

**Demand Responsiveness and the Emergence of Capitalism in East Asia:
A Reassessment of the “Asian Miracle”**

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Introduction

For most analysts, it is an unexamined article of faith that the so-called “Asian miracle” is a push rather than a pull story, a supply-side narrative in which the administrative efficiency, entrepreneurial energy, and productive capacity of a select group of Asian economies created rapid economic growth. Drawing on new data that allow us to examine disaggregated trade data as if they are historical documents, we find clear evidence that pull factors relating to the organization of demand must be counted among the most important causes of growth. A level of economic activity that we call “intermediary demand” (e.g., consisting of the majors buyers, but not the final consumers, of Asian products, as well as a supporting infrastructure) has had a major impact on the organization of Asian economies and has, in interaction with local conditions, decisively shaped the different rates and divergent trajectories of growth throughout the region.

At first glance, it might seem that supply-side and demand-side explanations are merely two sides of the same coin. As we demonstrate, however, these two types of explanations differ radically because they impute different sets of causal forces at work that lead, ultimately, to different outcomes. Because the imputed causes and resulting outcomes are so different, the decision about which explanation is correct is more a matter of evidence and demonstration than of conjecture and intellectual arm wrestling.¹

In this paper, we lay out the evidence for a demand-side or “buyer-driven” explanation and show that, in comparison with a “producer-driven” story, it offers a better account of the

competitive forces at work in these two economies and of the changes in economic organization and economic performance that have occurred in the past three decades, a period that includes the Asian financial crisis and the global economic recession in 2001-2. We also suggest that a demand-side explanation gives us a different, and we believe more accurate, understanding of governmental actions and policies than do strong-state or macroeconomic theories.

Our first step is to summarize the underlying assumptions of “supply-side” narratives of Asia’s economic growth. Although varied, most of these Asia-centric accounts are familiar and well worked. We will emphasize, however, that the causal connections between state policies and macro-economic environments, on the one hand, and economic organization, economic performance, and the trajectories of development, on the other hand, are merely assumed to hold and are not actually explained or even seriously examined.

The second step is to lay out the main lines of a demand-side explanation. First, we show that beginning in the 1960s a fundamental reorganization has occurred in the retail sector in the United States, a reorganization that was, in fact, a commercial transformation that rapidly grew more pervasive and global throughout the rest of the century. The third step in our argument, using highly disaggregated US-bound export goods from South Korea and Taiwan, we show through “trade data archeology” that, in the first twenty years of rapid growth, roughly from 1965 to 1985, the exports were heavily concentrated in only a few categories of highly differentiated goods, most of which were the result of product sourcing and OEM production. More importantly, despite some very important similarities, the trade data also reveal some striking differences between the two economies, differences that correspond to the increasing organizational divergence between the two economies, with Korea’s export sector being increasingly dominated by large vertically integrated business groups (the *chaebol*) and Taiwan’s

export sector being increasingly dominated by small and medium sized firms. Because we have described the first three steps at greater length in another location (Feenstra and Hamilton forthcoming), our presentation of these two steps will be brief.

The fourth step, and the centerpiece of this paper, describes the “backward effects” of intermediary demand on the organization and performance of these two economies. Drawing on a variety of primary and secondary material from South Korea and Taiwan, we show that “demand responsiveness” is a better explanation of rapid economic growth, of increasing divergence of economic organization, and of the distinct trajectories of development in both countries than the usual producer-driven explanations offered for the Asian Miracle.

Supply-Side Narratives: In Search of an Asian Model of Development

Beginning in the 1970s and continuing through today, a huge literature has emerged analyzing and attempting to locate the causes for Asia’s post-war industrial transformation. Even after the heady days of rapid growth in Asia have ended, stopped dead in its tracks by the Asian financial crisis followed by a global recession, the debate about the East Asian Miracle continues (Stiglitz and Yusuf, 2001; Woo-Cumings, 2001; Amsden, 2001; Woo, Sachs and Schwab 2000). In such books as Stiglitz and Yusuf’s Rethinking the East Asian Miracle (2001) and Woo-Cumings’s The Developmental State (1999), theorists rework the same three sets of causes that first appeared in the late 1970s and 1980s: 1) the macro-economic environment (i.e., market fundamentalism), 2) the centrality of the state, and 3) the importance of non-state institutions, such as the family and authority systems, and related cultural factors. Since the publication of the World Bank’s The East Asian Miracle (1993), there has been more willingness among all participants in the debate to combine these sets, rather than to pit them against each other, in order to fashion a more comprehensive explanation of the rapid growth.² Moreover, the

critiques of this literature that have appeared in recent years and that gained prominence during the Asian business crisis (Young 1992, 1993, 1995; Krugman 1994) also disparaged one or more of these sets of causes without introducing new factors.³ The pros and cons of the debate, however, continue to be important because, say analysts, if a more balanced assessments of causes can be formulated, then these assessments will lead to policies allowing countries to “achieve sustainable high growth rates again” (Ito 2001, p. 91) without repeating the mistakes leading up to the Asian financial crisis.

Throughout this debate, there is an unexamined assumption that the causes for Asian economic growth (or the lack thereof) are to be found solely in Asia, and that the story of Asian industrialization is strictly a “supply-side narrative.” The underlying assumption made by nearly all participants in the debate is that the Asian Miracle is an Asian product. Their theories are country-centered, producer driven accounts of how this Asian product was created in situ. Most of the recent interpretations also use these theories, or some variant thereof, to provide an explanation of the lineup of firms and business groups in all these countries: the *keiretsu* in Japan (Gerlach 1992, Gerlach and Lincoln), the *chaebol* in Korea (Amsdem 1989, Kim 1997, Woo-Cumings 1991, 1999), and the family-owned conglomerates in Taiwan, Hong Kong, and Southeast Asia (Hamilton 1997; Redding 1990, 1991, Yeung and Olds 2000). The market fundamentalist theories (Khanna and Rivkin 2001; Khanna and Pelepu 2000a, 2000b; Leff 1977, 1978) argue that business groups result from market failures; the developmental state theories (Amsden 1989, 2001; Kim 1997; Evans 1995, 1997; Gold 1986, Woo-Cumings 1999), from state policies and bureaucratic supervision; and the sociological theories (Hamilton and Biggart 1988; Whitley 1992, 1999; Granovetter 1994, 1995; Orrù, Biggart, and Hamilton 1997; Biggart and

Guillen 1999; and Guillen 2001), from socially embedded networks and institutional environments.

In each interpretation, the presumed set of causes (e.g., market failure, macroeconomic management, state policy, institutional environment) forms a structure of constraints, incentives, and “organizing logics” (Biggart and Guillen 1999) that are external and temporally prior to economic activity that, in turn, produces a specific set of organizational and performance outcomes within the economy. Although the interpretations usually are couched in causal terms, often with a forceful stimulus/response phrasing in the form of “if this, then that,” the actual connection between cause and effect are usually assumed rather than examined and explained.⁴ In addition, although many of these standard explanations acknowledge the importance of what is ambiguously described as “globalization” or “global capitalism” or the “world economy,” very few theorists of whatever bent incorporate such globally significant economic or organizational factors in their causal explanations of local and national economic development.

The extraordinary thing about all of these interpretative accounts is how rarely any of them ever mention the demand-side of Asia’s export orientation.⁵ To be sure, theorists frequently cite export trade as “the engine of growth in East Asia and a few emphasize the bilateral trade with the United States as being particularly significant for Asia’s initial economic growth (e.g., Chow and Kellman 1993). But then, when they give causal explanations for these observations, they examine the producers of goods and, more frequently, the circumstances of production, rather than the buyers of goods and the circumstances relating to consumption. In fact, those market economists most ardently advocating export trade as an explanation of Asian growth have not only developed explanations of what they call “export push” (Bradford 1994; Page 1994), but also have conspicuously neglected to mention “export pull.”

On the other side of the Asian Miracle debate, even those strong-state theorists, such as Wade (1990), and Evans (1995, 1997), who are most critical of market explanations, simply assume that market processes prevail at the demand end: Somehow all those manufactured and exported products find overseas buyers. Robert Wade (1990, p. 148), who discusses the Taiwanese government's economic policies in meticulous detail, seems to speak for most theorists when he writes that the "marketing side of Taiwan's export growth" "remains a mystery."

The Retail Revolution and the Development of Intermediary Demand for Asian Products

Most studies of modern capitalist economies are analyses of production. Chandler (1977, 1990), Piore and Sabel (1984), Williamson (1975, 1985) Hollingsworth and Boyer (1997), Whitley (1999), Fligstein (1990; 2001), Burawoy (1985), and Saxenian (1994)—in these and many other works, scholars emphasize, in widely varying ways, systems of business and institutions relating to the manufacture of goods. Similarly, studies of capitalism in Asia also have the same focus (e.g., Hamilton and Biggart 1988; Aoki 1988; Amsden 1989; Gerlach 1992; Whitley 1992; Kim 1997; Evans 1995). Even the Marxist and world systems perspectives have a decided bias toward manufacturing as the core activities of capitalist economies. Whatever the perspective, these studies share a recognition that the organization of production is a decisive factor in the development of capitalism. It is, therefore, very unusual for any of these studies to examine distribution and consumption in the same light as production, if these activities are mentioned at all.⁶

Despite a developed analysis of retailing and its connections to manufacturing, it is our conclusion, that the retail revolution in the United States must be counted among the primary causes of the **initial** industrialization of East Asia. A full analysis of this transformation in

retailing is, however, beyond the scope of this paper and has been addressed in another location (Feenstra and Hamilton, forthcoming). This task here is to convince the reader that a transformation has, in fact, occurred and that, whatever else occurred as a consequence of the transformation, it was the driving force behind South Korea's and Taiwan's initial industrialization.

