Industrial Policy and Growth
Helen Shapiro
November 2005

Introduction

The paper will review the impact of industrial policy on growth in developing countries from the 1960s until the present. This is a propitious time to conduct such an assessment. Within policy-making and academic circles, extremely critical views of state intervention in general, and industrial policy in particular, are no longer as dominant, and have given way to more nuanced approaches. This opening allows for a reassessment of earlier policies from today's vantage point, as well as reflection about new challenges posed by global production and constrained policy options.

The paper will highlight how the rationales, objectives, and instruments of industrial policy, along with the criteria for success, have changed over this time period. In the 1960s, for example, the operating assumption was that increasing investment in industry via imported capital and technology would lead to structural change and a self-sustaining growth path. Subsequently, these basic assumptions were challenged by experience, by new theories about states and markets, as well as by the changing international environment. The emphasis of industrial policies shifted from infant industry creation and factor accumulation to international competitiveness and more recently, learning and institutional capabilities.

The paper will make an explicit comparison between the strategies of East Asia and Latin America. These are the most industrialized regions within the developing world, accounting for 80% of manufacturing value added (Lall, Albaladejo, and Moreira, 2004). East Asia's income and manufacturing growth rates have surpassed those of Latin America, and much of the literature on industrial policy engages in explicit comparison between the regions and offers explanations for their diverging performance. Although the explanations for East Asia's relative success have changed over time, as well as the subsequent policy recommendations, the region's strategy is still held up as the dominant paradigm to which Latin America and other areas are compared and found lacking.

Why Industrial Policy?

It is useful to recount briefly the motivating factors behind the push to industrialize, if only to place the subsequent policies in their historical context. The economic arguments pointed to the secular deterioration in the terms of trade for poor countries' raw material and agricultural exports, differing income elasticities of demand for agricultural and industry (Engel's curves), and more generally, how high productivity

growth, considered the basis of rising per capita income, was only attainable through industrialization.[1] It also reflected the political pressures and interests behind economic autonomy following political independence in some countries, export pessimism from both the collapse of commodity prices and world trade in the 1930s and the post-war protectionism in Europe and elsewhere. There was also a relatively hospitable international climate, in which US international agencies and multilateral institutions such as the World Bank supported such initiatives. In this context, returning to a dependence on raw material exports was considered both economically unviable and politically problematic.[2]

In their arguments promoting government intervention, many early development economists focused on a "missing factor" – capital, technology, entrepreneurship -- which was unlikely to emerge from market forces alone. Therefore, different methods were required to elicit these missing ingredients for growth. Imperfect capital markets, for example, were unlikely either to generate sufficient savings or allocate them efficiently without some form of market intervention. Technological and pecuniary externalities lead to underinvestment. In addition, investors' expectations were often based on past experience, requiring some kind of "inducement" mechanism to elicit investment in new industrial activities.[3]

With respect to capital, some focused on low domestic savings rates and the need to harness foreign capital in the form of foreign aid or foreign direct investment.[4] Gerschenkron (1962) argued that the greater relative backwardness of modern less-developed countries, in contrast to previous industrialized countries, required a leap into the most modern, capital intensive industrial sectors. In the face of this challenge, and equipped with a weak private sector and scarce capital, only the state had the capacity to mobilize and allocate resources. Others saw the problem from a Keynesian perspective as one of motivating investors, rather than the supply of savings. Due to the prevalence of pecuniary externalities, Nurkse (1953), Rosenstein-Rodan (1943), and Scitovsky (1954), argued that government need to coordinate investment decisions and promote a "Big Push."

Despite these differences, there was broad consensus around the basic assumption that development required non-marginal change that market forces alone could not

[1] See Prebisch (1950, 1959) and Singer (1950) on the terms of trade; Kuznets and Maddison (1994) on growth and industrialization.
[2] See Kaufman (1990) and Haggard (1990) for the political economy of this period.
[3] See Hirschman (1958, 1977).
[4] See Lewis (1955).

generate.[5] The goal was to reallocate resources to industry from the alternative, which meant agriculture or raw materials. The strategy involved changing the incentive structure to redirect them.

There were two other implicit, but ultimately, questionable, assumptions that experience would later make apparent. The first had to do with the nature of technological change. The development process was typically portrayed as one of factor accumulation and technology, like labor and capital, was viewed as just another missing factor. Embodied in capital, it could be imported and, assuming fixed-technology production functions, applied in the same methods as in the country of origin. The second had to do with the state and technocratic omniscience. State planners, armed with input-output tables from industrialized countries like the United States, and given the assumptions about technology, could simply allocate resources accordingly and leapfrog into the modern industrial era.

Neoclassical Backlash[6]

The first neoclassical reaction to state-guided industrialization aimed at the associated costs. Using new analytical tools such as effective rates of protection and domestic resource costs, these authors showed that industrial policies were inefficient and tried to correlate 'distorted' policy regimes with poor economic performance.[7] Their critique was bolstered by the success of export-oriented countries such as South Korea and Taiwan which at the time were thought to have noninterventionist states. Their rapid growth in comparison to economies which followed inward-oriented strategies seemed to provide empirical validation that dynamic gains could be had from free trade. Anne Krueger (1984) later explained that "From a theory without any evidence in the early 1960s suggesting departures from free trade for dynamic reasons, the tables are turned; empirical evidence strongly suggests dynamic factors may be associated with export-led growth." Export expansion spurred by market liberalization became the industrialization strategy of choice.

This debate between old-style development economists and more orthodox theorists, however, still centered on market failure and whether intervention was necessary. In the 1980s, a second wave of critique attacked the early development economists' implicit belief in the efficacy of government intervention. Various models of the interaction between the state and private actors pointed to the possibility that "bureaucratic failure" could be worse than "market failure." Krueger (1974) argued

[5] Ellis (1958) and Viner (1953) and were early exceptions to this approach, each expressing more faith in market-based solutions.
[6] This section is based on Shapiro and Taylor (1990).
[7] See Little, Scitovsky and Scott (1970), and Balassa (1982).

how quantitative restrictions on imports led firms to compete for import licenses and their attached rents, thereby squandering resources in unproductive, rent-seeking activities. This approach came to a different explanation for the relative success of East Asian NICs -- the pressures of international competition mitigated against the worse sort of rent seeking observed in countries practicing more inward-oriented industrialization.

This literature was correct in its claim that state intervention does not necessarily lead to efficient outcomes. The lack of a theory of the state was less problematic for neoclassical theory, which at least assumed that markets function and presupposed a minimal role for government. In contrast, the omission of the state as an explicit actor is a fundamental flaw in the development theorists' argument, since they relied upon the state as an agent of change and presumed that it had the requisite political autonomy and administrative tools to carry out the task. In the presence of widespread market failure, the superior capacity of government functionaries to allocate resources became an article of faith.

