis of 1997 destroyed).

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 believed 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 government policy to agree only to a capital increase by forcing companies to take on export commitments. The government held 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 and export quotas were regarded as an incentive to increase efficiency.

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% on their feedstock in exchange for their willingness to export at least 25% of their installed capacity and maintain permanent employment (the debt crisis of 1981-82, however, led to the cancellation of this plan). Then, the North American Free Trade Agreement and American investment stimulated a surge in exports to the US, to the exclusion of almost any other country.

In Brazil, a program authorized duty free imports in exchange for export commitments. The Brazilian government established the 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. It was in tune with Brazil's export promotion policies since the late 1960s. 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. The transport equipment industry especially was helped by this reciprocal arrangement. By 1990, it is estimated that 50% of Brazil's total exports were covered by reciprocal incentives.

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% of their output---but few did because they lacked the capital to restructure. In 1970, export obligations were introduced for various industries; industries or firms were required to export up to 10% of their output. But the government couldn't enforce many export requirements except possibly in industries that were already export-oriented, like garments and software. In the case of software, for example, the right to import computers was dependent on software exports within a certain number of years after purchase.

Performance standards were thus an antidote to abuse and inefficiency in government intervention. They hardly worked perfectly. But because the technological capabilities of developing countries were weak, governments conceived a new and unique system of controlled intervention

to promote industrialization. The rapid skill formation and industrialization in a few countries that consequently occurred in the thirty years after World War II are a tribute to a generation of managers and bureaucrats who worked diligently, and with little disabling dishonesty.

Monitoring

As development banks imposed operating 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. Development banks undertook careful appraisals of prospective clients, examining their managerial and financial status, past performance and the merits of their proposed project. 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". 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."

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 towards 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. 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.

Where the capabilities of borrowers---and lenders--- were poor, the quality of development banking also suffered. 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 a vis Malaysian Chinese entrepreneurs, operations were hampered by "the poor performance of many debtors." A failure rate on loans of about 30% was reported because of a shortage of viable projects. But even the best projects did not properly prepare their business proposals. Hence, Bank Industri "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 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

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 period.

In the case of Mexico's development bank, NAFINSA (data on NAFINSA were destroyed in an earthquake), its "*técnicos* became a respected voice in government affairs....Its influence has been diffused throughout the Mexican economy.

Since its founding 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". Concerning Brazil's BNDES, it had "a strong sense of institutional mission, a respected 'administrative ideology' and a cohesive esprit de corps." 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."⁹

The Best and the Brightest

We are now in a position to offer a reason why some developing countries performed better than others and what, if anything, that implies for the world economy.

The top ten latecomers that joined the orbit of modern world industry all had prewar manufacturing experience, as measured by the share and diversity of manufacturing activity in their gross national products. However scarce their engineers, they knew something about production and

⁹ [Willis, 1990 #1147, p. 17], [Oreffice, 1970 #1185, pp. 122, and 126], {Blair, 1964 #1109}.

project execution. Their managers had a working knowledge of accounting and finance. The countries with the most prewar manufacturing experience included Brazil, Chile, China, India, Indonesia, Malaysia, Mexico, Taiwan, Thailand, and Turkey. Many of these had a relatively large domestic market (the markets of two, China and India, were tremendous, measured by population), but all had production and project execution capabilities. This enabled them to take the first big steps toward import substitution and export-led growth ahead of other low-wage competitors.

The definition of "manufacturing experience" emerges out of the development experience itself. Writing about Indonesia's millions of peddlers, Muslims who were energetic and enterprising but failed to expand, Clifford Geertz, a renowned anthropologist, writes that "what they lack is the power to mobilize their capital and channel their drive in such a way as to exploit the existing market possibilities. They lack the capacity to form efficient economic institutions; they are entrepreneurs without enterprises."¹⁰ Manufacturing experience should thus be defined as the ability to establish and operate efficient enterprises (in the manufacturing sector).

Without prewar manufacturing experience, investments from private sources failed to materialize; no one wanted to lend money to an entrepreneur without a good reputation and know-how, as in many parts of Africa. Loans from

¹⁰ {Geertz, 1963 #1878, p. 163}.

development banks were squandered and wasted because the chances of financial success were perceived by the borrower to be small---it was hard to come up with any sensible business plan, so plans failed or entrepreneurs took the money and ran. What was borrowed wasn't repaid, and the development bank itself went broke. As poverty destroyed the dreams and expectations that national independence had inspired, poverty itself made economic growth more difficult. Many African and Latin American countries were trapped when they tried producing anything other than their traditional cash crop. By contrast, in countries that had accumulated manufacturing experience before the war, capital came out of the woodwork. Managerial capabilities convinced investors that their money was in good hands.

