Getting Relative Prices “Wrong”: A Summary

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Abstract and Keywords

According to accepted economic theory, industrial expansion can be explained by one of two grand approaches, market oriented or institutional, and success is usually interpreted as a validation of market principles and of the institutions financially supporting them. In South Korea, in contrast, the government made most of the pivotal investment decisions, the firms involved operated with an extraordinary degree of market control, protected from foreign competition, and relative prices were not got right, they were deliberately got wrong. This chapter offers a new paradigm to explain the behavior of the growing economies of late industrializing countries, based on the historical record of deliberately getting prices wrong, and the disciplinary mechanism involved.

Keywords: discipline, economic development, economic growth, government control, industrial expansion, late industrialization, market competition, market control, market power, price control, prices, South Korea

Failure of the Market Paradigm
Korea is an example of a country that grew very fast and yet violated the canons of conventional economic wisdom. There are many ways to analyze industrial expansion, but most can be grouped into one of two grand approaches—market oriented or institutional. It is well recognized among economists that the market-oriented approach represents a coherent body of economic “laws” or tendencies. Although these laws have largely been formulated to explain resource allocation or economic efficiency, rather than economic growth, they are considered sufficiently dynamic to analyze industrial expansion. So deep is the belief in the explanatory power of these laws, so firmly held the conviction that if, and only if, they are free to operate will industrial expansion succeed, that any departure from them, whether in theory or practice, tends to be discredited, dismissed, disregarded, or disbelieved. If industrial expansion succeeds, success is typically interpreted as being a validation of market principles and the institutions financially supporting them. If it fails, failure is seen as a result of the violation of market principles, perpetrated by perverse institutions.

In Korea, instead of the market mechanism allocating resources and guiding private entrepreneurship, the government made most of the pivotal investment decisions. Instead of firms operating in a competitive market structure, they each operated with an extraordinary degree of market control, protected from foreign competition. Nevertheless, most economists who recognize these realities greet them with an unfailing faith in market laws. They suppose that while state interference in Korea is pervasive, the economy operates with a set of relative prices that is not greatly distorted. In fact, little evidence supports this presumption. As was explained in Chapter 1 and illustrated in Chapter 3, not only has Korea not gotten relative prices right, it has deliberately gotten them “wrong.”

(p.140) Nor is Korea an isolated case. It is part of a general group of countries that I have termed late industrializers. These are countries that either just before or during the twentieth century began to grow from agricultural economies to industrial ones at what are now considered to be rapid rates. In Asia, the group includes Japan, Korea, and Taiwan (although not the city-states of Hong Kong and Singapore, which never transformed themselves from an agrarian base). Beyond Asia, other late industrializers are Brazil, Turkey,
India, Mexico, and possibly Argentina. There is, of course, disparity in the economic record even among them, and what makes Korea especially interesting is its sterling performance. Just as their growth rates differ, so do the institutions of these emulating countries. Nevertheless, in broad respects the institutions of late industrializers have exhibited the same central tendencies, to the extent that an economic paradigm can be identified that is institutional in character and categorically distinct from the market model. It is suggested here, therefore, that the economies of these late-industrializing countries behave according to economic laws that constitute a new paradigm.
The Insufficiency of the Schumpeterian Alternative
There is nothing unique in offering an alternative to the venerable market model. The Schumpeterian view of industrial expansion is one such alternative, and it has commanded the respect of many economists to the degree that it is regarded by them as more than an appendage to traditional theory. Nevertheless, the Schumpeterian world view pertains to a set of socioeconomic conditions that originated in the Second Industrial Revolution. It was these historically specific conditions that inspired Schumpeter's ideas. These conditions were defined by the rise of the modern industrial enterprise—what Chandler calls the multidivisional firm—operating large-scale plants on the basis of managerial hierarchies. Simultaneously, the conditions included a transition from invention, which is defined here as the hallmark of the First Industrial Revolution, to innovation, defined here as the hallmark of the Second. At the time Schumpeter was writing, technical discoveries had ceased to be the property of individual inventors owning and managing small-scale firms and had begun to be commercialized on a massive scale by big business.