The transformation of the retail sector in the United States begins in earnest after World War II. At the time, the large-firm model of corporate capitalism predominated (Prechel 2000). In the United States, the position of General Motors, Ford, IBM, General Electric, Westinghouse, Boeing, and a long list of other similarly sized corporations in nearly every economic sector seems unassailable (Chandler 1990, pp 638-732). Likewise in early post-war years, mammoth business groups in Europe and Japan, such as Daimler-Benz, Volkswagen, Mitsubishi, and Mitsui re-emerged stronger than they were before the war, and new giants, such Toyota and Sony, suddenly entered the scene.

While manufacturing firms had built dominant positions in their respective industries before and immediately after World War II, retail firms (e.g., departments stores and supermarkets) only started the process of concentration in earnest in the late 1950s and 1960s (Bluestone, et.al. 1981). Consolidation was, in part, delayed by the presence of fair trade laws that had been passed during the Great Depression to sustain small retailers in the face of growing competition from downtown department stores. In the 1950s, the initial set of changes was, in part, a consequence of the suburban expansion of American cities, which led to the construction of shopping centers and malls outside of the urban core. The widespread development of these malls led to the promotion of nationally known anchor stores, and the initial development of specialty retailers aiming at niche markets.⁷ The emergence of these national department store

chains located outside the old urban cores not only greatly diminished the market share of the locally owned retailers, but it also greatly increased competition among the national and regional chains themselves, each fighting for greater market share and eventually forcing by the late 1970s and early 1980s a wave of mergers and acquisitions, causing even greater consolidation within the sector.

One of the great advantages of the large department store chains was their ability “to escape price-maintenance regulations by selling private-label products, such as Sears’s Kenmore line produced by Whirlpool.” In fact, “the proliferation of private labels reduced the efficacy of fair trade laws to the point where active support almost disappeared” (Bluestone, et. al. 1981, 126). By the mid-1960s, most states no longer actively enforced these laws, and by mid-1970s the laws had been repealed throughout most of the United States. In 1981, when Bluestone and his colleagues examined the retail structure of the United States, the retail revolution was in full swing. “Repeal (of fair trade laws),” they (1981, p. 126) concluded, “precipitated a virtually total restructuring of the retail sector.”

This first round of changes paved the way for two more sets of changes, both occurring in the 1960s and 1970s: the emergence and rapid widespread adoption of value merchandizing and, at nearly the same moment, the split in value merchandising between general merchandisers and specialty retailers. As Table One shows, it was during this period that most of the now prominent stores in both categories began operations or converted to value merchandising. In one year alone, 1962, only months apart from each other, Wal-Mart, Kmart, Kohl’s and Target first began operations as self-service discount department stores.⁸ Specialty retailers, such as the Toys-R-US, The Gap, and The Limited, date from this period as well. Both categories of value merchandisers, as well as the national department store chains, would increasingly source the

goods they sold from Asian manufacturers. As we now know, Wal-Mart led the way, becoming in the course of the next forty years the world's largest company, ranking 1st in the Fortune's list of the top 500 global companies. Together with a relatively small number of other chain stores, Wal-Mart has led the consolidation of the retail sector. **Figure 1** traces this consolidation of chain stores across the entire retail sector from the 1960 to the 1990s. **Figure 2** illustrates the consolidation and concentration within specific sectors of retail, and **Figure 3** shows the share of total revenues of chain stores in selected retail sectors in 1997.

The core feature of this consolidation is the dominance of the multiunit chain through the retail sector in the United States and increasingly throughout the world. The main feature of such multi-unit chain is their control over the inventory of goods sold in their stores. The global transformation in retailing is the transformation in these supply lines that allows merchandisers and retailers to secure a full range of differentiated goods in a predictable and cost-effective ways using global sourcing and contract manufacturing. These efforts at sourcing and contract manufacturing were initially, and to some extent remain, centered in East Asia.

The aggressive expansion of specialty and discount retailers in the United States led them to adopt what Abernathy and his colleagues (1999) call "lean retailing." Lean retailing is essentially a process-oriented methodology for making markets for goods. It is this methodology that transformed Asian manufacturers into organizational extensions of Western retailing. As described by Abernathy and his colleagues (1999), lean retailing consists of four building blocks are 1) standardized product codes, barcodes, and scanning technology, 2) computerized inventory management systems, 3) state-of-the-art distribution centers, and 4) standardization across firms and across networks of firms. Standardization includes such things as sizes, colors, weights and measures, operating systems, communication devices, and any number of other

matters. This standardization allows multiple firms and multiple networks of firms to work together in a seamless way, creating a common world of work processes, or what Abernathy and his colleagues call “packages,” within and between industries, permitting firms in different sectors of the economy (such as manufacturing, retailing, and shipping) and whose personnel never meet face-to-face to coordinate their joint endeavors. For instance, by adopting standardized packages, retailers supply manufacturers with all the necessary information to make the product “floor-ready.” Packaged in the right box, affixed with the correct retail price for a given location and with the right barcode and tracking information, the product can be shipped from the manufacturing site, tracked along the way, delivered to a distribution center and then to the specific store where the item is needed ready for display, with no further effort on the part of the retailer.

All these steps in manufacturing, distributing, selling goods were increasingly organized backwards from “consumer choice.” In the 1970s, consumer choice became less about consumption and a theory of consumer preferences than about actual sales information and the development of complex organizational capabilities to analyze and react to any purchase that is made for whatever reason at the time and the place the purchase is made. When retailers have instantaneous information at the point of sale about what product was bought and increasingly who bought it, then they no longer need to posit a psychological or sociological theory of why people buy what they do in order to put together an inventory of products to sell. Instead, retailers and brand name merchandisers merely have to analyze consumer choice and give buyers more and a greater selection of what they are already buying as quickly as possible.

For rapid response to demand, these sellers of goods needed to be organizationally linked to the makers of goods, and they needed to control these production networks so that they could

obtain the goods they wanted to sell, at the price they wanted to pay, and delivered at the time and place they specified. Their backward linkages organized and predictable, merchandisers and retailers were free to focus on assessing and massaging consumer choice. A Wal-Mart executive made this point very succinctly: “We don’t *sell* stuff,” he said, “we *buy* stuff for consumers. To paraphrase Gereffi (1994), the retail revolution turned retailers and brand-name manufacturers into buyers, “big buyers.”

Intermediation and the Organization of Intermediary Demand

The development and rationalization of organizational linkages between big buyers and manufacturers emerged into a sector of economic activity that Daniel Spulber (1996, 1998) has identified as “intermediation,” and the demand generated by this sector is what we call “intermediary demand.” In economic terms, intermediation involves market-making processes linking buyers and sellers, and intermediaries are the agents that carry out these process. These agents “seek out suppliers, find and encourage buyers, select buy and sell prices, define the terms of transactions, manage the payments and record keeping for transactions, and hold inventories to provide liquidity or availability of goods and services.” In addition, “intermediaries often transform products to add value: transporting, storing, repackaging, assembling, preparing for final use, and adding information and guaranties” (Spulber 1996, pp. 135-136). According to Spulber’s “conservative” calculations (1996, p. 141) “intermediation contributes about 28 percent of the GDP (of the U.S. economy).”

A raw estimate of this sort does not do justice to the roles that intermediaries play. Although they represent a significant portion of the U.S. economy, the significance of American-based intermediaries lies in the fact that they do not simply link preexisting consumers to preexisting manufacturers, thereby providing some efficiencies and reduced transaction costs,

which is the implication of Spulber’s analysis. Instead, based on our analysis, it is abundantly clear that intermediaries play a pivotal role in restructuring entire economies, both in the United States and overseas. On the consumer end, they create new types of buyers—discount shoppers, lifestyle enthusiasts. They make differentiated goods for differentiated people. Since every purchase is tabulated and analyzed and made part of a computerized feedback loop that connects final demand to manufacturing, the gap between the final consumer and the big buyers is small and continually growing smaller.

On the manufacturing end, as portrayed in **Figure 4**, the same outcome occurs. The tighter the linkages with the final consumer, the tighter the linkages have to be to the manufacturers as well. In competition with others in their own sector, intermediaries strive to reduce risk at both ends; at the consumer end and at the manufacturing end. To create these tight linkages at the manufacturing end, intermediaries attempt to organize their linkages backwards from point-of-sale information to the manufacturing process. The new retailers are able to organize these backward linkages because they have great and increasingly exclusive access to final consumers, which creates huge barriers to entry for any would-be manufacturers of consumer goods, and because they develop long-term manufacturing relations with producers who have (at least initially) limited or no access to these markets except through the big buyers. These are manufacturers who are entirely dependent on the big buyers for their business. This exclusivity, therefore, allows the new retailers to exert great market power “backwards” over the manufacturing process itself and *to organize* manufacturing process to reflect their needs based on a “real-time” analysis of consumer choice. Although a great and mainly laudatory literature has grown up about “flexible specialization,”⁹ what the concept really means is an arrangement to induce *dependent manufacturing*.

The intermediation that emerged in the course of the retail revolution, therefore, is not a benign process, but is rather one that redefines the linkages across markets and opens all of these linkages to competitive struggles for dominance. At every level, entrepreneurial discovery of new opportunities has led to innovations—new niches, new technologies, new organizational combinations of firms that transform market competition at every level.