Empirical Findings and Emerging Consensus

Although early in this debate, some claimed that the East Asian NICs had relatively free trade and non-interventionist governments, it soon became clear that the governments were extremely interventionist. Subsequently, a huge literature has documented how all late industrializing countries followed quite similar strategies and relied on the same policy instruments to kickstart industrialization in the 1950s and 1960s. They all tried to substitute imports with domestic production and used government planning to target priority sectors. They used selective protection (tariffs, quotas, import licensing, and foreign exchange rationing), domestic content requirements, and subsidized credit. In her survey of twelve countries that had successfully moved into mid-technology industries, Amsden found that the public sector had a large role in capital formation in the 1960s that diminished over time; even where development banks per se were insignificant, government played a large role in credit allocation through the banking system. What's more, they each targeted the same group of basic industries.[8] Even skeptics of import substitution such as Bruton (1998) have concluded that with respect to policy instruments, their similarities outweigh their differences. Looking at effective rates of protection, he points out how high effective rates of protection were not necessarily correlated with poor results, as "a number of countries, later achieving outstanding success, showed the same sort of protection picture as did later failures" (p. 912).

[8] The countries include China, India, Indonesia, South Korea, Malaysia, Taiwan, Thailand, Argentina, Brazil, Chile, Mexico, and Turkey. Argentina is the one exception with respect to government's role in capital formation.

A key difference among these countries was how fast and how extensively they moved into manufacturing exports. While some inward-oriented countries such as Mexico and Brazil grew at fast rates during the 1960s and 70s, the East Asian export-oriented countries grew even faster. [9] This challenged the long-standing export-pessimism of development economists. Although Latin American manufactured exports also grew in the 1970s, they were a much smaller share of both total manufacturing value added and of GDP. They also failed to keep up with imports, as the region entered into the balance-of-payments crisis of the late 1970s and early 1980s. In light of these performance indicators, East Asian export-led growth came to be seen first as a more effective industrialization strategy. Latin America's inward oriented focus, in contrast, was seen as the source of its problems.[10]

Based on the conclusion that East Asian success was due to its outward orientation, and in the wake of the debt crisis in Latin America, countries were encouraged by the World Bank and others to liberalize trade. The assumption was that the anti-export bias of import-substitution policies, along with the lack of domestic competition, discouraged innovation and encouraged rent-seeking behaviors. These micro inefficiencies, in turn, had led to macro imbalances and slower growth rates. Exports and import competition would have dynamic effects through learning and innovation.

Subsequent work by Rodrik (1995) and others point out how these assumptions about the gains from trade are open to question. The static efficiency costs of import substitution turn out to be relatively small and can't explain slower growth. The dynamic learning effects from trade in East Asia are also open to dispute. Rodrik argues that in the case of South Korea's innovative firms, causation may have been from efficiency to exporting, rather than the other way.

Additional work by Amsden (1994), Fishlow et. al. (1994) and Wade (1990) also countered the emphasis on outward orientation and focused on the efficacy of East Asia's selective interventions. In this framework, exports are a reflection of their governments' superior "reciprocal control mechanisms" (Amdsen). All these

[9] The comparative performance figures on industrialization and growth have been well documented. See World Bank (1993).

[10] As Lall (2003), writes, "In the first phase, LAC, in common with most other developing regions, relied heavily on protected import-substitution, sheltering enterprises from international competition but failing to offset this with incentives or pressures to export. It did little to attract export-oriented FDI (in EPZx) and so missed the surge in global production systems in electronics. It did not deepen local technological activity (by encouraging R&D) or develop the new skills needed for emerging technologies." However, in addition to trade pessimism of the early 1960s, the fact that Latin America's traditional exports were raw materials and that it was a relatively high wage region made a low-wage export strategy more complicated.

governments required some kind of performance targets in exchange for special favors – ranging from exports, domestic content, R and D spending, or financial arrangements – but they were not as extensive or effective. [11]

The conclusion that selective industrial policies led to East Asian success is by no means universally accepted.[12] However, to the extent that their contributions are seen as consequential, the conditions that allowed for their efficacy are seen as nonreplicable. The capacity of governments elsewhere to enforce reciprocity commitments is questioned; markets are therefore required to enforce this discipline on firms. The focus in policy-making once again shifted to state, rather than market, failure, just when the theoretical development literature began to move in the opposite direction.

Theory and Practice Divide

In contrast to the 1960s, a kind of schizophrenia began to emerge in the 1980s and 1990s as theory and practice moved in opposite directions. Governments in Latin America and elsewhere, often encouraged by multilateral institutions, weakened or dismantled the public institutions associated with state-led industrialization and liberalized trade. Pressure mounted on East Asian countries to do the same, although they moved more slowly in this direction. Concurrently, various international trade agreements institutionalized these market-driven reforms by committing countries to free trade, and prohibiting industry-related policies such as TRIMS and export subsidies.

Just as these reforms were being vigorously promoted, their theoretical foundations were being undermined. Many of the underlying assumptions about market failure which motivated industrial policies of the 1960s – and were subsequently dismissed as irrelevant in the 1980s -- have made an astounding comeback in development economic theory. In addition, new approaches to technical change and innovation, some originating in the literature on firm competitiveness, have challenged previous assumptions about firm behavior. Together, they have generated a huge literature documenting how market forces will not produce optimal results and that some kind of state intervention is necessary to promote industrialization. Based on these theoretical findings, this literature has also proposed new explanations for East Asia's success, and helps shed light on Latin America's relatively poor performance.

[11] For example, Brazil had a target program in place by 1970, which gave firms access to duty-free imports in exchange for exports. By 1990, as much as half of total exports were covered by this program. As early as the 1960s, India had an export program for textiles, which failed due to the lack of capital for restructuring. Similar incentives were offered to other industries in 1970, but the government failed to enforce the export requirements. Ironically, when trade was liberalized in the 1990s, similar programs were more effective. See Amsden (2001).

[12] See Nolan and Pack (2003).

Although repackaged in formalized models, the arguments behind coordinating investment or a "Big Push" have changed little since first proposed by Rosenstein-Rodan, Nurkse, and Scitovsky more than 50 years ago. In the presence of increasing returns, industrialization in one sector raises demand for other sectors and makes large-scale production in these sectors more profitable. The presence of these pecuniary externalities makes different firms' and industries' profits interdependent and thereby provides a rational for a government-coordinated investment strategy. As argued in a 1989 article by Murphy, Shleifer, and Vishy, "… a program that encourages industrialization in many sectors simultaneously can substantially boost income and welfare even when investment in any one sector appears unprofitable."