The source of prewar manufacturing experience differed among the top ten. No one pattern held for all. India, China and Turkey were former empires (Mughal, Chinese and Ottoman), so manufacturing experience went far back in time. Later, under imperial rule, India and China developed modern, noisy, busy textile mills owned by Indian and Chinese nationals, with foreign technology transfer. Turkey's know-how partly came from Europeans who had lived in the Middle East for centuries, as in the silk industry of Bursa. Argentina, Brazil, Chile and Mexico had acquired know-how from émigrés and later foreign firms---Pirelli, as early as 1917, became the first Italian multinational to invest in Argentina.

A very popular teacher in Asia of manufacturing know-how was Japan, although Japan's militarism had an ambivalent effect. During the war, when Japan had taken control of Vietnam, the Japanese army needed what transportation lines Vietnam had in order to move food and war materials for its own troops. Rice didn't make it to the North, and of 10 million North Vietnamese people, one million died of starvation. Japan invaded China's Manchurian province in 1938 and established some heavy industries there, such as coal mining and steel making. Today, many Japanese plants still operate in China, as do Japanese trolley-cars from the 1930s. New heavy industries in Manchuria have also grown, such as the First Auto Works and automobile joint ventures. Because Korea and Taiwan were Japanese colonies, they were used as beachheads for foreign invasion---Korea into Manchuria and Taiwan into Southeast Asia. When Japan conquered Manchuria, Korean businessmen cheered. Japanese investment in the late 1920s provided Korean entrepreneurs with diverse know-how. Koreans sat on the boards of directors of Japanese regional companies. They rose almost to the top in some banks. Many worked in cement plants and textile mills. Taiwan experienced a big jump in manufacturing activity when Chinese entrepreneurs, mostly from Shanghai, fled communist China after 1948 and resettled in Taiwan, Hong Kong and Singapore.

Japan also influenced the industrialization of other Asian neighbors. The Japanese military and the Thai

military worked together in the 1930s, gaining experience in building a few ordnance factories. A crown company held a monopoly in manufacturing cement. Thailand's agriculture had a high level of market activity, which was conducive to the growth of trade. In turn, a financial services industry arose out of trade, from which came new businesses, including textiles.

As Japan's war drums beat harder in the 1930s, European Empires industrialized their Asian colonies in order to fortify them from Japanese attack. The Dutch began to arm Indonesia, and when Dutch property was finally nationalized starting in 1957, the Indonesians inherited a rich laboratory for learning: 489 Dutch corporations, including 216 plantations, 161 mines and industrial establishments (GM had opened an automobile assembly plant in Indonesia in 1927), 40 trading firms and 16 insurance companies.

Malaysian companies first emerged out of mining (tin and rubber) and agro-industry (copra oil, palm oil and pineapples). From these industries emerged British conglomerates, and the top 5 owned as many as 220 manufacturing enterprises until they were taken over on the London Stock Exchange by the independent Malay government. A heavy engineering company had arrived in Malaya as early as 1881, making Malaysia's manufacturing experience over 100 years old.

Some countries had prewar manufacturing experience but it was narrowly focused on a single industry, such as

Venezuela (petrochemicals), the Philippines (agro-industry), and Egypt and Pakistan (textiles). Even the smallest, poorest countries got a powdering of import substitution industrialization after the war, in foodstuffs (beer and flour), building materials (rolled steel and cement), and consumer non-durables (matches and ceramics). But these investments went nowhere, along the same sorry trail as the import substitution of some big countries (Pakistan and Bangladesh). The ten latecomers with the most manufacturing experience not only included many with large markets, but also "extra-large" markets (Brazil and Indonesia) and "super-large" markets (China and India), but also some small countries (Malaysia and Taiwan). However diverse, every single country that industrialized after World War II had accumulated prewar manufacturing experience. Whatever the popularity in the past of explaining success by culture, macroeconomic policy, ethnic homogeneity, education or political stability, it is now clear that manufacturing experience mattered.