The extraordinary development of Asian economies was an outcome of intermediary demand generated during the first great waves of the retail revolution occurring in the United States after World War II. Beginning in the 1960s and 1970s, and then rapidly accelerating after 1975, intermediaries made Asian manufacturers an integral part of the retail revolution that occurred in the United States. Big buyers were not the only intermediaries involved. In fact, establishing the connections between the big buyers and the Asian manufacturers became the work of many types of people and firms. The big buyers themselves employed jobbers, who directly ordered and supervised the manufacturing; they went through brokers, who bought goods for them; they worked directly with Asian manufacturers, who often came to their headquarters in the United States; they made deals with Asian trading companies, which in turn arranged for the manufacturing to be done. However the actual connections between manufacturers and buyers were established and maintained, there were, in addition, a large number of firms, trade associations, and government and privately sponsored councils and institutes that helped to arrange these connections. Trade fairs, international expositions, chambers of commerce, development councils, and trade associations—all focused on matching foreign buyers to Asian manufacturers. Cities and national governments spent millions to build huge complexes, such as the World Trade Centers in Taipei and in Seoul, to house the expositions, to maintain lists and provide permanent exhibits of products made by local firms,

and to facilitate the matching process through providing an assortment of services. Furthermore, entire industries arose to service these connections: banking, insurance, shipping, fast-freight forwarders, air freighters, communication equipment, and many others.

All these various connections between the manufacturers and the retailers, as well as the supporting infrastructure and service providers, developed and accelerated intermediary demand. At the time, in the late 1960s, when big buyers first began to order manufactured Korean- and Taiwanese-made goods through Japanese trading companies, there were few institutions and services supporting this intermediary level of economic activity. But by the early 1980s, everything was in place—the supporting institutions and service firms and, most of all, the linkages between retailers and manufacturers. As the organizations of intermediary demand and the routines of lean retailing became established, the economic activity funneled through this level simply exploded, so much so that it is not too far-fetched to say that buyers and sellers became tied to each other's success. The development of quality contract manufacturing in Asia allowed new types of consumer products and new types of firms selling those products to emerge in the United States, and the rapid and overwhelming success of merchandising and retailing in the United States and elsewhere encouraged Asian entrepreneurs rapidly to expand, to diversify, and to upgrade their manufacture of export products. The early and continuing successes in making products designed for and often ordered by merchandisers and mass retailers in the United States and Europe fed back on the Asian economies, promoting rapid growth and the emergence of complex economic organizations. In retrospect, we can see that these Asian connections also helped to accelerate the retail revolution in the United States.

The evidence for this demand-driven explosion of manufactured goods exported to the United States from Asia is found in the trade data, and in supplementary material that helps to explain the data. It is to this evidence we now turn.

Trade-Data Archeology

A large part of the difficulty in systematically analyzing factors relating to demand has been the lack of trade data sufficiently detailed to connect manufacturing activities in Asia with merchandising and retailing activities in export markets. Previously, the best export data available were trade statistics, supplied by exporting countries, which are aggregated into major product categories, such as textiles and garments. These aggregated classifications allowed few, if any, distinctions within categories or between countries producing the same range of products.

Working under the auspices of the International Trade and Investment Program at the National Bureau of Economic Research, Feenstra (1996) recently compiled a comprehensive database of all US imports from 1972-1994, and even more recently has updated the database to the year 2001.¹⁰ This database contains the most disaggregated trade data available. Collected by the US Custom Service, the data report the country of origin for US imports at a seven digit level from 1972-1988 and at a ten-digit level from 1989 on, both of which are fine enough to distinguish between four-wheeled and three-wheeled baby carriages or between bicycles having wheel sizes between 55 and 63.5 centimeters and those having wheel sizes 63.5 centimeters and larger or between parts of almost any export product and the whole product itself. For instance, in 1985, listed among Taiwan's 8,445 categories of export products sold to the United States were 1,836 distinct types of garments and 166 distinct types of footwear. Although these data are only for imports into one country, albeit by far the most important trading partner for both

South Korea and Taiwan, they are still an invaluable source of data for making inferences about Asia's contribution to the retail revolution, as well as about the organization of Asian economies.

These trade data are, in fact, so disaggregated that they serve as historical records of East Asian economic development.¹¹ They are the footprints left behind on the path to industrialization. They indicate the real record of growth, the best remaining record of the items that firms actually made and sold overseas and whose sales provided revenues that could be reinvested, pocketed, or otherwise used. Because trade data record the products exported, trade data permit us to track the changes in the products being produced for export. The more disaggregated the data are, the more the data reflect actual items being produced. The closer we get to the actual products, the better we can make inferences about the main drivers pushing these products, as well as the firms and the economy producing those items. Therefore, the careful use of trade data provides one of the best ways to examine the path of development and, by inference, the organization of economies proceeding along this path.

Just concentrating on the US imports from South Korea and Taiwan, we can infer from the initial period of industrialization, from 1965 to 1985, that the primary goods produced were mostly the result of contract manufacturing. Before summarizing these findings, it is well to keep two facts in mind: First, in the initial decade of rapid economic growth, roughly from 1965 to 1975, most of the growth in both countries is accounted for by growth in the export sector of these economies. This is particularly true for Taiwan, whose population and total economy was roughly half the size of South Korea's, but whose export totals to the United States exceeded Korea's every year from 1965 to 2000. Second, in the mid-1960s exports to the United States suddenly leaped forward, making the United States by far the largest single market for exports from South Korea and Taiwan. Moreover, unlike their exports to other countries such as Japan,

which included many agricultural products, the exports to the United States overwhelmingly consisted of manufactured, differentiated goods (i.e., goods that have no set prices and no established market in which prices are set [Rauch 1999]). In fact, in the twenty years from 1965 to 1985, nearly 50 percent of the value for all manufactured goods exported from Taiwan and 40 percent from Korea went to the United States. In a nutshell, then, the initial period of growth of South Korean and Taiwanese economies primarily resulted from manufactured exports to the United States.

The detailed analysis of these exports into the United States from 1972 until 1985 show two sets of trends. One set of trends shows basic similarities between South Korea and Taiwan in their pattern of exports to the United States, and the second set reveals that underlying these similarities are basic and increasingly apparent differences between the two economies. The similarities between the two countries reflect similarities in the demand from intermediaries, and the differences grow out of the divergence in economic organization between the two countries that was present at the outset of industrialization and that increased as time went on.

Similarities in Trade Patterns

To give a sense of the similar patterns in export growth, **Figure 5** shows, especially in the early years, the tremendous increase in the value of exports to the United States, and **Figure 6** shows the ratio of exports to the US in relation to the total exports. Clearly, the exports to the United States account for most of the increase in total exports until the 1980s. **Figure 7** gives some depth to this pattern. In the early years of industrialization, until 1985, there was in both countries a rapid proliferation of the categories of goods (at a seven digit level) exported to the US, and a less spectacular but still substantial growth in the number of categories of garments and footwear in that total. Nothing so far is surprising, but in **Figure 8** we see that, despite the

fact that both South Korea and Taiwan exported thousands of different seven-digit categories of products to the United States, the total value of the exports is highly concentrated in only a few product categories. The highest concentration for both countries occurs in the earliest period, with nearly 50 percent of the value of Korea's exports to the United States and 25 percent of the value of Taiwan's exports contained in only ten seven-digit categories. The concentration lessens in the early 1980s, but then increases again in the late 1980s and throughout 1990s, so that by 2000, the top ten ten-digit items in both economies accounted for over 30% of the total value of exports to the United States. We should note a difference here as well: Throughout the entire period, Korea's exports are consistently more concentrated in only a few product categories than are Taiwan's exports.

Exactly what were the top categories of exports and how did they change over time? Aggregating the TSUSA categories at the three-digit level for the period from 1972 to 1988, which is the entire period this classification system was used, we can see, in **Figure 9**, that during this fifteen year-period most imports from South Korea and Taiwan occurred in only a few general product categories and that, at the three-digit level, the export landscapes of both countries look very similar. *Going from the left to right, the peak categories above two billion US dollars in one or both export landscapes are plywood (240), garments (381-384), steel (610), (646) (653), (661), (676), electrical appliances (684), electronic products (television and radio (685), (687) transportation vehicles and parts (692), footwear (700), luggage and related products (706), furniture (727), bicycles (734), (737) rubber and plastic products (772), and leather products (791).*

All these figures in this section show similarities in patterns of export trade between South Korea and Taiwan. As we will spell out more fully below, these similarities primarily

reflect export pull, that is, the demand from big buyers choosing what categories of goods to buy from South Korean and Taiwanese manufacturers. Within these categories, there is a huge range of very different sorts of products, and it is in the manufacture of these products that systematic differences between South Korea and Taiwan emerge..

Differences in the Patterns of Goods Produced for Export

If we examine inside the main three-digit categories that are so prominent in the export landscape, we find that the similarities disappear and that the differences emerge and become increasingly obvious over time. Several trends are apparent in this regard. The first trend is that, in the earliest period of import data from 1972 to 1976, the export profile of both countries contained very similar and often identical products, and that most of the value of each broad category was highly concentrated in only a few products within that category. Remember this is the period before specialized buying strategies and specialized manufacturing strategies had emerged, a period when buyers were making their first big orders and when local manufacturers were engaged in intense competition to obtain these orders. In these years, for example, garments exports were among the highest categories of exports from both countries, with garments providing about a third of the total value of Korea's exports to the United States and a quarter of Taiwan's. Among the 288 and 381 types of garments that South Korea and Taiwan, respectively, exported to the United States in 1972, the top five items provided 42 percent of the total value of garments from Korea and 39 percent from Taiwan. Three of the top five garment items are the same for both countries, namely specific types of sweaters, knit shirts, and trousers, all for women and girls.

The second trend emerged, between 1975 and 1985, when US demand dramatically increased and when buyers and manufacturers began to figure out their respective strategies to

fill that demand. In this period, as orders began to pour in, the composition of products in each category begins to change, and the product mix of exports from each country in each category increases dramatically. This trend is true for both countries, but especially so for Taiwan.