The notion that countries can be stuck in a low-level equilibrium trap has also made a comeback, as it has been show that multiple equilibria can exist in the face of pecuniary externalities driven by increasing returns. Under these conditions, making the transition from so-called "cottage production equilibrium to "industrialization equilibrium" (Murphy, Shleifer and Vishy, 1989), which entails specializing in different types of manufacturing, is the challenge countries face. This echoes a point made long ago by Gerschenkron, among others, about backwardness and inertia-that more than a market signal is required to displace the previous equilibrium in order to make nontraditional investment projects attractive.[13]

One recent explication of this insight, by Ciccione and Matsuyama (1996), suggests that if an economy inherits a small range of intermediate inputs, then consumer goods industries will rely on less technologically advanced production methods. Intermediate firms will be unwilling to take on the start-up costs associated with production in the face of uncertain demand. Moreover, they don't fully appropriate all the benefits, which are shared not only by those industries using their inputs but by other intermediate goods producers whose markets expand as consumer goods producers make more intensive use of such inputs. Therefore, the "presence of such pecuniary externalities leads to an insufficient inducement to start up firms and to introduce new products. These two factors, start-up costs and pecuniary externalities, together imply the circularity between the degree of specialization and the market share of intermediate inputs and present barriers to economic development" (Ciccione and Matsuyama, p. 35).

[13]See Shapiro and Taylor (1990).

What this work suggests, in contrast to traditional models of comparative advantage, is that a country's specialization pattern determines its rate of growth. As Ros (2000, 2001) explains, specializing in sectors with increasing returns allows for a higher return on capital and subsequently, a higher investment rate. This literature also offers new explanations for the success of East Asia and the relative failure of Latin America that have focused not on prices or exports but on investment. As suggested by Murphy, Schleifer, and Vishy (1989), "countries such as South Korea that have implemented a coordinated investment program can achieve industrialization of each sector at a lower explicit cost in terms of temporary tariffs and subsidies than a country that industrializes piecemeal. The reason is that potentially large implicit subsidies flow across sectors under a program of simultaneous industrialization." Ros and others attribute East Asia's success to policy interventions which sped up the transition from one pattern of production to another. "Through a variety of policy interventions, subsidizing and coordination investment projects, government policy succeeded in reallocating resources to modern industries making intensive use of capital and skilled labour. With growing returns in these activities, such reallocation raised the profitability of capital and propelled the economy towards a high growth path. Outward orientation was a consequence of this, because the higher investment increased the demand for imported capital goods. The relatively high level of skills of the labour force in both countries was a necessary condition for the success of the industrially policy adopted.[14]

The acknowledgement that sectors are not all equal in a world of differential returns to labor and capital reflects the insights from the literature on firm strategy and competitiveness. In contrast to the passive price-taking firms of comparative statics, this literature portrays successful firms as those that create and maintain barriers to entry and the rents associated with them. By exploiting "competitive" advantages based on innovation, firms are then not dependent on unsustainable cost advantages such as low wages or exchange rates. According to this logic, a firm's strategy must be to avoid price-competitive sectors, vulnerable to forces beyond its control (Porter, 1980).

By extension, a "competitive" nation does not specialize in these sectors, either. This recalls the earlier debate in the United States over industrial policy when Michael J. Boskin, chairman of the Council of Economic Advisers (1989-93), reportedly said that it made no difference whether a country made potato chips or computer chips.[15] In

[14]Ros (2001) points out that his theoretical and empirical findings also confirm those of Sachs and Warner (1997) and Sala-i-Martin (1997) that show how economies specializing in the production and export of goods making intensive use of natural resources grow more slowly than those specializing in the export of manufactures.
[15]Despite its wide attribution, Boskin denies having made this statement, according to Thurow (1994).

explicit contrast to theories of comparative advantage, a country's competitive advantage is determined by innovation rather than factor endowments. For Porter, this means that national policies should help create an environment of demanding consumers, domestic competition, strong supplier linkages, and good infrastructure.[16]

Amsden, focusing on late-developers, also puts firms and their technological capacity at the heart of development. Their ability to shift away from primary resources to knowledge-based assets -- a set of managerial and technological skills that allow them to either produce a product "at above prevailing market prices (or below market costs)" – determines a country's long-term growth (Amsden 2001, p. 3). In contrast to the standard emphasis on getting the macro right, the starting point for Amdsen and others[17] is the firm.

The treatment of technology also distinguishes this work from both current and early development economists. Rather than a missing factor akin to capital or labor, knowledge or technology is portrayed as a learning process. As Lall puts it, "industrial success in developing countries depends essentially on how enterprises manage the process of mastering, adapting and improving upon existing technologies. The process is difficult and prone to widespread and diffuse market failures…" (2003, p. 15). In this world of imperfect information and technology rents, the firm is not a competitive, price-taker implicit in most macro approaches. Moreover, public support is crucial to help build their technological capabilities.

Research and development capabilities have become even more central for developing countries in recent decades. The competitive pressures to be near the technological frontier have increased with the fall in trade barriers and transportation, communication and information costs. As Amdsen explains, "When, before the 1980s, the capabilities required for industrialization were limited simply to borrowing the foreign technology and mastering production engineering and project execution skills, the institutions supporting a reciprocal control mechanism were robust enough to get the job done regardless of intercountry differences. When, however, the capabilities required to expand further demanded technology that was more implicit and proprietary, a profound choice had to be made—either to deepen relations with foreign firms or invest more in national firm-formation and R&D" (Amsden 2001, p. 282).

---

[16] See *Competitive Advantage of Nations* (1990). Porter claims that import substitution policies failed to create this type of environment and subsequently failed. It should be noted that this work was based primarily on firms in advanced, industrialized countries. Moreover, related work on developing countries generally addresses the challenge of creating competitive, domestically owned firms, as opposed to transnationals, which dominate manufacturing in Latin America. For more on this latter point, see Shapiro (2003).

[17] See Nelson and Winter (1982), Best (2001), Lall 2001, Paus (2005), and Katz (1996).

This work on the firm and the assumption of imperfect information and information externalities, particularly with respect to technology, has challenged what has been the dominant view of rents since Krueger's classic 1974 article. Since then, rents and rent-seeking were portrayed as the main scourge of development and the trump card against any selective state interventions, even in the presence of market failure. Correspondingly, domestic barriers to entry and the lack of foreign competition, which enabled a rent-seeking environment, were seen as reducing the incentive to innovate.

Now, the acknowledgement that rents are at the heart of technological change and not simply politically derived is ubiquitous in the theoretical and empirical literature that focuses on the microfoundations of development. Free trade, rather than forcing firms to innovate, may simply force them out of business if the productivity gap with foreign competitors is too large. Using the findings from endogenous growth models, in which R and D is a key factor in determining a firm's competitiveness, and the finding that losses from monopoly power may be secondary to losses associated with underinvestment in specialized goods and services, it provides a new twist to old infant industry arguments. For example, Traca (2002) argues that temporary protection, which would allow firms to maintain market share and increase returns, is warranted for firms if they are far from the technological frontier. Otherwise, they would not be able to maintain market share and returns necessary to sustain the costs of R and D necessary to become internationally competitive. Rodrik (2004) also makes the case that firms will invest in risky nontraditional activities only with the assurance that their rents won't dissipate from foreign or domestic competition.[18]

These works are helpful in explaining the divergent performances of regions since liberalization.