Late industrialization shares some of the conditions of industrialization in Schumpeter's period. It is also characterized by multidivisional firms operating large-scale plants on the basis of managerial hierarchies. Furthermore, big business, although organizationally distinct, is no less the dominant force that it was in the economic expansions that rocked Germany and the United States starting in the 1880s. However, what is conspicuously absent from late industrialization is innovation. Late industrialization, as defined in the foregoing chapters, is devoid of innovation and occurs on the basis of learning. Learning involves borrowing, adapting, and improving upon foreign designs. The Schumpeterian model provides insights into the process of late industrialization, but it cannot penetrate a process of industrial expansion in which the dynamic of new technical discoveries is missing. Thus, while there is nothing unique in offering an alternative to the venerable market model, the alternative that is offered here to explain late industrialization differs from any offered before.

The Historical Record: Deliberately Getting Relative Prices “Wrong”
In honor of one crucial difference between the two paradigms—the market oriented and the institutional—one may use the terms *market conforming* and *market augmenting* to describe their respective overarching policies. In the context of late industrialization, market conformance refers to the minimum amount of government intervention necessary to get relative prices right. In “backward” countries some government intervention is believed to be necessary to correct existing market distortions, and proponents of the traditional view hold such distortions responsible for the delay in growth. The government is supposed to intervene only to liberalize markets from its own controls. Thus, Korea’s economic success is attributed to a series of liberalizations introduced just prior to “takeoff.” In or around 1965, the Korean won was devalued, interest rates were raised, tariffs were lowered, and taxes were increased (similar reforms were introduced in Taiwan).

As Fischer has noted, “A big event must have big results, we think. But this is the fallacy of identity” (1970, p. 223). The view that growth followed liberalization is based on such a fallacy. The events comprising liberalization occurred, but in conjunction with other policies, so that the logic driving Korean industrialization was not the freeing of markets. The historical record looks different depending on which paradigm one chooses. The historical interpretation set out in the foregoing chapters is the one that is summarized below.

The histories of late-industrializing countries differ. Those of Japan and Korea, for example, differ to the degree that one was the other's colony. But even among former colonies, there are differences. (p.142) The involuntary “modernization” of Korea by Japan, although subject to exaggeration, has possibly given Korea an edge over other backward countries in terms of physical infrastructure in basic industry. Nevertheless, all late-industrializing countries that are former colonies tend to share the characteristic of a long history during which their economies were subject to free trade and to the pursuit of static comparative advantage, usually agricultural. From this perspective, the delay in growth in late-industrializing countries arose not from distorted prices but rather from the exemplary play of market forces. Growth began to accelerate when the central authority, once too weak to defend itself against foreign aggression, became strong enough to mediate market forces to advantage. In Korea, this transformation from weak state to strong state took almost a century. At the end of
that period, and of foreign rule, South Korea had been separated from its northern half and was soon ruled by an oversized army, both the consequences of the Cold War.

Come the 1950s, Korea benefited from U.S. aid, even though most of it was designated for consumption and the aid designated for projects was subject to poor administration on both sides. The Korean economy was also routinely subject to interference from U.S. aid advisors, who put stability before growth when a century of Korean history suggested the precondition of growth for stability. The military government that seized power in a coup in May 1961, therefore, inherited a depressed economy, partly as a consequence of tough stabilization measures imposed in the late 1950s. The new government began by nationalizing all banks—aid advisors having persuaded Syngman Rhee to denationalize the banking system in the 1950s—and introducing emergency measures to stimulate the economy. These measures rekindled inflation (to around 30%) and were hostilely received by the aid administration. The liberalization reforms may be seen as an appeasement in reaction to threats by aid advisors to withhold food assistance until Korea deflated.

This period in Korea’s history has been mined for information on the origins of Korea’s economic miracle. Few studies, however, have descended to the industry level where more detailed information exists. In Chapter 3, we examined this period in Korea's history through the lens of its leading sector, cotton spinning and weaving.

In this industry one sees what for Korea at the time were integrated, large-scale firms employing management techniques that were modern by the standards of other industries. Firms were organized into a cartel that wielded substantial political power. However, in the early 1960s, the industry was suffering from excess capacity, not necessarily because import substitution had outgrown its “easy” stage [p. 143] but because most textiles firms had built excess capacity to take advantage of subsidized U.S. aid-related loans in the 1950s.