Figure 10 depicts this trend for footwear, one of the most uniform categories, between 1972 and 1988.¹² Note the figures also show that, although the main Taiwanese and South Korean footwear exports in 1972 share with the same product (a type of soft sole vinyl shoes for women), new categories quickly emerge and some disappear and by 1980 a division of labor between Taiwan and South Korea footwear has emerged with each countries specializing in different types of shoes.

The third trend is this growing division of labor between South Korea and Taiwan. As the export totals for different key product categories begin rapidly to increase by the middle to late 1970s, the products making up those categories begin to diverge between countries, with each country beginning to specialize in particular products within each category. There are several exceptions to this trend, for example footwear and televisions, but, as we will describe below, the exceptions often prove the rule. Good examples of this third trend are products made of rubber and plastic, which consistently are important export items for both economies throughout the period. Before 1975, both countries predominately exported rubber and plastic wearing apparel to the United States, but as **Figure 11** show, after 1975, Korea increasingly specialized in exporting various kinds of tires—tires for cars, trucks, buses, and bicycles—while during the same interval, Taiwan’s exports in this category expanded to include an array of products in addition to plastic wearing apparel: religious articles, household furnishings, curtains, Christmas tree ornaments, as well as some bicycle tires.

Fourth, during this fifteen year period leading up to 1987, products within categories gradually begin to segment, with South Korean exports in most categories increasingly consisting of products that could be mass-produced (e.g., in garments: men's shirts, as opposed to women's fashion), and often, but not always, were final products ready for consumer use, such as microwave ovens, video machines (VCR's), tires, and automobiles. In contrast, within the same three-digit product categories, Taiwanese exports tended to be component parts, goods having short product cycles (e.g., in garments: women's clothes), and some fairly complex final products that can be assembled from standardized components (e.g., computers, TVs, and bicycles), this in addition to a considerable range of relatively inexpensive simply made consumer products (e.g. luggage, household products made of plastic). **Figures 12 and 13** depict the clearest examples of this trend, household appliances and transportation parts and equipment, including bicycles and bicycle parts.

In summary, this analysis of trade data reveals a sudden and accelerating expansion of exports from South Korea and Taiwan that began in the late 1960s and that does not level off until the mid to late 1980s, twenty years of extraordinary growth. The rapid emergence of these exports was highly concentrated in only a few product categories. As **Figure 14** shows, although demand in these categories grew rapidly, so that many goods continued to be produced in common, within these categories during this twenty-year period export products began clearly to diverge, as each economy began to specialize in particular types of production capabilities and the products compatible with those capabilities.

Linking Exports to Intermediary Demand

The principal exports from both South Korea and Taiwan are exactly those products that fueled the retail revolution in the United States: garments, footwear, bicycles, toys, televisions,

microwaves, computers, thousands of plastic household and office items, and a large array of semiconductors and related items that have in turn become the core components in a vast and growing number of other products. Using the data on imports collected by the US Customs Service, we can be precise about these imports. For instance, we know for sure that in 1985, South Korea and Taiwan were two of the three largest importers into United States of all garments with nearly 28% of the total value (along with Hong Kong which itself exported an additional 24% of the total). Within that total, the two countries sent 26% of the value of all imported women's garments and 60% of the value of all imported men's shirts. Also in 1985, Taiwan imported into the United States 57% of total value of all imported bicycles, and Korea 28% of all imported microwaves. In the same year, the two countries imported into the United States 54% of all handbags and luggage, 40% of all toys and games, 36% of all television sets, 24% of a huge category of miscellaneous rubber and plastic products, and a whopping 50% of imported footwear of all types. If we go to the seven-digit level, then in 1985, Taiwan supplied 100 percent of 55 different categories, and South Korea 100 percent in 24 different categories of products, most of which for both countries were categories of textiles and clothing.

If we survey the main items of exports throughout the period from 1972 to 1985, it becomes clear that products secured through contract manufacturing forms an extremely high percentage of the total exports. For instance, according to a report on the Korean garment industry (cited by Lee and Song, 1994, p. 148), "Until 1988, approximately 95 percent of garment exports were produced under contract to foreign firms, rather than under Korean-owned labels." According to Levy's analysis of the footwear industry in South Korea and Taiwan (1988, p. 46), "(In the initial phases of export expansion," Levy notes, "export business in both nations was based overwhelmingly on the fulfillment of orders placed by Japanese trading

companies, and designed for the US market.” Japanese trading companies were soon supplanted as Western firms began to place their orders directly. In both countries, Western brand name merchandisers, such as Nike and Reebok, controlled export footwear industry (Levy 1988, 1990). Also in his case study of the manufacture of personal computers in the two countries, Levy (1988) cites figures from the trade associations for electronic appliances that 84% of Korean-made personal computers and 72% of Taiwan-made computers were sold under non-local brand names. The world’s largest exporter of bicycles during the 1980s and early 1990s, Taiwan’s export industry until the late 1980s was largely OEM manufacturing (Cheng 1998). At one point in the late 1970s, Schwinn placed an order of 100 million bicycles with Giant, “which was then only a small factory” (Cheng 1998, p. 7).

Examining the lists of exported finished manufactured products in those early years of economic growth, it is difficult to find any major product category that was not dominated by contract manufacturing or any major retailers that were not involved in contracting manufacturing in East Asia. Garments, household appliances, electronic products, toys, bicycles—the majority of all of these finished exports were sold under foreign-owned brand names and product labels. Many manufactured exports from both countries, but especially from Taiwan, were component parts, and other types of intermediate goods, such as textiles. A sizeable amount of other manufactured exports were inexpensive unbranded products, such as kitchen items and tools of various kinds, which were sold in a range of retail outlets, often in discount stores, such as K-Mart and Wal-Mart. As long as they were purchased from South Korean and Taiwanese firms in contracted batches for assembly or sale elsewhere, however, even the simplest and least expensive items were driven by intermediary demand.

From the perspective of America's total imports, those from East Asia represented only a modest but steadily increasing percentage, especially in comparison with imports of oil from the Middle East and manufactured and agricultural products from Europe. But from the perspective of Asia's industrial expansion, these US bound exports accounted for a huge percentage of the total output of these Asian economies and drove these economies forward into capitalism. Ironically, the very success of these Asian connections also helped to transform the retail and manufacturing structure of the United States.

What made East Asian countries, and specially Taiwan and South Korea, such good places to arrange buyer-driven manufacturing? Gary Gereffi (1994), whose work has consistently informed our own, argues that the greatest advantage of doing business in South Korea and Taiwan is the capability of firms there to act as "full-package providers," able to execute every step in the manufacturing, packaging, and delivery processes, and, remarkably, they were able to be full-package providers from the very first. In other words, the reason these economies became so crucial to American retailers and mass-market merchandisers is that they adapted to and were instrumental in the construction of intermediary demand. Their advantage was their demand-responsiveness. This conclusion, of course, begs the question: What is the nature of this demand-responsiveness? The next step, therefore, is to examine the "backward effects" of this increasingly organized demand structure on the organization of manufacturing.

Global Matching, Demand Responsiveness and the Emergence of Divergent Economies

To examine these backward effects we need to set the process of rapid industrialization in motion, by describing, first, how the process got going and, second, how the emergence and divergence of these two very distinct economies became outcomes of the same "searching and

matching” aspect of the intermediation process (Spulber 1996, 2001), which following the terminology of James Rauch (1996, 1999) we call “global matching.”

Going into this discussion, we need to reemphasize two aspects of the retail revolution. First, in the initial years of industrialization, foreign retailers and merchandisers, mostly based in the United States, accounted for much of the rapidly increasing demand for export products from Taiwan and South Korea. Second, in order to obtain these products in rapid, reliable, and predictable ways, most retailers and merchandisers had to enter into price sensitive contractual or quasi-contractual relationships with those South Korean and Taiwanese manufacturers who they thought could best deliver their orders. These relationships established **non-market networks that turned these manufacturing sites into organizational extensions of merchandising and retailing and that produced a type of commercial capitalism.** To enter into such relationships required American and, just as importantly as we will see, Japanese firms to engage in a search and selection process to find suitable manufacturers in South Korea and Taiwan.

Moreover, as the organizations and processes of intermediary demand were instituted on both sides of the Pacific, Asian entrepreneurs also began to search both for products that retailers would want to sell and for retailers who would actually place orders. In the early years of rapid growth, this mutual search for suitable partners was a scramble, a “gold-rush” environment, in which deals were made and remade with great speed. These ongoing and constantly readjusting selection processes, where both sides were searching for the best matches, produced backward effects (i.e., from retailing to manufacturing) that systematically rippled through the economic and spatial organization of the South Korean and Taiwanese economies and produced divergent trajectories of rapid growth. By the time that the Plaza Accords of 1985 took hold in the late 1980s and early 1990s, the divergent trajectories were organizationally in place and, within the

normal course of events, were irreversible. Our concern here, then, is to trace these emergent trajectories in the initial years of industrialization, up to the time of the Plaza Accords.

The Three Dimensions of Global Matching

The process of mutual selection between Western and Japanese buyers and Asian manufacturers occurs simultaneously along three interrelated dimensions. First, the selection process involves what Mortensen (1988, p.216) calls a “voluntary pairing under competitive conditions.” The process of firms pairing off with each other is analytically similar to workers with specific skills being matched with a job that requires a certain set of skills and to people trying to locate a marriage partner where both individuals mutually try to find a mate with the qualities that each most desires. Researchers have shown that actual or perceived competition for mates or for workers encourages an early selection, but such a selection, though stable in the short run, does not necessarily lead to a stable match over the long term. “When matching requires time, is costly, and takes place under conditions of uncertainty both because it is not rational to wait indefinitely for the perfect partner and because experience is required to discover the value of a specific partnership,” then subsequent searches are likely in order to find better matches (Mortensen 1988, p. 238). Even when subsequent matching occurs, however, inertia, propinquity, and satisficing (i.e., making less than optimal choices) remain an integral part of the selection process.