Performance

During the 1980s and 90s, Latin America's total and per capita growth rates did not compare favorably with either East Asia or its 1950-1980 performance. Some countries, such as Chile, Argentina, Bolivia, and Uruguay did experience faster growth rates in the 1990s than during the import-substitution period, but the largest economies of the region, Brazil and Mexico, did not. Even when the analysis is refined to identify each country's particular years of crisis and recovery, as opposed to comparing only the 1980s with the 1990s, the overall annual growth rate of 4% during

[18] Work by political scientists on Latin America also documents how economic liberalization does not eliminate incentives for rent-seeking but generates different ones. See Shamis (1999).

recovery did not match the overall base period rate of 5% (Hofman, 2000). With respect to investment, while the region regained its 1980 average rate of 21% as a share of GDP by the late 1990s, neither Brazil nor Mexico had recovered its previous peak. Moreover, the region's average was no where near the average of East Asia, nor was it sufficient to reduce significantly employment and poverty levels (Stallings and Peres 2000, p. 77-8). With the exception of Chile, the growth that has been achieved came largely from high rates of capacity utilization, raising questions about sustainability.

Latin America's performance in manufacturing was also relatively weak. From 1980-2000, manufacturing value added (MVA) in the developing world as a whole grew by 5.7%, as compared to 2.3% in the industrialized countries.[19] MVA grew by 9.1% in East Asia, 6.5% in South Asia, 4.8% in the Middle East and North Africa, 1.7% in Sub-Saharan Africa, and only 1.4% in Latin America and the Caribbean. As a result, Latin America's share of the developing world's MVA fell from 48% to 22%, while East Asia's rose from 29% to 58%. On a per capita basis, the Latin American region is still the most industrialized, but that lead is diminishing. Even when only the 1990s growth rate is considered, if Mexico is excluded, the region's MVA grew at only 1.9%. (Mexico grew at 4.4%, which, according to Lall and others, was largely due to the trade benefits derived from NAFTA, rather than from liberalization per se.) Moreover, that growth rate is still lower than both the ISI period and that of East Asia. Indeed, manufacturing is no longer the engine of growth in the region, as its share of GDP has been falling.[20]

In contrast to its lagging performance in manufacturing, Latin America and the Caribbean did shift to exports at a fast rate. The region's manufacturing exports grew faster than MVA during the period from 1981-2000, as did global manufacturing exports. Due to sluggish growth in the 1980s, the region's exports grew at 10%, following East Asia at 13.4% and South Asia at .. It was the leader during the 1990s, however, growing at almost 15% a year, compared to 11.6% for East Asia. The share of developing country manufactured exports from Latin America and the Caribbean fell from 25-19%, while that of East Asia rose from 52% to 69%. East Asia's share of global manufactured exports increased from 7% to 18% over this period, while Latin America and the Caribbean saw its share fall from 3.2% to 2.4%. As a whole, the developing world's share of global exports rose from 13-27%.

[19] Data from Lall (2003) and Lall et al. (2004).
[20] This trend started in the 1970s, but accelerated in the 1980s and 1990. See Benavente et. al. (1996).

The sectoral breakdown of manufacturing also diverged between the regions. In many Latin American countries, such as Brazil, Chile, Argentina, Colombia and Peru, the fastest growing industries are those that process natural resources, such as paper and pulp. In Mexico and Central America, there has been a shift towards labor-intensive assembly operations, mostly for export. Generally, labor intensive sectors geared for the domestic market, such as footwear and footwear, faired poorly, as did capital goods and consumer durables. The motor vehicle industry is an exception. It was also in industrial commodities and the automotive industry which saw the greatest improvements in productivity, approaching the technological frontier (Benavente et. al. 1996; Katz and Stumpo, 2001).

This rise in resource-based activities is in contrast to global trends. In global manufacturing, the share of resource-based and low-technology activities in total manufacturing fell, as that of medium and high-tech activities grew. In Latin America, resource-based activities, starting from a higher base than East Asia, increased their share to 40%, while they declined to less than 30% in East Asia. Medium and high-technology sectors grew at 16% in East Asia, as compared to 6% in Latin America. As a result, the overall share of medium and high tech in manufacturing is almost 60% in East Asia, as compared to less than 50% in Latin America.

Likewise, developing countries overall have moved into high and medium technology exports, which are also the categories showing the highest growth rates. Resource-based exports showed the slowest growth rates, falling from 23% of manufacturing exports in 1981 to 13% in 2000. As put by Lall et. al. (2004), "Given the general rise in the share of HT (high tech) in trade, export success is now increasingly associated with the ability of countries to move into these products. This is as true of developing and industrialized countries, and the most competitive countries in the developing world are shifting rapidly into HT exports." In contrast, the structure of Latin America's exports reflects that of manufacturing more generally. The medium-tech automotive industry was the largest category, followed by natural resource processing industries, foodstuffs and primary commodities. High-tech exports followed.

Explanations for Performance

A variety of explanations has been put forth to explain the different rates of growth across regions. Some have suggested that liberalization hasn't gone far enough. Most have emphasized the need for complementary "second-generation" reforms which focus on institutions and regulations, rather than simply macro stabilization and liberalization. Many have argued that in regards to industrial performance, it is difficult to disassociate industrial policies or the lack thereof from the broader

macroeconomic environment. In Latin America, for example, overvalued exchange rates combined with trade liberalization during the 1990s hit import-competing industries particularly hard.

The literature that emphasizes industrialization and firm capabilities suggests different causal factors. One is the relative decline in R and D spending in Latin America. According to a variety of indicators, the gap in technological capacity between Latin America and countries such as South Korea, China, Taiwan, and India, is growing. These include R and D spending in manufacturing, and the private sector's share in R and D expenditure (Amsden 2001, pp. 277-8). In its comprehensive study of Latin American competitiveness in a global context, the IDB supports Amsden's conclusions. It finds that East Asia (excluding China) spent 5 times more on enterprise-financed R and D than Latin America and the Caribbean, and that "the gap is likely to be rising sharply over time" (Lall, et. al. 2004, p. 43).

The reasons behind this growing gap are hard to specify.[21] One may be the fact that governments in countries such as India, Korea, China, and Taiwan have historically promoted R and D and technology to a greater extent than those in Latin America, and have continued to do so. These programs have both supported capabilities for domestic firms and pressured foreign companies to invest in local R and D and to maximize spillovers.[22] Lall (2003) suggests that this also explains differing performance within East Asia. He contrasts Hong Kong, which had relatively free trade and few restrictions on FDI, with Singapore, which also had relatively free trade but imposed R and D and other performance requirements on foreign firms. As a result, Hong Kong did not deepen its capabilities and has had slower growth than the other "tigers" and China; Singapore, in contrast, deepened its manufacturing and has the third highest ratio of enterprise financed R and D to GDP in the developing world (p. 21-2).