Conclusion

The First American Empire took a relaxed and flexible economic policy stance towards developing countries, enabling them to deviate from free markets and the export-led growth model that had failed for over a century to give them high incomes. The US meddled economically at the Third World's borders, influencing its tariffs and capital flows,

but not *beyond* them. Within their borders, developing countries determined their own fate, under a new educated elite, a private and public cadre of bureaucrats, managers and engineers. All recognized that exporting anything but natural resources or the most unskilled manufactures meant having to compete against multinational corporations from developed countries with monopolistic powers. But latecomers---even latecomers with manufacturing experience--couldn't compete until they had accumulated know-how through import substitution. They took upon themselves the challenge of import substitution, manufacturing domestically what they had formerly imported. Thus, instead of producing according to their comparative advantage, as determined by the supply side, they produced according to their balance of payments, as determined by the demand side. David Ricardo stepped aside for John Maynard Keynes.

Import substitution gave rise to industries such as textiles, cement, steel, heavy electrical equipment and automobiles. These industries demanded mid-level managerial know-how, and created high-wage jobs and salaried professionals. To induce entrepreneurs to invest, the developmental state gave them a battery of incentives, including low-cost credit and tariff protection. The government also recognized that if these subsidies were to be used efficiently, a system was necessary to impose performance standards in exchange for subsidies. The goal

was to give away nothing for free. The principle was reciprocity.

With intense government promotion, import substitution was efficient enough to generate diverse manufactured exports. Export targets became a performance standard in and of itself (in exchange for protection of the domestic market, firms had to meet export quotas). In the leading economies, import substitution and export-led growth became one, instead of opposites---good and evil---the way they were disparaged in academic and policy circles.

The Third World's climb up the ladder of comparative advantage after World War II turned out to be highly innovative and original. The linkage of performance standards to subsidies changed the way government intervention worked. Instead of handouts, subsidies became incentives for greater productiveness. Instead of "government failures," the economic interventions of government, under conditions of reciprocity and bureaucratic elitism, led to learning, and the accumulation of manufacturing experience for the next generation. The Third World countries that now make a difference in the world economy all came out of this process.

Corruption dogged import substitution (and laissez-faire), but accusations of corruption are difficult to confirm. When a granary is mysteriously emptied of food as prices begin to rise due to shortages, that's corruption (as happened during a famine in Malawi in 2004). When a

government gives an industrial license to a friend, but a friend that is highly efficient, that is not *quite* corruption (President Park Chung Hee chose the Hyundai group to build Korea's large-scale ship yard because Hyundai's owner, a nationalist like Park, had transferable experience building large-scale civil engineering works). When a multinational firm relies on Washington to get a favorable policy from a Third World government (as in the Mexican automobile industry), that is referred to as imperialism, not corruption! Transparency International, respected for its corruption data, interviews hundreds of managers to identify the most corrupt countries, such as Egypt. But it fails to be even-handed and interview hundreds of government bureaucrats to identify the most corrupt companies, such as Enron or Newmont Mining Corporation, a giant that extracts coal, copper, gold and natural gas throughout the Third World, polluting drinking water and air, and violating the regulations of honest environmental ministers and grass root groups. TI's data are as fuzzy as the phenomenon of corruption itself.

Corruption also varies by industry. In the early postwar years, corruption-free zones were created by developmental states by subjecting new industries, mostly manufacturing, to performance standards. The chance for corruption in these fledgling sectors was much less than in the Third World's goldmines, where entry barriers and profits were very high, like real estate, forestry, rare

metals, construction and telecommunications. Manufacturing is not immune from corruption (tax evasion is a prime example). But given performance standards, and domestic competition, there is little to suggest that, assuming a rise in corruption over time, it was due to industrial policy. Mexico's corruption scandal in 2003 was probably typical. A hidden camera caught the assistant of Mexico City's popular leftist Mayor, Lopez Obrado, accepting wads of cash from a businessman seeking construction contracts. Another aide was accused of taking public money for lavish gambling trips to Las Vegas.

Late industrialization was part of the Golden Age of capitalism. Growth rates of industry and GNP for 35 years after World War II rose faster than ever before in recorded history (see Table 1.1). Between 1950 and 1980, the average growth rate in *developing* countries rose faster than in developed countries. Using an unorthodox system that met the needs of the underdeveloped world, the tropics finally began to raise its living standards.

It thus comes as a shock that in 1979 the axe fell. Just as capital, in the form of "Petrodollars," began flowing copiously into the Third World to finance its long-awaited investments, the world economy exploded. The US itself had a huge and unsustainable deficit in its balance of payments due to its Security Empire, which was on the way out, bringing weaker economies down with it. For the first time, developing countries shaped the course of history---

Vietnam and OPEC---and played an unexpected role in forcing a mighty Empire to its knees. The world had changed from 1950 to 1980, and would again change sharply thereafter.