Because the matching process is crucial to good outcomes, it is commonplace in such a context to employ a middleman to arrange the match. What matchmakers (including families and friends) do for marriages, and what headhunters and employment agencies do for finding the right person for the right job, a range of brokers and trading companies do for linking retailers and merchandisers with the appropriate manufacturing firms. Although little studied, these

“international trade intermediaries,” as Rauch (2001) calls them, are a ubiquitous aspect of the matching process in South Korea and Taiwan, especially in the earlier years of industrialization.

The second dimension, an outcome of global matching, is spatial. The matching process linking two or more firms together also involves the selection of a geographical space where the agreed upon economic activity occurs. This link between individual choice and geographical location has been the subject of a number of important theoretical discussions, all of which demonstrate that individual choices made locally and sequentially for whatever reason (i.e., micromotives) have systemic and emergent (i.e., non-linear and transformative) organizational effects on a much wider geographical location. This discussion began with Thomas Schelling’s famous game-theoretic experiment (1978, pp. 135-166), in which he showed how individual housing choices made sequentially by racially tolerant people, who choose locations where they would not be “too much” in the minority, will result in widespread patterns of segregation over time.

Drawing not only on the work of Schelling, but also on Arthur (1994; Arthur, Durlauf, and Lane, 1997) and Arrow (Arrow, Anderson, and Pines 1988), Paul Krugman and his colleagues (Krugman 1994, 1996, 1997; Fujita, Krugman, and Venables 1999) expanded on these basic ideas to establish what they call the “new economic geography.” Krugman (1997, p. 240) describes the basic theme underlying this new branch of economics as follows:

The spatial economy is, self-evidently, a self-organizing system characterized by path dependence; it is a domain in which the interaction of individual decisions produces unexpected emergent behavior at the aggregate level; its dynamic landscapes are typically rugged, and the evolution of the spatial economy typically involves ‘punctuated equilibria,’ in which gradual change in the driving variables leads to occasional discontinuous change in the resulting behavior.

Among the examples that the new economic geographers (e.g., Fujita, Krugman, and Venables 1999; Pohl 2001) cite are urban hierarchies, city location, the appearance of industrial clusters and agglomerations, economic development, and patterns of international trade. Sudden transformations occasionally occur across all of these examples. For example, a new type of industrial cluster—Silicon Valley—may suddenly appear that transforms not only the spatial dimensions of that region, but also possibly the spatial dimensions of the national or even the global economy (Saxenian 1994). All such economic transformations are the result of “emergent self-organizing systems” that lead to rapidly increasing returns in one or more locations.¹³ These are “systems that form structures not merely in response to inputs from outside but also, indeed primarily, in response *to their own internal logic*” (Krugman 1966, p. 99, our emphasis). These systems are what Friedrich Hayek (1967) called “spontaneous orders,” which are the “results of human action but not of human design.”

The third dimension of global matching involves the selections not only of partners in a geographical place, but also of an economic space within which the specific relationships between two firms is defined. By economic space, we mean the competitive environments in which the relative locations and the relative leverage of the two firms along a commodity chain are negotiated. In the earlier years of matchmaking among firms, the economic relationship was often narrowly defined in terms of the task to be performed and was distant in terms of trust and predictability; more often than not the relationship was brokered through third party firms, initially Japanese trading companies. However, as experience in working with subcontract manufacturers increased and trust developed (or failed to develop) among the participants, as the sector of activity encompassing intermediary demand became increasingly institutionalized, and as the economies within which global matching predominated grew more complex and

sophisticated, then the firms involved typically relocated themselves relative to each other, even when the firms remained the same.

As we will show below, this dimension of global matching is very important in our understanding of the demand responsiveness of these economies. The negotiation process not only establishes a division of labor between two firms linked together in a chain of production and distribution, but also a balance of economic power among interlinked firms, including their relative ability to control (via authority or economic power) different areas of economic activity and to establish prices and profit margins within those areas. Such competitive struggles are not easy or necessarily straightforward even in stable economies in the best of times, but during conditions of rapid economic change, as occurred in the early days of industrialization in East Asia, they were tumultuous and drove the process of economic self-organization forward.

For example, as Gereffi (1994; Gereffi and Lin 1994) has documented, what began as narrowly defined relationships between the big buyer and the sub-contract manufacturer soon developed into “triangle manufacturing” systems in which the Asian manufacturer would begin to subcontract parts (and sometimes all) of the manufacturing jobs out to other firms. This turned the subcontractor into a middleman in an increasingly complex network of firms, many of which by the 1990s were located in other countries, such as China and Indonesia. “Since the buyer has no direct production experience,” explains Gereffi (1994, p. 224) “it prefers to rely on the East Asian NIC manufacturers it has done business with in the past to ensure that the buyer’s standards in terms of price, quality, and delivery schedules will be met by new contractors in other...locations.” Industrial upgrading is another way for Asian manufacturers to relocate their economic position relative to the same or different buyers (Kao and Hamilton 2000; Ernst 2001; Gereffi 1999).

We will now examine each of these dimensions in turn.

Voluntary Pairing in a Competitive Environment

For Asian manufacturers, there is a sharp difference between customers and consumers. Especially in the earliest years of rapid growth, Asian manufacturers knew who their customers were and the importance of their orders. These customers were not the distant masses of consumers in the United States or Europe, but rather the handful of buyers or their agents who usually came directly to their factories to order and to inspect the final goods.

The interest in customers is apparent everywhere one looks—trade shows, English-language phone books, world trade centers, billboards and displays lining airport corridors, promotional literature in hotel rooms, and the ubiquitous factory showrooms. The showrooms are especially indicative. Whatever the size of their firm or whatever product they make, most manufacturers have a showroom in or near their factory. The showroom is usually the best room in the building, and it is there, on the walls or in display cabinets of this showroom, that the factory owners proudly show off their wares. In Taiwan, many of these goods are recognizable, for they bear an array of American and European brand names. Hamilton recalls one Taiwanese manufacturer, in the midst of describing the array of hydraulic jacks he produced, all bearing different brand names and all with distinctive colors and styles, proudly proclaim that the only way you can identify his jacks in American stores is the “k” imprinted on the bottom. By contrast in South Korea, in the late 1980s, the showrooms in Samsung and Hyundai had begun to display products with the Samsung or Hyundai brand name proudly affixed. Whatever the company’s strategy, however, these showrooms are important, because this is where the customers, the big buyers, are greeted and hopefully impressed. To these manufacturers, consumers and consumption are distant, but customers and demand are very near.

In the search to explain the sudden and extraordinary success of Asian economies, most analyses have overlooked the real customers for Asian manufacturers and have underestimated what we are calling intermediary, as opposed to final, demand. However, once we focus empirically on intermediary demand, then it is obvious that the processes of intermediation, and in particular “matching and searching” and “guaranteeing and monitoring” (Spulber 1996) are intrinsic aspects of the organization of intermediary demands. Finding buyers and keeping them happy, locating manufacturers and keeping them busy; working out all the details of making and packaging and shipping the products ordered—these have been prominent and economically transformative activities from the beginning and certainly remain the core concerns of the main players, including a subset of state officials.

From our point of view, the biggest mysteries are not about marketing or intermediary demand per se, but rather about how the whole process got started in the first place and about what the effects of this demand are on the organization of these economies. Because no one has examined these points in any detail, the origins and consequences of global matching in both South Korea and Taiwan are obscure. In trying to account for the origins of global matching, we do find, however, in the most detailed accounts (Fields 1995; Rhee, et. al., 1985; Jung 1984; Levy 1990) of the earliest decade of industrialization, from 1965 to 1975, that we could locate (and there are surprisingly few of these), that Japanese trading companies most likely brokered a substantial portion of the initial orders, played a prominent role throughout the formative period, and were instrumental in getting the process of global matching started in both locations. In retrospect, their prominence in South Korea and Taiwan should not be surprising.

Japanese Trading Companies as the Initial Matchmakers

Japanese trading companies, known as *sogo shosha*, were extremely important in facilitating the re-industrialization of Japan after World War II. The nine top trading companies, generally one for each of Japan's largest business groups, handled most of the trade into and out of Japan ever since the early 1950s (Yoshino and Lifson 1986; Tsurumi 1984). These same companies also served an identical role within the domestic economy where they brokered trade among firms both within and between business groups. Okumura Hiroshi, one of the leading specialists on Japanese business groups, notes that even the largest Japanese corporations trade "only with a few, specified partners." The trading companies "serve as intermediaries for intercorporate trading" throughout the Japanese economy, and handled most exchanges among firms of all sizes. This use of trading intermediaries, says Okumura (1991, p.222) created "a very large web of reciprocal dealings in Japan" and thus a dense networks of cooperating firms. Because these companies played such a large role domestically, when Japanese economy rapidly expanded in the 1950s and early 1960s, Japanese trading companies became the vehicle of that expansion, integrating the manufacturing foundation of the Japanese economy with the global distribution of Japanese products, as well as the buyers of needed primary and intermediate inputs.

The first areas of industrial expansion and direct foreign investments for Japanese businesses in the post-War years were, quite naturally, two former colonies, Taiwan and South Korea. The matchmaking started first in Taiwan, where the presence of Japanese trading companies dates from the colonial period, when Mitsui's trading company was the principal broker in the sugar exports to Japan. After World War II, the trading groups reestablished their role in agricultural exports to Japan, in large part because the two countries and their people

remained on cordial terms, some preferring Japanese colonial rule to the harshness of the early KMT regime. In the 1960s, when the Japanese economy itself was rapidly expanding and the competition among the largest Japanese business groups was intense (Patrick and Rosovsky 1976), many large groups began to look for new opportunities and cheaper labor in areas outside of Japan. Already established in Taiwan, the Japanese trading companies led the way for firms aligned with their group to extend their businesses beyond Japan.