An analysis of the cotton textile industry sheds light on some long-standing debates in development economics. One debate relates to the role that aid advisors and the Bretton Woods institutions played in persuading Korea (and Taiwan) to orient
their economies toward what were considered to be more market-conforming export activity. In this regard, it is noteworthy that cotton spinners and weavers were prohibited by U.S. law from exporting until the mid-1960s. Congress did not want countries receiving U.S.-subsidized raw cotton to export cotton products. Thus, the United States can hardly be credited with consistent support of export-oriented growth.

Another debate relates to the market-conforming paradigm, which says that countries need only get relative prices right and follow their comparative advantage in order to export. Pre-World War II history provides no example of an emulator that used relatively low wages as the exclusive entree into world markets. Neither Germany nor the United States overtook Britain on such a footing. They overtook it on the basis of superior technology and organization. As for Japan, it invaded Lancashire’s markets for textiles in the 1920s on the basis of better trading companies to procure raw cotton, more modern equipment, and a more integrated process flow, as well as on the basis of lower wages. Beginning with Korea and Taiwan, late-industrializing countries were the first to attempt to penetrate world export markets with little more competitive advantage than low wages. As such, they represented a truly new international economic order.

However, analysis of Korean cotton-spinning and weaving firms suggests that they found low wages insufficient as a basis on which to compete against Japan. Even in a relatively labor-intensive industry like cotton textiles, which indisputably gave the comparative advantage to low-wage, “backward” countries, firms appear to have required subsidies to begin to compete in world markets. The Korean government offered generous subsidies to stimulate exports, including subsidized long-term loans to targeted industries and firms that are not included in calculations of the “effective exchange rate.” This rate, therefore, understates the true degree of government support. The Korean government offered generous subsidies first as a response to the political demands of the spinners’ and weavers’ cartel, later as an article of faith in an industrialization strategy.

The subsidy serves as a symbol of late industrialization, not just in Korea and Taiwan but also in Japan, the Latin American countries, and so on. The First Industrial Revolution was built on laissez-faire, the Second on infant industry protection. In
late industrialization, the foundation is the subsidy—which includes both protection and financial incentives. The allocation of subsidies has rendered the government not merely a banker, as Gerschenkron (1962) conceived it, but an entrepreneur, using the subsidy to decide what, when, and how much to produce. The subsidy has also changed the process whereby relative prices are determined.

Industrial expansion depends on savings and investment, but in “backward” countries especially, savings and investment are in conflict over the ideal interest rate, high in one case, low in the other. In Korea and other late-industrializing countries, this conflict has been mediated by the subsidy. Throughout most of the twenty-five years of Korean industrial expansion, long-term credit has been allocated by the government to selected firms at negative real interest rates in order to stimulate specific industries. The high real interest-rate policy that started in 1965—in the spirit of liberalization—ended in 1972 with a return to low real interest rates. However, even during those seven years, domestic savings were never sufficient to meet investment demand. The government, therefore, arranged long-term international credit for favored firms at rates far below those obtainable domestically. Thus, the government established multiple prices for loans, only one of which could possibly have been “right” according to the law of supply and demand. Moreover, the most critical price—that for long-term credit—was wildly “wrong” in a capital-scarce country, its real price, due to inflation, being negative.¹

As for the foreign exchange rate, another key relative price in economic expansion, it has also been deliberately distorted by late industrializers, which need a high rate to export and a low rate to repay foreign debt and to import raw materials and producer goods that cannot yet be produced domestically. In Korea, exchange rates were not grossly distorted, but they did succeed in stimulating exports only when they operated in conjunction with other policies. Exports have been heavily subsidized and coerced, so inside the range of reasonableness, the relative price of foreign exchange has been altogether irrelevant. According to a survey of exporters in the mid-1970s that was conducted under the aegis of the World Bank, over half of the respondents claimed that export quotas had a negative overall effect on their firms. Exporters, however, were compensated for having to export by being allowed to sell in the domestic market at inflated prices. Such
prices were distorted due to protection. Thus, tariff barriers and nontariff barriers have comprised a key ingredient in Korea's industrial policy. Even imports “liberalized” in the mid-1980s are subject to an average tariff rate that may approximate 30%.

When “Wrong” Is Right
Although Korea industrialized on the basis of relative prices that deviated sharply from free-market equilibria, such prices were less “distorted” and provided big business with fewer bonanzas than prices in India, Turkey, and the Latin American late-industrializing countries. Why?