Latin America's R and D gap may also reflect how sectors with a relatively high level of technological content were hit hard by the combination of free trade and overvalued exchange rates. Those industries, which had spent more intensively on research and development, have had difficulty competing with imports from more industrialized advanced countries (Katz and Stumpo, 1995). Brazil is an exception to this regional trend, and may have been more successful in retaining industries with high engineering content precisely because it reduced its trade barriers relatively late. Benavente et.al. conclude, "It is very likely that the high level of complexity reached

[21] Lall et. al. (2004) suggest, but do not analyze, possible explanations for this gap.
[22] For details on these programs, see Lall (2003), Amsden (2001), Wade (1990), and Rodrik et. al. (1995).

by the metal product and machinery sectors, the scale of the domestic market and the higher level of protection maintained up to the early 1990s strongly influenced the fact that Brazil maintained an industrial structure more oriented towards dynamic and technologically advanced sectors than the other countries of the region" (1996, p. 62). In short, this work suggests that Latin America suffered from too much liberalization, too soon, rather than too little, too late.[23]

In her survey of late developing countries, Amsden comes to a similar conclusion about how the timing of liberalization matters, particularly with respect to the relative strength of domestic and transnational firms. Countries outside of Latin America that opened relatively late and had supported domestic firms were more likely to retain medium and high tech industries. In the recent phase of mergers and acquisitions that has taken place in all of the late developing countries to enhance scale economies, national firms in Taiwan, China, Korea and India were more likely to have national firms strong enough to survive and/or to be viable as joint venture partners.

This raises the question of whether the greater role of foreign firms in manufacturing in Latin America has any implications for its relatively weak performance compared to East Asia. Interestingly, the theoretical literature cited above on the need to coordinate investment or to protect firms until they reach the technological frontier or generate adequate returns fail to mention ownership, implicitly assuming that the firms are independent and nationally owned. Much of the literature on competitiveness makes similar assumptions, and does not consider the ramifications of transnational firms' global strategies on national industrial development.[24]

In Latin America, foreign firms have dominated the most dynamic manufacturing sectors since their inception, and their control has increased since liberalization. According to Garrido and Peres (1998), sales by the biggest 100 industrial firms in Latin America broke down as follows for 1996: 40.2% by private, national firms; 57.3% by private, foreign firms; and 2.5% by state-owned firms. The share held by private national firms had fallen from 45.9% in 1990. Even large national conglomerates which held dominant positions in their local markets found themselves poorly positioned to confront trade liberalization.

---

[23] In the UNDP's *Human Development Report 2003*, Stiglitz also points out that East Asia was slower to reduce trade barriers, liberalize capital accounts, and still used selective policies. Lall (2003, p. 9) points out that India also liberalized more slowly and selectively, and performed better in terms of growth in manufactured value added .

[24] Porter's *The Competitive Advantage of Nations*, based primarily on firms in advanced, industrialized countries, deals almost exclusively with national firms. For a discussion of related works on developing countries, see Shapiro (2003).

Evidence suggests that transnationals invest virtually nothing in local R and D in developing countries (Amsden 2001, p. 207). This may put even successful sectors at risk. According to Lall et. al. (2004), "The few outstanding successes in LAC (Latin America and the Caribbean) in manufactured exports face severe competitive challenges. Export activity is often delinked from local industry and capabilities, and the competitive base will be eroded unless these links are greatly strengthened. While this is also true of some East Asian countries, others have built impressive local capabilities and even the weaker ones are acutely conscious of the need to develop local capabilities-and are investing in doing so more assiduously than the leaders in LAC."

Transnational firms also have the option of confronting new competitive pressures by integrating their subsidiaries into their global production networks. This can involve limiting national production to particular product lines and complementing them with imports, or importing parts and components for final assembly. In regard to Argentina, Kosacoff writes: "In short, the data show that the manufacturing sector has itself utilized trade openness and economic deregulation to increase its imports not only of parts and components but of finished production, too. This is indicative of a trend towards the vertical de-integration of activities that affects both manufacturing activities… and commercialization activities… "(2000, p. 188).

As a result of these processes, intermediate and supplier industries are drastically shrinking. Even should relative comparative advantage indicators change, in some sectors there may be no domestic substitutes remaining to replace imports, and they are difficult to replace. Given the importance attributed to these sectors, the potential consequences for future development are dire. For example, Porter and others who have focused on the role of geographic agglomeration have emphasized the importance of strong supplier linkages for innovative firms.[25] Ciccione and Matsuyama (1996) work suggests that new sources of innovation may be concentrated at the intermediate, rather than the final, output stage of production, and see "the proliferation of intermediate inputs and producer services as the essential part of economic development and growth" (1996, p. 57).

This pattern has also led to balance of payments concerns. Numerous studies have shown that transnational firms in Latin America are leading an 'import-intensive' or

[25] Porter (1990) Krugman (1991). The firm strategy literature criticizes import substitution and trade protection for creating weak supplier networks. Enright et al (1994) argued that import liberalization would both provide firms with access to the highest quality inputs and force domestic supplier industries to innovate. Instead, the speed of liberalization, in combination with foreign firms' access to global sources, forced out many domestic suppliers. See also Fairbanks and Lindsay (1997).

'deficit-prone' industrialization process. While exports of natural resource processing industries, foodstuffs, and primary commodities have grown fast, imports of capital goods and labor-intensive products growing even faster, so the manufacturing trade balance is increasingly negative. Economic concentration has increased, as transnational subsidiaries and large national firms are in a better position to take advantage of new environment; small and medium sized firms losing out, many of whom had been suppliers to big firms and are now being replaced by imports.

Kosacoff (2000) argues that in Argentina, vertical de-integration and the increased dependence on imports explained why the costs of adjustment were higher, and growth in output, slower, than anticipated in the 90s. Moreno Brid (2000) raises similar issues about Mexico. Using a balance-of payments-constrained growth model, he shows how Mexico's income elasticity of import demand has doubled over the last 15-20 years.[26] Looking at Brazil, Miranda argues that the intensive use of imported intermediate goods will not be sustainable.[27] As a result of these factors, O'Campo (2004-5) concludes that "the multiplier effects and the technological externalities generated by the high-growth activities associated with exports and FDI have been weak" (p. 296).

In sum, in the context of a favorable international climate, domestic liberalization and macroeconomic stability, and rapid export growth, Latin America's GDP growth rates have been disappointing. They haven't matched earlier growth rates or those in East Asia. In addition, as stated by Lall et. al, "LAC's manufacturing performance is disturbing because *RB activities continue to dominate manufacturing and there has been a general downgrading of the technology structure* in small and medium sized economies. Moreover, the shift into RB is *not the result of rapid growth in RB activities but of the slow growth of MHT*" (Lall et. al, p. 31).