At first, in the early 1960s, a trickle of Japanese manufacturing companies established branches and joint ventures in Taiwan in order to evade Taiwan's high tariff barriers (The Economist Intelligence Unit 1983). But beginning in 1966, a flood of investment began, making Taiwan in the 1960s the largest recipient of overseas Japanese investment. In fact, according to our calculations based on the records of Japanese foreign investment in Taiwan (The Oriental Economist 1984), fifty percent of Japanese firms and Japanese/Taiwanese joint ventures that were in existence in 1983 started in the six years between 1966 and 1971. Of the 94 firms established by the Japanese before 1984, 87 percent were joint ventures between Japanese and Taiwanese firms. Most of the Japanese firms initiating these joint ventures were affiliated with Japanese business groups. Also, most Japanese firms establishing a presence in Taiwan were in manufacturing, over 60 percent of which involved precision metalworking and electrical products (The Oriental Economist 1984). As Gold (1986, pp. 82-84) observed, several of Taiwan's largest electronics manufacturers in the 1980s (e.g., Tatung and Sampo) got their start in the 1960s as joint ventures with a Japanese firm. Knowing what we know about Japanese firms, it is almost certain that Japanese trading companies handled most of the import and export needs of those firms in which Japanese firms were involved.

By the late 1960s, according to one report (Olson 1970, p. 173), Japanese trading companies handled “more than half of Taiwan’s exports to third countries.” If we would add in Taiwan’s export trade to Japan, then the total amount of trade handled by these companies would exceed sixty percent. During these same years, Taiwan’s exports to the United States dramatically increased. Therefore, it is very likely that Japanese trading companies served as intermediaries for a significant portion of this export trade with the United States.

This conclusion is supported by other sources. For instance, we also know that Japanese trading companies handled large initial orders for shoes (Levy 1990) and garments (Bonacich and Waller 1994). There is also evidence that Japanese trading companies continued to play matchmaker throughout the 1970s and 1980s. Based on a variety of Taiwanese sources, Karl Fields (1995, p. 221, 225) estimates that Japanese trading companies brokered 50 percent of Taiwan’s total export trade in early 1980s. Using other sources, Wade (1990, p. 147) comes up with several similar estimates. All these figures, however, are largely conjecture. As Fields (1995, p. 221) notes, “accurate figures on the extent of the Japanese trading...are virtually impossible to obtain.” However, even if we do not know their exact level of involvement, we have still sufficient information to suggest that their role in matching American buyers with Taiwanese manufacturers was extremely important in the late 1960s and early 1970s.

The same Japanese trading companies appear to have played a very similar role in South Korea’s initial economic growth, at least before 1975 (Jung 1984). Evidence about their role in South Korea, however, is even more fragmentary than their role in Taiwan, but it appears that their influence grew more slowly and then faded more quickly than was the case in Taiwan. After the Korean War, South Korea continued to have strained relations with its former and hated colonial master. Full diplomatic relations with Japan were not restored until 1965.

Despite the lack of diplomatic relations, Japanese trading companies began to open offices as early as 1960, and by 1965 “some sixty major Japanese trading and industrial companies established offices in Seoul” (Fields 1995, p. 204). After 1965, a few major Japanese firms began to establish new firms in South Korea, but then in the 1970s, a rapid expansion occurred, when South Korea replaced Taiwan as the leading destination of overseas Japanese investments, most of which went into joint ventures. The 146 Japanese firms and joint ventures present in South Korea in 1984 were mostly involved in manufacturing and were divided among electronic products (28%), machinery and metal products (25%), chemical products (19%), and textiles and garments (13%). Of these 146 firms, over 64 percent were started in the six years from 1971 to 1976 (The Economist Intelligence Unit 1983). As occurred in Taiwan, most of the Japanese firms in South Korea were affiliated with one of the large Japanese business groups and very likely used Japanese trading companies as intermediaries. We also know that a number of American shoe and garment firms used Japanese trading companies to place orders in South Korea (Jung 1984, p. 108; Lee and Song 1994; Levy 1990).

The first estimate for the percentage of Korea’s export trade handled by Japanese trading companies that we could find is for 1976 and places the total at 15.6% (Jung 1984). A survey of a small but significant sample (95 respondents) of large firms in the previous year showed that 25 percent used Japanese trading companies (Rhee, et. al., 1985, p. 114). It seems likely that in the late 1960s and early 1970s their role was larger than these percentages indicate. The reason for our assessment is that even in the earliest years of industrialization, export trade was highly concentrated in the largest firms (as we will describe below). Japanese trading companies were likely the first and most important agents matching Korea’s large manufacturing firms with

American buyers. Obtaining experience with foreign partners, however, these large firms soon took control of their own marketing.

This shift began abruptly in 1975. In that year, recognizing the importance of Japanese trading companies in Korea's export economy (Jung 1984), the Park regime issued a directive giving lucrative incentives for the largest *chaebol* to establish *sogo shosha*-style trading companies to serve as the marketing arm for member firms and to serve as intermediaries between non-member firms and foreign partners (Fields 1995, pp 183-208). The very next year, in 1976, analysts estimate that the *chaebol* handled nearly 20 percent of Korea's export trade, nearly 5 percent more than Japanese trading companies did in the same year (Jung 1984, p. 114; also cited by Fields 1995, p. 204). After 1976, the percentage of Japanese involvement in Korea's export trade further declined, falling below 8 percent by 1982. This sudden decline is explained entirely by the fact that the *chaebol*, already by far the largest exporters in the early 1970s, rapidly took over the marketing of their own products.

The same Japanese trading companies were the likely initiators of links between local manufacturing and global retailing in both South Korea and Taiwan. More research on this topic would be very useful. However, assuming that Japanese trading companies were the early intermediaries, we can then extrapolate from the trade statistics that the Japanese trading companies were placing similar orders in both places, primarily for specific types of garments, plywood, simple electrical products, and shoes. If that is in fact the case, then we should conclude that the export trade they brokered in the late 1960s and early 1970s accounted for a substantial percentage of the increase in exports that occurred during these years. With exports starting from such a low base, it is likely that just the output of the joint ventures themselves contributed significantly to total exports. It would be nice to know these details for sure, but as

important as these trading companies and the joint ventures might have been in these early years, they did not remain so for long. By the middle 1970s, the situation had changed in both countries.

Direct Buying and Local Trading Companies

By the early 1970s, local manufacturing in both countries had begun to boom. These rapid increases can be traced to the dramatic expansion in linkages between foreign buyers and local manufacturers. By the mid-1970s, the largest American retailers had established their own buying offices in South Korea and Taiwan, thereby eliminating many of the largest transactions handled by the Japanese intermediaries (Gereffi and Pan 1994, p. 137; Jung 1984, p. 110). According to records of the Korean Federation of National Economic Associations (Rhee, et. al. 1984, p. 56), by 1975, “364 foreign companies had branches or representative offices in Korea. Of these, 267 were from the United States, 40 from Japan, and 36 from other countries,” and among these were Kmart, Sears, Associated Merchandising, and J.C. Penney (Jung 1984, p. 110). In Taiwan, according to the excellent work done by Gary Gereffi and his colleague Pan-Mei Lin (1994), reproduced in Table 2, most of the main big buyers had established their direct buying offices in the early 1970s. In both countries, the retailers proceeded to order huge quantities of goods in the succeeding years. Also, by the mid 1970s, shipping lines had established container ports; fast freight forwarders had opened their offices; and banks had begun offering financing services, such as letters of credit. In short, by the 1970s, global matching and all the associated services to support these linkages had become sufficiently well developed to propel industrialization to new levels.

(Table 2 about here)

Although very few analysts have commented on these trans-Pacific linkages, it is apparent that all the participants, including government officials, understood that economic development involved a matching game. Manufacturers (usually led by the most prominent ones) in both South Korea and Taiwan, often assisted by their respective national governments, began to organize associations (or re-activate existing associations) of manufacturers designed to promote trade. The three primary strategies of these groups were to facilitate matches (by providing lists and samples of products and assorted information on firms), to solve actual and potential problems with international exchanges (providing cultural, legal, financial, and infrastructural services), and to negotiate with the local government regarding economic policies.

The Korea Traders Association was established in 1946, but “did not really get underway until...the 1960s and 1970s.” By 1984, the Association had 3,000 members (Rhee, et.al.1984, p. 52). Linked to this association were more than thirty groups of manufacturers specializing in specific exports, such as The Korean Knitted Goods Exporters Association, the Korea Electronic Products Exporters Association, and the Korea Footwear Exporters, most of which were housed in the World Trade Center in Seoul (Rhee, et. al. 1984, 52). The World Trade Center itself was build as a project of the Korea Trade Promotion Corporation (KOTRA). As a part of the Park’s initiative to promote exports, the Korean government founded and financed the Korea Trade Promotion Corporation in 1962, and by the 1980s had established nearly 100 information showrooms around the world “to provide information about Korean importers and exporters, the commodities they buy and sell, and the services they need and provide in foreign investment and construction” (Rhee, et. al., 1984, p. 52).

Manufacturers from Taiwan also organized a similar range of trade associations to promote exports, although these associations were never as centralized or as effective as their

counterparts in South Korea. Several associations of importers, exporters, and manufacturers began in a small way in the 1940s, but did not become active until the 1960s and 1970s (Kuo, C.T. 1995). Sponsored by the government, the China External Trade Development Council started in 1970; organized its first trade delegation in 1972; sponsored the first trade fair in Taiwan in 1973, which was for garments; and began worldwide promotions of Taiwanese products in 1973 and 1974 (Wade 1990, p. 145-6). The Taiwan Textile Federation, however, did not start until 1975; the World Trade Center did not officially open until 1986, and the Taiwan Bicycle Exporters' Association did not organize until 1992. For Taiwan, and perhaps for Korea as well, many of these attempts to create associations were less efforts to match foreign buyers with a select group of manufacturers than it was for a select group of manufacturers that were already matched with foreign buyers to negotiate trade policies with the Taiwanese (and Korean) government, which was quite explicitly the only stated mission of the Taiwan Bicycle Exporters' Association (www.tbea.org).