If one believes that Korea began to grow rapidly in the 1960s as a result of “liberalization,” then its adoption of relatively freer prices must be attributed to an embrace of market theory by Korean policymakers, coached by foreign experts. Yet an examination of cotton textiles suggested that the policy regime that Korea eventually adopted evolved out of a complex process in which the interests of opposing groups were reconciled, not out of theoretical conviction. One dimension of this conflict was a strong enough government to impose performance standards on the interest groups receiving public support. The insistence on performance standards by the government induced a level of productivity, and willingness to invest on the part of the private sector, that made greater price “distortions” unnecessary, and the ample price “distortions” that did exist more effective.

Therefore, it may be said that growth has been faster in Korea not because markets have been allowed to operate more freely but because the subsidization process has been qualitatively superior: reciprocal in Korea, unidirectional in most other cases.

The Disciplinary Mechanism
Economic paradigms are largely defined by the internal mechanism that is built into them to exert discipline over firm behavior. In the case of the market paradigm, discipline is dispensed by the invisible hand. With the subsequent erosion of competitive market structures that were consistent with the market paradigm, Schumpeter analyzed a new basis for competition, a new mechanism to discipline firm behavior. He recognized such a disciplinarian in technological change. It
was the creative gales of new technological discoveries that uprooted old monopolies and increased productivity, not steadily but in great spurts.

There is no mechanism in the market-augmenting paradigm that (p.146) is equivalent to the invisible hand or to technological change. To the extent that oligopolists the world over compete, oligopolists in late-industrializing countries also compete, although the dimensions that they compete along relate to their status as learners. However, there is no neat mechanism in the market-augmenting paradigm that can be relied on to drive firms to be productive, because growth itself does not happen automatically. Growth in late-industrializing countries depends on government intervention to augment supply and demand.

Few aspiring emulators of the Korean expansion appreciate just how diverse subsidies have been, just how pervasive protection is, and just how encouraging government support continues to be in Korea, including bailouts and expansionary rather than contractionary policies in times of external shock (see the discussion in Chapter 4). With such discretionary power under the control of mere mortals, two questions arise: What mechanism will discipline subsidy recipients? And no less pertinent, What mechanism will discipline the donor of subsidies, the awesome state itself?

All paradigms have their hidden premises, a large number of firms confronting one another in the same industry in the case of the market-conforming paradigm, an undulating stream of new technological discoveries in the case of Schumpeter's. Although the market-augmenting paradigm does not have an automatic disciplinary device, it nonetheless has a premise on which industrial expansion depends. The premise of late industrialization is a reciprocal relation between the state and the firm. This does not simply mean close cooperation, which is sometimes the way business-government relations in Korea and Japan are simplistically depicted. Nor does it simply mean that sometimes the government wields the carrot and at other, unrelated times, the stick. It means that in direct exchange for subsidies, the state exacts certain performance standards from firms. The more reciprocity that characterizes state-firm relations in these countries, the higher the speed of economic growth.
Reciprocity in Korea was in no way free of corruption. No business in Korea could survive for the past forty years if it challenged the government politically. None could make it big if it did not support the government financially. Yet for all the venality, the evidence presented in later chapters suggests that beginning in the 1960s, the government's favorite pets—the big business groups that came to account for so large a share of GNP—were outstanding performers from the production and operations perspective. What with export targets—an objective, transparent criterion by which firm performance is easily judged—price controls, restrictions on capacity expansions, limits on market entry, prohibitions on capital flight, restraints (p.147) on tax evasion, and government control over the banking system, the big business groups had to deliver.

The presence of discipline in Korea and its absence elsewhere does not reflect differential abilities among policymakers. It reflects differences in state power. The state in Korea was able to consolidate its strength with respect to both business and labor for what appear to be historical reasons. In the early 1960s there were no financiers to challenge the government's power because the state-owned banking system of the colonial period was renationalized; the business community was as weak as the financial community and beholden to the state for largesse; the working classes were small in number; and the countryside, through a land reform, was devoid of large landholders. In other late-industrializing countries such landholders challenge the state's authority or seduce it into rent-seeking. It is no coincidence that growth has been especially fast in Japan, Korea, and Taiwan, countries which all have reciprocal subsidy systems and which all have had land reforms.