Moreover, the few successes in manufacturing cannot be attributed to liberalization per se. With the exception of maquila industries, all of these sectors were established under import substitution regimes. In Latin America, natural resource processing industries received state support. This came in the form of financial and technical support to nontraditional agriculture and forestry, or as subsidies in the 1970s and 1980s to help firms invest in state-of-the art, capital intensive processing plants.[28] To the extent that freer trade did not lead to large-scale restructuring in most of the late-industrializing countries, Amsden concludes that "the resource allocation of the

[26] On Mexico, see also Dussel Peter (1996).
[27] Miranda (2000), cited in Katz and Stumpo (2001).
[28] See Meller (1995) and French-Davis (1997) on support to Chilean agriculture; see Bisang et. al. (1995) and Stumpo (1995) on capital-intensive processing plants.

developmental state appears to have been efficient enough to withstand the market test" (2001, p. 266.)

In both East Asia and Latin America, exports were based on the productive capacity and expertise developed during import substitution.[29] The Latin American automotive industry is an obvious case in point. Transnational corporations initially invested so as not to lose potentially lucrative markets when most countries became closed to imports. They were first pushed into exporting through government programs. Moreover, the industry remains one of the key exceptions to liberalization, subject to special sectoral policies throughout the region.[30]

Indeed, the logic behind import substitution policies was to force firms to make large investments that were not easily reversible. These investments constrained a firm's options; they were subsequently forced to consider the need to protect access to these markets and their past investments, which they did not treat as sunk costs (Shapiro 1994). Given the acknowledged importance of path dependence, and the fact that many of the successful sectors and firms got their start under import substitution, it is difficult to attribute growth in the recent period only to liberalization policies.

In addition, to the extent that nontraditional exports were distinct from products initially produced for the domestic market, and were therefore not the outcome of import substitution policies per se, they were usually produced by the same firms that did maturate under the ISI regime. To the extent that managerial and technological capabilities at the firm level are key to development, then acknowledging this continuity of major firms is critical.[31] Work by Roberts and Tybout (1995) on Colombian exports and Maloney and Azevedo (1995) on Mexico reinforces this point. Costs associated with entering export markets lead to path dependence, in that firms already exporting are more likely to continue doing so.

These issues raise the more general question of the appropriate time frame in which to assess industrial policy impact. This is true for both East Asia and Latin America. Indeed, some observers have begun to look to "initial conditions" that predate any industrial policies to explain relative success or failure.[32]

---

[29] See Shapiro (1997). For a discussion on Turkey's export "miracle" of the 1980s, which was also based on a preexisting industrial based created during import substitution, see Boratav (1988).

[30] See Katz and Stumpo (2001) for the role of industrial policy in revitalizing the Latin American auto industry in recent decades.

[31] Amsden elaborates on this point (2001, p. 173).

[32] See Acemoglu, Johnson, and Robinson (2001), Engerman and Sokoloff (1997), and Ros (2001).

Finally, there is a peculiar "back to the future" quality with respect to Latin America's situation, similar to the trends in the theoretical literature. Liberalization was expected to increase efficiency at a micro level, which in turn would help address its macro balance-of-payments problems. Similarly, ISI was adopted in part to overcome the region's chronic external imbalances by reducing its dependence on raw material exports and manufactured imports. As first noted by Diaz Alejandro, ISI paradoxically made countries even more dependent on imports, at least in the short run, and therefore growth more vulnerable to an import constraint. Likewise, although exports have increased under liberalization, imports have risen even more, in part due to the vertical de-integration of the manufacturing sector. As discussed above, many observers today are concerned about an ever-more binding balance of payments constraint.[33] The restructuring processes underway also raise the question of whether what is good for the 'competitive firm' is good for national development more broadly, since what works for a subset of firms may make the national economy more prone to balance-of-payments crises and slower growth in the short to medium run.

Other characteristics are disturbingly familiar to an earlier phase. In the 1950s and 60s, Latin America was concerned about finding itself in raw materials with low income and price elasticity of demand; today it still finds itself at the low-growth, commodity end of the industrial spectrum. While its export industries are no longer the raw material export enclaves of the past, they have become increasingly delinked from the domestic economy as they move towards the assembly of imported parts and components while the design and technology intensive activities are done elsewhere.

Conclusion

In many ways, theories of industrialization have come full circle. Fifty years ago, the reigning paradigm considered market failure to be endemic. After years of being discredited or ignored, many of the assumptions behind this paradigm have been made a comeback. The policy implications of these theories, however, have not been similarly resurrected. In contrast to their predecessors, contemporary theorists of market failure have been reticent about policy recommendations. Given the acknowledged limitations of import substitution policies, skepticism about government capacity, and a very different global economy, this is not surprising. Moreover, the challenge facing the more developed countries -- making the existing industrial infrastructure more competitive, or upgrading technological capabilities -- requires different approaches to that of kick-starting industrialization.

[33] Katz and Stumpo (2001) also note the similarities to the debate over balance of payments in the 1950s.

The default policy recommendation is still the market.[34] The emphasis of reform has switched to institutions that will allow the market to perform more efficiently. Given the weakening theoretical and empirical foundation for market-based solutions, the assumption that state failure is worse than market failure needs to be reconsidered.

Bibliography

Abramovitz, Moses (1952), "Economics of Growth," in B.F. Haley, ed., *A Survey of Contemporary Economics*, Vol. II, Homeword, IL: Richard D. Irwin, pp. 132-81.

Abreu, Marcelo de Paiva (2005), "Which 'Industrial Policies' are Meaningful for Latin America?" Discussion paper no. 493, Department of Economics, PUC-Rio, February.

Acemoglu, Daron, Simon Johnson, and James A. Robinson (2001), "The Colonial Origins of Comparative Development: An Empirical Investigation," *American Economic Review* 91, 5:1369-1401, December.

Amsden, Alice H. (1989), *Asia's Next Giant: South Korea and Late Industrialization*, New York: Oxford University Press.

Amsden, Alice H. (2001), *The Rise of the Rest: Challenges to the West from Late-Industrializing Economies*, Oxford: Oxford University Press.

Amsden, Alice H. (1994), "The World Bank's 'The East Asian Miracle': Economic Growth and Public Policy," Special section of *World Development*, April.

Amsden, Alice H., and Takashi Hikino (2000), "The Bark is Worse Than the Bite: New WTO Law and Late Industrialization," ANNALS, *AAPSS*, 570, July, pp. 102-114.

Balassa, Bela (1982), *Development Strategies in Semi-Industrial Economics*, Baltimore: Johns Hopkins University Press.

Balassa, Bela, et. al. (1986), *Toward Renewed Economic Growth in Latin America*, Washington: Institute for International Economics.

[34] See World Bank (2002) and Nolan and Pack (2003).

Bates, Robert H. and Anne O. Krueger (1993), *Political and Economic Interactions in Economy Policy Reform*: Evidence from Eight Countries, Oxford: Blackwell.