Although associational and governmental efforts to match foreign buyers to local manufacturers have been consistently important in the development of both countries, these efforts have generally lagged the growth of export trade and the interfirm linkages that this trade implies. Governmental and associational activities appear to be merely an aspect of the emergence and rationalization of these two economies, instead of being a primary cause of matching in the first place. Perhaps the clearest indication of their secondary role is the sudden and extraordinary expansion of local trading companies in both countries.

Like icebergs floating in the ocean, local trading companies sit on top of and organize a vast sea of firms producing for export. How these local trading companies are organized themselves, and how they in turn reflect the organization of manufacturers (which they in turn

have helped create), gives us a good picture about how the larger economies themselves are organized, as well as how these economies grow and change. Local trading companies were extremely important in both locations, but the differences between their organization in South Korea and Taiwan could not be more dramatic and indicative of both the emergence and divergence in these two industrializing economies.

As we stated above, in South Korea in 1975, the Park regime issued a directive enabling the largest *chaebol* to establish their own trading companies. This directive should be understood against the backdrop of the economic growth that was occurring in the previous decade, from approximately 1965 onward. During this period, the *chaebol* began to compete among each other for rapidly rising orders from foreign buyers and quickly consolidated their position at the very top of Korean economy. Although Korea's general trading companies were established after the process of *chaebol* consolidation was already well underway, the extraordinary growth of these companies still captures a significant portion of this consolidation as it was occurring.

In 1975, five *chaebol* received licenses to establish their own Japanese-style general trading companies. Five more *chaebol* received licenses in 1976, and three more in 1977. Collectively the trading companies grew at an extraordinary rate of over 50 percent per year from the date of establishment for the next eight years. However, as Table 3 shows, even as export trade handled by general trading companies was growing exponentially, some *chaebol* were already beginning to lose out in the competition. The government revoked the licenses of the general trading companies for five *chaebol* whose trade volumes fell below that of the previous year. By 1985, only seven *chaebol*-owned trading companies had licenses, and these seven handled over 50 percent of Korea's total exports. Moreover, only three of these seven

handled nearly 33 percent of the total. Clearly, even as Korea's export economy was booming, some *chaebol* had lost out in the competition for export growth. The separation between the top *chaebol* and all the rest, as predicted in the model presented in chapter 3, is plainly borne out in the evidence even from this early date.

(Table 3 about here)

As high as it seems, the *chaebol*'s 50 percent concentration actually understates the *chaebol*'s growing control of export trade. According to Jung's calculations, the *chaebol*'s general trading companies only handled 26.5 percent of Korean exports to the United States. The "low share of the exports" he (1984, p. 116) argues, "reflects the fact that there were already established trade channels such as American retailers and importers, and to a less extent, other foreign trading companies," mostly Japanese. The largest exporters to the United States, Jung (1984, p. 116) further states, are those with large manufacturing firms that have established trading subsidiaries in the United States outside of the *chaebol*'s main general trading company to work more closely with retailers and merchandisers, such as "textiles in the case of Daewoo and Samsung and footwear in the case of Kukje."

The *chaebol*'s general trading companies used their exclusive licenses and government bestowed privileges to build positions of economic power vis-à-vis other *chaebol*, as well as small and medium-sized firms. In some sectors where the largest *chaebol* did not have big firms or could not exploit Fordist production techniques, such as the labor-intensive manufacture of wearing apparel, the *chaebol* nonetheless integrated export production by being in a position, first, to obtain and then maintain large orders from American retailers and, then, to organize subcontracting networks around the *chaebol*'s integrated cotton and synthetic production and export capabilities (Lim 1998 p. 69-70; Lee and Song 1994). In other sectors where the largest *chaebol*

initially had limited capabilities, such as in electronics, the *chaebol* quickly built their own internal vertically integrated production facilities by taking over small and medium-sized firms with expertise in the area, by starting joint ventures with Japanese firms (as Goldstar did in 1970 and Samsung did in 1973), and by importing components (usually from Japan) that could not be obtained internally (Lim 1998, p. 116). This same process was repeated when the top *chaebol* began to manufacture automobiles for export. In those instances when they did obtain standardized parts from suppliers, the top *chaebol* would obtain the part from a great many suppliers, thereby being able to push the costs down to the lowest possible level. By concentrating on building vertically integrated production systems and by controlling export channels, the top *chaebol* increased their economic power over other firms and other *chaebol* in the economy. These competitive tactics of the top *chaebol*, concludes Haeran Lim (1998, p. 118) caused the “development of subcontracting relationships, and the development of SMEs more generally (to be) very slow during the 1970s.”

The exact opposite result occurred in Taiwan. At the same time that this dramatic concentration of the top *chaebol*'s hold over export production was occurring in South Korea, an equally dramatic expansion of local trading companies was occurring in Taiwan. This expansion took a very different path, however. In the late 1960s and early 1970s, the number of trading companies in Taiwan began rapidly to grow. The expansion reflects the growth of small and medium-sized firms, whose exports by this early date had already begun to drive the process of industrialization. According to Levy, the number of trading companies in Taiwan grew from an already substantial number of 2,777 in 1973 to 20,597 in 1984. According to Fields (1995, p. 211), this figure should be even higher. “By 1986, Taiwan had over 60,000 firms involved in foreign trade, and over 40,000 of these were designated as ‘exclusive’ trading firms, not engaged

in manufacturing.” Liu reports a yet higher number of trading companies, 65,000, which “was about half of the total number of manufacturing companies in Taiwan (cited by Hsing 1999, p. 105).

The share of Taiwan’s total export trade attributed to these trading companies varies, but it is certain that Levy’s figure is too high and Fields’s figure is too low. Levy (1991, p. 157) calculates that in 1984, on average, 20,597 trading firms each export \$1,400,000 US worth of goods. That makes the total exports attributed to these trading firms nearly equal to Taiwan’s total exports. Fields (1995, p. 225), however, estimates local trading companies only handled 20 percent of Taiwan total export trade, which is certainly too low for the simple reason that small and medium-sized firms contributed around 65 percent of Taiwan’s exports, most of which went through the hands of local trading companies even though Japanese or American buyers or trade intermediaries handled the shipment to retail outlets in the United States. An accurate figure is impossible to come by because most estimates assume that the export trading pie is divided among distinct groups (e.g., Japanese *sogo shosha*, American and European buyers, local manufacturers, government agencies and trade associations, and local trading companies), when in fact Taiwanese trading companies worked with foreign buyers all the time, thereby distorting the percentages.

Moreover, our interviews have revealed that many of the “exclusive trading companies” are merely small firms that are independently owned by entrepreneurs who also own one or more manufacturing firms. These trading companies may deal in a variety of export goods beside the ones produced by the entrepreneurs. As Hsing (1999), Chen (1994) and others have shown, Taiwanese trading companies are not so much instruments of individual firms as they are both organizers and embodiments of production networks. Nearly all production networks of small,

medium-sized, and modestly large firms, which the Taiwanese call “satellite assembly systems,” are represented by one or more trading companies, whose chief task is to find and manage orders that keep the network of firms employed and profitable.

Until the early 1990s, most of Taiwan’s trading companies were very small, with an average of seven employees (Hsing 1999, p. 105), and they worked with a relatively small set of manufacturing firms, usually ten or more, all of which are independently owned. Collectively these firms established a production network capable of filling orders the trading companies generate (Shieh 1992; Hsing 1999; Kao and Hamilton 2000). These trading companies are often called *pibao gungsi*, “suitcase companies,” because the owners typically travel in the United States and Europe, with their sample suitcase in hand, going from one buyer to another in hopes of finding matches between the buyers and the manufacturing networks they represent. On their travels, the owners collect information about their particular industry and samples that may serve as models for new products.

When orders have been received, the owner of the trading company helps put together a production network to fill the specific orders, and may even loan money to assist manufacturers in buying the needed manufacturing equipment to set up the satellite assembly system (Chen 1994; Shieh 1992; Hamilton 1997). If the orders are large or numerous, then each of the independent firms in the assembly network will expand somewhat and, more importantly, will subcontract a portion of their work to other firms, thereby extending the network beyond the original set of firms. When orders are small and few, the original set of manufacturers may reduce the number of subcontractors, and some of the firms in the set may begin searching for other products that can be easily manufactured, the production of which may lead to the formation of one, and sometimes several, new production networks, along with new trading

companies to promote the new products. It is for this reason that, during the early years of industrialization, the number of Taiwanese firms and trading companies each grew at about the same pace and at about the same rate as the overall economy grew.

In trying to explain the reasons that Korean and Taiwan economies differ, a number of analysts (Amsden 1989, Wade 1990, Shafer 1997, Rodrik 1994) cite differences in government policies. It is, therefore, worthwhile to note that both governments also **tried and failed** to promote countervailing trends in their respective economies. Both governments had a significant role to play in the overall development process. When governments enacted policies that conformed to the existing momentum, the policies were uniformly successful, sometimes wildly so, as is the case with industrial targeting in South Korea. However, when governmental actions ran counter to the organizational momentum of the economy, they were almost always unsuccessful. For instance, the South Korean government has a long history of trying to stem the growth of the *chaebol* and to stimulate small and medium-sized firms, and the Taiwanese government has tried to encourage the formation of large firms and branded exports, but both sets of policies have been to no avail. As Dollar and Sokoloff (1994, p. 11) concluded, “One general lesson from the experiences of South Korea and Taiwan is that it is difficult to implement an industrial targeting policy that is not basically in line with where the private sectors are planning to go anyway.”