Finally, it bears emphasizing that Korea has grown very rapidly and has done so on the basis of nationally owned firms. Even the first liberalization that the Korean economy underwent—in the mid-1960s—was notable for its omission of market-conforming measures that would have allowed an inflow of direct foreign investment. Korea, at the time, was too fearful of Japanese competition to open its doors to foreign equity ownership. There are fewer multinationals in Korea than in almost any other late-industrializing country, possibly
even India. This has almost certainly made it easier for the state to discipline private sector firms, not least of all in the buildup of a domestic science and technology capability.

Developmentalism: A Research Agenda
It is frustrating to model builders in “backward” countries to learn that Korea’s success rests heavily on a strong state (one that is capable of implementing its own policies). It is frustrating because countries are “backward” mostly because their state is weak, an argument taken up in the first two chapters. The beauty of the market-conforming paradigm supposedly lies in its minimalist requirements of state activity. In principle, it promises industrial expansion if the state is strong enough merely to provide enough political stability for long-term investments, to point prices in the right direction, and then to exit.

Nevertheless, it would be altogether ahistorical to think that getting relative prices “right” requires any less strength on the state’s part than getting them “wrong.” “Backward” countries in search of a model to guide them do not present themselves as a tabula rasa. They have entrenched interest groups that would be hurt if relative prices were “freed” of distortions. Devaluations hurt firms by raising the cost of imported inputs. Upward adjustments in interest rates hurt investors. Equating of revenues and expenditures in the government budget threatens the livelihood of social welfare recipients, and so on. Whether one attributes the acceleration of growth in Taiwan and Korea to getting relative prices right or wrong, either outcome required strong state management, which is precisely what “backward” countries lack.

The policies that comprise the market-augmenting paradigm are heterogeneous, in keeping with the diverse tasks that states must perform to accelerate growth. In “backward” countries, the level of international competition, the technology gap, the investment barriers and savings deficiencies, are all so problematic that, without government intervention, little ever gets done to address these hurdles. The art is to get something done with intervention. A strong state is as dysfunctional as a weak one if it uses its power only to enrich itself. What, then, will discipline the state?
A disciplined (or developmental) state refers to one that advances capital rather than accumulating it, or at least does not allow its own enrichment to derail the development effort, as in Korea. The rise of developmentalism, as well as the relationship between it and democracy, eludes easy explanation (unenlightened much by the classical economists who focused on “rent-seeking” by private business, not the state). External threat, militarism, and few raw materials may have predisposed the Korean and Taiwan states to industrialize, but a state like Chiang Kai-Shek's refused to spend a dime on economic development until Taiwan demonstrated its economic potential (and retaking the Mainland proved fanciful) (Amsden, 1985). What remains to be analyzed in Korea's case is why, led by the student movement, the population has revolted at a low threshold of tolerance against states that overly abuse their power.

The relationship between developmentalism and democracy is complex, because reciprocity in the allocation of subsidies requires a strong state vis a vis business, not necessarily labor. What awaits systematic analysis is how much labor repression is critical for rapid growth. This question is intriguing in Korea's case because, as discussed in Chapter 8, average real wages have risen faster in Korea than in all other late-, and possibly earlier, industrializing countries.
Partly as a consequence of the theorocentric interpretations that many Western economists gave of Japanese economic growth, recognition of a unique economic paradigm in late industrialization was slow in coming. A major study undertaken by Kazushi Ohkawa and Henry Rosovsky was reasonable enough in its objective: “To fit Japan's experience into an historical growth model of the type familiar to economists” (1973, p. 1). A volume on “Asia's new giant,” edited for the Brookings Institution, went further: “We gently suggest that Japanese growth was not miraculous: it can be reasonably well understood and explained by ordinary economic causes” (Patrick and Rosovsky, 1976, p. 6; my italics). A spin-off from the Brookings study went even further. After noting the oligopolistic practices that Japanese industrial policy had encouraged, it concluded: “We cannot detect any compensating gains” (Caves and Uekusa, 1976, p. 157). The message was that Japan might have grown even faster had it conformed to the market model. Yet this message is doctrinaire and misleading—the former because there is no evidence that Japan could have performed better had it allowed the free play of market forces; the latter because there is no evidence that free market forces could have achieved what Japan achieved.