Benavente, Jose Miguel, Gustavo Crespi, Jorge Katz, and Giovanni Stumpo (1996), "Changes in the Industrial Development of Latin America," *Cepal Review* 60, pp.

Best, Michael (2001), *The New Competitive Advantage*, Oxford: Oxford University Press.

Bielschowsky, Ricardo A. and Giovanni Stumpo (1995), "Transnational Corporations and Structural Changes in Industry in Argentina, Brazil, Chile, and Mexico," *Cepal Review* 55, April, pp. 143-169.

Bisang, Roberto, Gustavo Burachik and Jorge Katz, eds. (1995), *Hacia un nuevo modelo de organizacion industrial. El sector industrial argentino en los anos 90*, Buenos Aires: CEPAL y Alianza Editorial.

Boratav, Korkut (1988), "Turkey," Stabilization and Adjustment Policies and Programmes Country Study No. 5, Helsinki: WIDER.

Bruton, Henry J. (1998), "A Reconsideration of Import Substitution," *Journal of Economic Literature*," 36(2),pp.

Chang, Ha-Joon (2002), *Kicking Away the Ladder*, London, Anthem Press.

Chenery, H.B., S. Robinson, and M. Syrquin (1986), *Industrialization and Growth*, New York, Oxford University Press.

Ciccone, Antonio and Kiminori Matsuyama (1996), "Start-up costs and pecuniary externalities as barriers to economic development," *Journal of Development Economics*, 59 (), 33-59.

De Fontenay, Catherine C. (2004), "The Dual Role of Market Power in the Big Push: From evidence to theory," *Journal of Development Economics* 75 (), 221-23.

Diaz-Alejandro, Carlos F. (1965), "On the Intensity of Import Substitution," *Kyklos*, 18(3).

Dussel Peter, Enrique (1996), "From Export-Oriented to Import-Oriented Industrialization: Changes in Mexico's Manufacturing Sector 1998-1994," in Gerardo Otero Ed.), *Neoliberalism Revisited*, Bolder, Co: Westview Press.

Ellis, Howard S. (1958) "Accelerated Investment as a Force in Economic Development," *Quarterly Journal of Economics*, November.

Engerman, Stanley L. and Kenneth L. Sokoloff (1997). "Factor Endowments, Institutions, and Differential Paths of Growth among New World Economies," in S.H. Haber, ed., *How Latin America Fell Behind*. California: Stanford University Press.

Enright, Michael, Antonio Frances and Edith Scott Saavedra (1994), *Venezuela: El Reto de la Competitividad*, Caracas: Editiones IESA.

Evans, Peter (1995), *Embedded Autonomy: States and Industrial Transformation*, Princeton: Princeton University Press.

Fairbanks, Michael and Stace Lindsay (1997), *Plowing the Sea: Nurturing the Hidden Sources of Growth in the Developing World*, Boston: Harvard Business School Press.

Felix, David (1968), "The Dilemma of Import Substitution—Argentina," in Gustav F. Papanek (ed.), *Development Policy—Theory and Practice*, Cambridge.

Fishlow, Albert, et. al. (1994), *Miracle or design? Lessons from the East Asian Experience*, Washington, D.C.: Overseas Development Council.

French-Davis, R. (1997), La Industrializacion Chilena Durante el Proteccionismo y Despues (1940-95), Washington, D.C.: Inter-American Development Bank.

Garrido, Celso and Wilson Peres (1998), "Las Grandes Empresa y Grupos Industriales Latinoamericanos en Los Anos Noventa," in W. Peres, ed., *Grandes Empresas y Grupos Industriales Latinoamericanos, Mexico*: Siglo Ventiuno Editores and Cepal.

Gerschenkron, Alexander (1966), *Economic Backwardness in Historical Persp*ective, Cambridge: Harvard University Press.

Haggard, Stephan (1990), *Pathways from the Periphery*, Ithaca: Cornell University Press.

Hausmann, Ricardo and Dani Rodrik, "Economic Development as Self-Discovery," *Journal of Development Economics* 72 (2003), 603-633.

Hirschman, Albert O. (1958), *The Strategy of Economic Development*, New Haven, Yale University Press.

Hirschman, Albert O. (1967), "The Political Economy of Import Substituting Industrialization in Latin America," *Quarterly Journal of Economics*, 82 (1968), pp. 1-32.

Hofman, Andre (2000), "Economic Growth and Performance in Latin America," Serie Reformas Economicas 53, Santiago: ECLAC.

Katz, Jorge, and Giovanni Stumpo (2001), "Sectoral Regimes, Productivity and International Competitiveness," *Cepal Review* 75, December.

Katz, Jorge, M., ed. (1996), *Establizacion macroeconomica, reforma estructural y comportamiento industrial*, Santiago de Chile and Buenos Aires: Cepal and Alianza Editorial S.A.

Kaufman, Robert (1990), "How Societies Change Developmental Models or Keep Them: Reflections on the Latin American Experience in the 1930s and the Postwar World," in G. Gereffi and D. Wyman, eds., *Manufacturing Miracles*, Princeton: Princeton University Press.

Kosacoff, Bernardo, ed. (2000), *Corporate Strategies under Structural Adjustment in Argentina*, New York: St. Martin's Press.

Krueger, Anne (1974), "The Political Economy of the Rent-Seeking Society," *American Economic Review* 64 (3), 291-303.

Kuczynski, Pedro-Pablo, and John Williamson, eds. (2003), *After the Washington Consensus*, Washington, D.C.: Institute for International Economics.

Lall, Sanjaya (2003), "Reinventing Industrial Strategy: The Role of Government Policy in Building Industrial Competitiveness," paper prepared for The Intergovernmental Group on Monetary Affairs and Development (G-24), September.

Lall, Sanjaya (2001), *Competitiveness, Technology and Skills*, Cheltenham: Edward Elgar.

Lall, Sanjaya, Manuel Albaladejo, and Mauricio Mesquita Moreira (2004), "Latin American Industrial Competitiveness and the Challenge of Globalization," INTAL-ITD Occasional Paper-SITI-05, Inter-American Development Bank, June.

Lewis, W. Arthur (1955), *The Theory of Economic Growth*

Little, Ian M.D., Tibor Scitovsky and Maurice Scott (1970), *Industry and Trade in Some Developing Countries: A Comparative Study*, London: Oxford University Press.

Maddison, Angus (1994), "Explaining the Economic Performance of Nations," in W. Baumol, R. Nelson, and E. Wolff, eds., *Convergence of Productivity*, Oxford: Oxford University Press.

Maloney, William and Rodrigo Azevedo (1995), "Trade Reform, Uncertainty and Export Promotion: Mexico 1982-1988," *Journal of Development Economics*, 48.

Miranda, J.C. (2000), Abertura Comercial, Reestruturacao Industrial Exportacoes Brasileiras. Avaliacao de Poetencial Exportador das 500 Maiores Empresas Industrias Brasileiras, Proyecto CLA/99-1671, Rio de Janeiro, Universidade Geral de Rio de Janeiro, September.

Patricio Meller (1995), "Chilean Export Growth, 1970-90: An Assessment," in G.K. Helleiner, ed., *Manufacturing for Export in the Developing World*, Routledge, 21-53.

Moreno Brid, Juan Carlos (2000), "Essays on the Balance of Payments Constrain with Special Reference to Mexico," Ph.D. dissertation, Faculty of Economics and Politics, Cambridge University, October.

Moreno Brid, Juan Carlos, Esteban Perez Caldentey, and Pablo Ruiz Napoles (2004-5), "The Washington Consensus: A Latin American Perspective Fifteen Years Later," *Journal of Post-Keynesian Economics*, Winter, Vol. 27, No. 2.

Murphy, Kevin M., Andrei Shleifer, and Robert W. Vishny (1989), "Industrialization and the Big Push," *Journal of Political Economy*, 97(5), 1003-1026.

Nelson, R.R. and Winter, S.J. (1982), *An Evolutionary Theory of Economic Change*, Cambridge: Harvard University Press.

Nolan, Marcus and Howard Pack (2003), *Industrial Policy in an Era of Globalization: Lessons from Asia*, Washington, D.C.: Institute for International Economics, March.

Nurkse, Ragnar, *Problems of Capital Formation in Underdeveloped Countries*, Oxford: Oxford University Press, 1953. check

O'Campo, Jose Antonio (2004-5), "Beyond the Washington Consensus: What Do We Mean?" *Journal of Post Keynesian Economics*, Winter, Vol. 27, No. 2.

Paus, Eva (2005), *Foreign Investment, Development, and Globalization: Can Costa Rica Become Ireland?*" New York: Palgrave Macmillan.

Peres, Wilson, ed. (1998), *Grandes empresas y grupos industriales latinoamericanos*, Mexico: Siglo ventiuno editors and Cepal.

Prebish, Raul (1959), "Commercial Policy in the Underdeveloped Countries," *American Economic Review*, 49, pp. 257-269.

Prebish, Raul (1950), "*The Economic Development of Latin America and Its Principal Problems*, Lake Success, NY: United Nations Department of Social Affairs.

Reinert, Erik S. (1995), "Competitiveness and its predecessors," *Structural Change and Economic Dynamics* 6, 23-42.

Roberts, Mark J. and James R. Tybout (1995), "An Empirical Model of Sunk Costs and the Decision to Export," Policy Research Working Paper 1436, World Bank International Economics Department, International Trade Division, March.

Rodrik, Dani (2004), "Industrial Policy for the Twenty-First Century," John F. Kennedy School of Government Faculty Research Working Papers Series, Harvard University, November RWP04-047.

Rodrik, Dani (1995), "Trade and Industrial Policy Reform," in J. Behrman and T.N. Srinivasan., *Handbook of Development Economics*, volume III. Elsevier Science.

Rodrik Dani, Gene Grossman, and Victor Norman (1995),"Getting Interventions Right: How South Korea and Taiwan grew Rich," *Economic Policy*, Vol. 10, No. 20, April, 53-107.

Romer, Paul (1986), "Increasing returns and long-run Growth," *Journal of Political Economy*, 94(5), 1002-1037.

Romer, Paul (1990), "Endogenous Technological Change," *Journal of Political Economy* 98 (5), 71-102.

Romer, Paul, 1994. New Goods, Old Theory, and the Welfare Costs of Trade Restrictions. *Journal of Development Economics* 43, 5-38.

Ros, J. (2000), *Development Theory and the Economics of Growth*, Michigan: University of Michigan Press.

Ros, J. (2001), "Industrial Policy, Comparative Advantages, and Growth," *Cepal Review*, 73, April.

Rosenstein-Rodan, Paul N. "Problems of Industrialization of Eastern and South-Eastern Europe," *Economic Journal*, June-September 1943.

Rosenstein-Rodan, Paul N., "Notes on the Theory of the 'Big Push,'" in Howard S. Ellis (ed.), *Economic Development for Latin America*, Macmillan and Co. Ltd, London.

Scitovsky, Tibor, (1954), "Two Concepts of External Economics," *Journal of Political Economy*, 62, pp. 143-151.

Shamis, Hector E. (1999), "Distributional Coalitions and the Politics of Economic Reforms in Latin America," *World Politics* 51:2, pp. 236-268.

Shapiro, Helen (1994), *Engines of Growth*, Cambridge: Cambridge University Press.

Shapiro, Helen (1993), "Automobiles: From Import Substitution to Export Promotion in Brazil and Mexico," in David Yoffie, ed., *Beyond Free Trade: Firms, Governments and Global Competition*, Boston: Harvard Business School.

Shapiro, Helen (2003), "Bringing the Firm Back In," in A.K. Dutt and J. Ros, eds., *Development Economics and Structuralist Macroeconomics*, Cheltenham, UK: Edward Elgar.

Shapiro, Helen and Lance Taylor (1990), "The State and Industrial Strategy," *World Development*, 1990.

Singer, Hans (1950), "The Distribution of Gains between Investing and Borrowing Countries," *American Economic Review*, 40, pp. 473-485.

Stallings, Barbara and Wilson Peres (2000), *Growth, Employment and Equity: The Impact of the Economic Reforms in Latin America and the Caribbean*, Washington, D.C.: UN and Brookings.

Streeten, Paul (1963), "Balance versus Unbalanced Growth," *The Economic Weekly*, April 20.

Stumpo, G. (1995), "El Sector de Celulosa y Papel en Chile: Un Case Exitoso de Reestrkucturacion Hacia los *Commodities* Industriales," LC/R.1521, Santiago: ECLAC.

Taylor, Lance, ed. (1993), *The Rocky Road to Reform: Adjustment, Income Distribution, and Growth in the Developing World*, Cambridge: MIT Press.

Thurow, L.C. (1994), "Microchips, Not Potato Chips," *Foreign Affairs*, July/August.

Toye, John (1987), *Dilemmas of Development*, Oxford: Basil Blackwell.

Traca, Daniel A. (2002), "Imports as competitive discipline: the role of the productivity gap," *Journal of Development Economics*, 69(1), 1-21.

Unctad (2003), *Trade and Development Report, 2003*, New York and Geneva: United Nations.

UNDP (2003), *Human Development Report 2003*, New York: United Nations.

UNIDO (2003), *Industrial Development Report 2002/2003*, Vienna: United Nations.

Viner, Jacob (1953), *International Trade and Economic Development*, London.

Wade, R. (1990), *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*, Princeton: Princeton University Press.

World Bank (1993), *The East Asian Miracle*, New York: Oxford University Press.

World Bank (2002), *World Development Report*, Oxford and New York: Oxford University Press.