Recognition that Japan's political economy was different from that inherited from either the First or Second Industrial Revolutions came from a political scientist, Chalmers Johnson, who wrote a history of MITI (1982). Johnson, however, explored Japan's uniqueness from the political angle and saw the economic side of political economy as merely conforming to the traditional market norms. Understandably impervious to the issue of whether Japan had gotten relative prices right or wrong, Johnson associated market conformance with productivity and competition:

The third element of the [Japanese] model is the perfection of market-conforming methods of state intervention in the economy. In implementing its industrial policy, the state must take care to preserve competition to as high a degree as is compatible with its priorities. . . . One clear lesson from the Japanese case is
that the state needs the market, and private enterprise needs the state; once both sides recognized this, cooperation was possible, and high-speed growth occurred. (1982, p. 318)

(p.150) What Johnson took as evidence of market conformance was an industrial-licensing policy that favored oligopoly over monopoly. In Korea, too, most markets are oligopolistic rather than monopolistic (in terms of both shipments and number of commodities), few taking the extreme of either a single seller or of many. From this perspective, the relationship between the market-augmenting and market-conforming paradigms is complementary (see Table 5.3).

Nevertheless, one need not understand competition and productivity in late-industrializing countries in terms of industry structure. One may understand more about them in terms of lateness. In fact, markets in most advanced countries are oligopolistic. Competition in these countries, however, may be less intense than in Japan or Korea. One must, therefore, probe deeper than industry-level market structure to comprehend the competitive behavior of Japanese and Korean oligopolists. When one does, one recognizes the existence of a distinctive firm structure—the diversified business group—and a distinctive growth dynamic—that of cumulative causality between productivity and output.

The market-augmenting paradigm of late industrialization may now be extended as follows, by way of summarizing the discussion in Chapters 4 and 5. The government initiates growth by using the subsidy to distort relative prices. Then big business implements state policy. The role of small firms varies by industry, but basically the process of industrialization through learning involves the subordination of small firms to large ones in subcontractual relationships (until a turning point is reached when the state begins to support small-scale firms in the hopes of stimulating innovation). Oligopoly at the industry level and high aggregate economic concentration equip leading firms with the market power to survive the hardships of late entry. Two behavioral patterns are associated with high concentration in the learning context. First, once growth gets underway, there is little reason for the big business groups to collude and every reason for them to compete in a wide array of industries in order to maintain parity with one another in their overall size. Competition tends to be a consequence of growth, not a cause of it. Second, high
concentration permits high rates of investment embodying foreign technology, the realization of scale economies, and the cumulation of output in a small subset of firms, thereby facilitating learning-by-doing. *Growth contains the seeds to increase productivity*, and increased productivity raises output further in an upward spiral.

To understand variations in growth rates among late-industrializing countries, therefore, one must explore two key institutions: the reciprocity between big business and the state (as discussed earlier); (p.151) and the internal and external behavior of the diversified business group, as summarized below.
The Diversified Business Group
The diversified business group is found in Japan, Korea, India, Taiwan, Brazil, Turkey, and other late-industrializing countries. Of course, not all diversified business groups in late-industrializing countries perform equally well, their degree of success being partly due to environment. Not all states are as solicitous of big business as are Japan or Korea. Nor are they as stern with it. The diversified business group is a variant of the modern industrial enterprise that is found in every industrialized country and that is multidivisional, comprised of large-scale production units, and managed hierarchically. Yet the diversified business group in late-industrializing countries is unique in that it is more diversified in unrelated products than the modern industrial enterprise on the one hand, and more centrally coordinated than the conglomerate on the other (in terms of intra-group flows of both human and financial capital). Its broad diversification and central coordination were explained in Chapter 5 as functions of lateness. Korea's business groups may have diversified widely because they had no technical expertise to build upon in related products or in higher quality product niches. Their widely diversified structures complemented their strategy to compete at the bottom end of many markets. In their diversification efforts, they had the full support of the government because the government's vision of industrialization fixated on bigness, and bigness and diversification overlap.

The chaebol were able to manage their diverse holdings by virtue of their ability to borrow abroad and buy industry-specific technical expertise from foreigners. This allowed them to grow very large, at first “organically,” and at the same time remain under the control of their original family founders. The chaebol soon became the most progressive firms and attracted the best-salaried supervisors, managers, and engineers. A continuity in ownership and control contributed to a uniform group culture and a centralized knowledge of group resources. Both facilitated the intragroup transfer of money and personnel. An economy of scope arose in the form of the capability to diversify. Entering new industries at minimum cost and at lightning speed raised the firm's ability to compete in many markets. With state subsidies and a diversified
structure, the chaebol became willing and able to undertake risk.

Government controls in commodity markets in Korea largely precluded (p.152) the chaebol competing against one another on price. Like other oligopolists, they tend to compete on nonprice variables—quality, delivery, location. They also competed on those specific nonprice variables peculiar to learners: the best foreign technical licenses, the best labor, and most of all, the fattest state subsidies. By building a meritocratic element into its system of awarding subsidies, the state extracted from the chaebol—an institution of possibly unprecedented market power—a growth rate of output and productivity that may also have been unprecedented.

However one wishes to explain such results, one cannot do so by “ordinary economic causes.” The forces of supply and demand, of course, do not cease whatever the paradigm, but the institutions that manage them are subject to change.

The Growth-Productivity Dynamic in Late Industrialization
The 1970s in Korea witnessed rapid increases in output as well as a transformation of Korea’s industrial structure. GNP grew at an average annual rate of 9%, and exports grew by a phenomenal 28% (deflated by the U.S. wholesale price index). The heavy industries increased their share of manufacturing output from 40% in 1971 to 56% in 1980. Their share of manufactured exports over the same period tripled. To finance investments in the heavy industries, Korea borrowed abroad. Total debt rose from $4.3 billion to $20.5 billion during the Big Push. Nevertheless, total debt as a percent of GNP remained constant at the beginning and end of the Big Push, from 34% in 1972 to 32% in 1979. Korea’s economy was sufficiently productive that a big increase in debt did not result in a heavier debt burden.

The productivity of the new industrial sectors may be understood partly as having been a function of their rapid growth. In response to the state’s market-augmenting policies, firms invested more in new plant and equipment that embodied technology from abroad. This investment may be expected to have raised output per person employed. As firms expanded further in response to a growing market for their output, they also became more capable of importing the best foreign technology from the viewpoint of economies of scale.
So productivity may be expected to have increased further. Finally, as the cumulative output of firms increased (at first under the tutelage of foreign technical assistance, later under local management), and as firms repeated the same task again and again and discovered process improvements, they may be expected to have raised productivity as a consequence of learning-by-doing. Initially, learning-by-doing (p.153) may not have taken the form of fine-tuning. It may only have been of the type where, at the plant level, the production process was brought under control and, at the group level, the capability to diversify and to execute projects was advanced. Yet, with any luck, a firm was able to repeat a successful process and to continue to raise productivity interactively with growth, the one triggering the other.

In theory then, we have a dynamic that is quite distinct because industrializing on the basis of foreign technology rather than innovation is also quite distinct. In the case of the former, not only does higher productivity generate higher growth; higher growth also generates higher productivity by means of learning-by-doing, economies of scale, and investments embodying foreign designs. The growth-productivity dynamic in late industrialization is a closed loop involving the cumulative causality of productivity and output. As such, it differs from the dynamic that supposedly drives economic growth in the market model, a model that is focused on new technical discoveries, and one in which higher productivity generates higher growth, but higher growth does not generate higher productivity.

One may conclude by saying that the market-augmenting paradigm comprises a set of institutions and associated patterns of behavior, and that Korea has been a prime example of those patterns and institutions at work. Out of a highly politicized process of resource allocation, there has arisen a diversified economic base and a fast growth rate of output. Given rapid rates of industrial expansion, and out of a high degree of market power at the industry and aggregate levels, intense competition among leading producers and rapid increases in productivity have arisen. One may object to the implied perversities of such relationships, for fast growth is an unexpected consequence of government intervention, high productivity is an unexpected effect of fast growth, and competition is an unexpected outcome of monopoly. Nevertheless, perversity has a long tradition in economic
theory. The Schumpeterian paradigm teases innovation out of monopoly power. The market-conforming paradigm turned moral philosophy on its head with the proposition that society benefits the most when each individual indulges in the most selfish behavior. What could be more Hegelian?

“Wrong” Prices, Right Direction?
Although Korea distorted its relative prices, it could still be said to have conformed to the market mechanism in pursuing its comparative advantage through international trade. Can one argue, therefore, that distortion of relative prices is acceptable so long as economic activity is directed toward exports? Korea provides a near-perfect laboratory to study this question, because its growth has been exceptionally fast and its share of exports in national product has possibly been higher than that of any country in recorded history (see Table 3.6). Nor is the positive association between economic growth—meaning industrial expansion—and exports—meaning manufactured exports—limited to Korea. According to Feder,

Empirical comparisons of countries tend to demonstrate that developing countries with favorable export growth records have generally enjoyed higher rates of growth of national income than other developing countries. (1986, p. 72)

The implied causality of the regression findings inclines one to examine the relationship between exports and economic growth in historical context, to explore causality further. Korea's export history falls into two phases, an early one from roughly 1965 to 1975 centered on labor-intensive manufactures (cotton textiles, apparel, plywood, wigs, and consumer electronics), and a later one from, say, 1976 onward centered on more skill- and capital-intensive manufactures (ships, steel, machinery, automobiles, and computer electronics). Assuming causality in the regression findings, the exporter of light manufactures ought to have prepared the ground for heavy manufacturing. One may expect two types of externalities from export activity, economic and technomanagerial. With respect to the latter, Feder wrote,

An argument can be made for significant intersectoral externalities. These follow from the beneficial effects of export activities on other sectors in the economy through the development of efficient and internationally
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competitive management, the introduction of improved production techniques, the training of skilled workers, and the spillover consequences of scale expansion. (1986, p. 273)

The first externality, economic in nature, appears to have been strongly positive in Korea. The foreign exchange earned by exporting light manufactures almost certainly improved Korea's credit ratings, which helped it to raise capital abroad to finance its heavy industry investments and to service its loans. The employment and income generated by light manufactured exports, higher than what would probably have existed in their absence, created a boom that secured the military government’s power and emboldened it to proceed with its plans to develop industry beyond the light manufacturing stage.

Contrary to Feder's belief, though, technomanagerial externalities in Korea were far less apparent. In the case of cotton spinning and (p.155) weaving, unambiguously Korea's leading sector at the time, there were almost no technomanagerial externalities. Since all this is the subject of a later chapter, here the point to note is that there was no natural progression in any tangible, organizational sense from cotton spinning and weaving in particular and light manufactures in general to more complex industrial activity. The initiative to progress came from the government in the form of subsidies to further import substitution. Import substitution then permitted a diversification of export activity—sometimes immediately, as in the case of steel and ships, sometimes with a ten-year lag, as in the case of chemicals and machinery, and sometimes with a twenty-year delay, as in the case of automobiles.3

The argument that relative prices in Korea were distorted but in the right direction, that is, toward exports, is therefore itself distorted. Prices were distorted in all directions in Korea—both for import substitutes and for exports—and often for one and the same product in the two categories.

Conclusion
The market-conforming paradigm rests on two pillars: marginal productivity theory and the law of comparative advantage. Marginal productivity theory is the formal expression of getting relative prices right, which as just
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suggested, is the antithesis of what actually happens in late-industrializing countries. The second pillar—the law of comparative advantage (or relative costs)—expresses the idea that specialization enhances economic growth. However, it is argued in the following chapters that this second pillar cannot bear the weight of the facts of late industrialization either. The principle of specialization is fundamentally at variance with the logic of late industrialization—to diversify into more industries in order to catch up. It is to the realities of catching up at the firm level that attention returns. (p.156)

Notes:

(1) Multiple exchange rates and multiple interest rates are possible, in principle, in the neoclassical general equilibrium model (see Arrow and Hahn, 1971). The strictures in the text, however, are directed against the IMF’s and World Bank’s policy prescriptions in which multiple interest rates and exchange rates are anathema, and which insist on a single, unique exchange rate or interest rate, presumably on the ground that this is the “equilibrium” rate.

(2) But see Johnson (1988) on the obtuseness of economists regarding the realities of Japan’s political economy.

(3) In decomposing the Korean growth rate into its constituent parts—exports, import substitutes, and domestic demand—Westphal (1978) and K. S. Kim and Roemer (1979) trivialized the importance of import-substitution activity because of the way they defined import substitution and ignored quality. Instead of defining import substitution as a stream of activities, corrected for quality changes, they defined it as a one-time event. For example, import substitution of automobiles would have been counted as such in only one year, when automobiles began to be assembled from knockdown kits with a very small total value. Moreover, if an automobile engine had been manufactured since the Korean War in a backyard garage, even when its quality was later improved to supply the domestic automobile industry and motors ceased to be imported, the transaction would still have been recorded as an expansion in domestic demand, not as import substitution.