This same pattern of governmental failure also happened in both countries in their dealings with local trading companies. During the period when *chaebol* consolidation occurred, the trading arm of Korea’s small and medium-sized firms, Korea Trade International, also received a license to operate as a general trading company. This trading group, however, never handled more than one percent of the total export trade. Besides the eight licensed general

trading companies (including the Korea Trade International), the government also permitted individual trading companies to export goods. Although, the number of these companies grew over fourfold, from 1,200 firms in 1973 to 5,300 in 1984, the value of exports these firms handled remained very small, except of course for the seven main trading companies of the *chaebol*.¹⁴ In the Korean case, governmental incentives could not help small firms or their trading arm succeed in an economy dominated by a few corporate octopi (a term that Koreans often used to describe the large *chaebol*) that also had ample governmental incentives to operate and that grabbed every profitable thing in sight.

In Taiwan, the opposite governmental policy failed. This was a government program to establish and give incentives to large trading companies. Being aware of the proliferation of small and medium-sized firms and being equally aware of the Korean government's support for Japanese-style general trading companies, the Taiwanese government became concerned that the Taiwanese economy was losing its competitive advantage and that the overall economy needed to be upgraded. Heavy industries needed to be developed and sponsored, brand names needed to be established, and large trading companies were needed to handle and promote export products (Dollar and Sokoloff 1994; Fields 1995). In a worried mood, the government passed legislation in 1978 to create large trading companies. Eight large trading companies eventually formed and all eventually failed (Fields 1995, pp. 209-237). The reason they failed is because small and medium-sized firms, Taiwan's export engine, did not need the promotional services of these large trading companies. These small and medium-sized manufacturing firms were best served by the local entrepreneurs who helped to put together the production networks and who vigorously promoted their products, both in Taiwan to buyers and overseas at the headquarters of merchandising and retail firms.

In summary, then, both South Korea and Taiwan, local trading companies served as important intermediaries matching foreign buyers with local manufacturing firms, and both cases, they were partly reflections and partly creators of the emerging organization of these two industrializing economies. It is our thesis that, under conditions of increasing intermediary demand, the economic interaction (e.g., the competitive struggle as well as selective cooperation) among firms created an organizational momentum that shaped the economic trajectory of development and that was difficult to change once the organizational parameters of the economy are apparent to the main participants.

The Spatial Dimensions of Global Matching

Global matching involved repeated voluntary pairings of firms in conditions where both sides of the match were involved in highly competitive environments. Aware that the retail revolution was underway and increasingly using computerized technology to track consumer choices, merchandisers and retailers in the United States (and later Europe and Japan) hotly competed with one another, and, as a consequence of this competition, fundamentally reshaped the organization of the entire retail sector, if not the entire American economy. An important aspect of this competition, especially in fashion products that characterized the earliest exports to the United States from East Asia, was organizationally to decouple the manufacture from the design and merchandising of goods, while keeping the linkages tight enough to control the quality, quantity, delivery schedule, and price of the final products. This system of retailing produced at the manufacturing end of the commodity chain a requirement to produce specified goods in batches, in other words, a batch-production, as opposed to a mass-production system. Retailers ordered goods in batches of various sizes, at a specified price and level of quality; manufacturers had to set their profits at the time, and according to the size, of the order, instead

of estimating profits over the lifetime of a long but indeterminate production run, which is the case in mass-production systems.

This system of batch-production put considerable pressure on manufacturers, **wherever they were located**, to streamline their manufacturing processes to control the quality of production (so they would not have to absorb the cost of shoddy products that big buyers would not accept) and to control their costs so that they could increase or at least maintain their profit margins. In the late 1960s and 1970s, Asian manufacturers used their low labor costs to give themselves an initial price advantage and therefore to begin receiving sizeable orders. But once these orders began to come, the manufacturers had to work hard to have them continue and work even more diligently to establish a more lasting relationship that reflected trust and performance from both parties to a match. This desire to work with merchandisers and retailers meant that Asian manufacturers had to be open to the capriciousness of fad and fashion-driven markets in the United States and elsewhere, and to be amenable to the price, quality, and scheduling demands of the big buyers. In other words, these manufacturers had to act as loosely coupled organizational extensions of retail and merchandising firms.

Very quickly, in this increasingly rationalized context of reiterated orders, American big buyers began to increase the number of their suppliers and to differentiate among suppliers, judging which ones could best fill which orders. At the same time, Asian manufacturers began to specialize in certain types of production and in certain types of products that corresponded to that type of production. Although previous research on this topic is surprisingly sparse and first-hand information sketchy, we can still follow this process of reiterated orders by drawing inferences from the agglomeration process that was occurring simultaneously.

Seoul-Centered Agglomerations

On the eve of industrialization, a few big corporate winners had already emerged within South Korea's economy (Feenstra and Hamilton, forthcoming). We can now piece together the story of these big winners as the process of industrialization unfolds. In 1962, just before rapid industrialization begins, a survey of the manufacturing sector of the Korean economy reports that the most concentrated, as well as the most developed, industry in South Korea at the time was cotton textile manufacturing and the "most under-developed" and least concentrated was electrical equipment (Economic Research Center of Korea, 1962, pp. 107, 342). In the cotton textile industry, the largest 15 mills (10 of which were spinning mills and 5 weaving), were owned by 14 companies that had organized themselves into an exclusive group called the Spinners and Weavers Association of Korea (SWAK). Of these 15 mills, six were owned by the members of the even more exclusive Federation of Korean Industries, five of which were among the "big eight" (Lim 1998, p. 69; Economic Research Center of Korea, 1962, p. 109), and out of a total of 44 cotton-spinning mills and 604 cotton-weaving mills, these 15 mills, each employing over 500 people, controlled 80% of Korea's total production (Economic Research Center of Korea 1962, pp. 107-9). Most of the production from these mills was for the domestic market, although a small portion (\$860,000 US) was exported.

In 1960, in the electrical equipment sector, there were 614 firms registered in South Korea (Institute of Developing Economies 1975, pp. 102), only one of which employed over 200 workers, and only 17 out of the 129 employed 50 or more workers. The industry suffered, concluded the economic analysts, from a "shortage of capital, inadequate technology, and lack of supporting industries" (Economic Research Center of Korea 1962, p. 342). In 1962, none of these firms were owned by Federation members, and none were engaged in export production.

Ten years later, in 1971, textile production, including cotton textiles, had increased 440% (from 35,284 to 190,401 million won in 1965 constant prices), and electrical equipment had jumped nearly 2300% (from 1723 to 40965 million won, in 1965 constant prices) (Institute of Developing Economies 1975, pp. 98-99). Despite this rapid increase and although the number of workers jumped dramatically (textiles: from 81,649 to 202,660 workers; electrical machinery: from 4,458 to 42,172 workers), the number of manufacturing firms in these two sectors increased very little. In textiles, the total number of firms grew by only 8% (from 2,493 to 2,696) and in electrical machinery only 45% (from 614 to 890) (Institute of Developing Economies 1975 pp. 102-3). It is obvious, and substantiated by our disaggregating these statistics, that the large firms in textiles grew much larger, and a few large firms emerged in electrical equipment. Predominately owned by the rising *chaebol*, often in cooperation with Japanese and American firms, which made sizeable investments, these large firms accounted for almost all of the increases in production in both sectors.¹⁵ Moreover, looking at this buildup, researchers from the Tokyo-based Institute of Developing Economies (1975, p. 20) concluded that the main products from these factories (e.g., textiles, plywood, wigs, and electronic parts) “are exported exclusively to the American market.”

During this same decade, another important shift occurred: The growth of large firms mainly occurred in one urban area: Seoul (Meyer and Min 1988). In 1960, manufacturing was already concentrated in South Korea, primarily in the three largest cities (i.e., Seoul, Pusan, and Taegu), as well as Seoul’s three industrial suburbs: Incheon, Suweon, and Euijeongbu. These six urban areas accounted for over 67 percent of the total urban population of South Korea and over 71 percent of its total manufacturing. By 1970, population and manufacturing were even more concentrated, with nearly 73 percent of the total population and nearly 80 percent of the total

manufacturing being located in these six areas. Breaking these totals down, however, we see that in almost every manufacturing sector Pusan's and Daegu's percentages declined and Seoul's increased, often dramatically. For instance in 1960, only three of the 15 largest textile companies were located in Seoul (Economic Research Center of Korea 1962, p. 109). At the time, Seoul accounted for only 8 percent of textile production and about 32 percent of garment manufacture. By 1970, however, most of the state-of-the-art textile factories had been built in Seoul, and Seoul accounted for nearly 36 percent of total textile production and about 46 percent of garment manufacture. The concentration of the electrical machinery and footwear sectors in Seoul grew even more dramatically during the ten year period, jumping respectively from 31.8 to 62.8 percent and 22.7 to 63.4 percent during the decade. Not coincidentally, in the 1960s, the largest *chaebol* (Samsung, Hyundai, Daewoo, and Lucky-Gold Star) all established their headquarters and a significant portion of their manufacturing plants in Seoul.

It is important to note that this concentration in the greater Seoul region occurred despite strenuous and growing government efforts to encourage industrial growth in other areas, including the development and promotion of 9 industrial parks for heavy industry and 24 regionally based industrial parks to spur decentralization. During the 1970s and 1980s, Seoul continued to grow in both population and manufacturing, although Seoul's relative proportion of total manufacturing began to decline as heavy industries began to pick up in the late 1970s and 1980s, much of which came to be located outside of Seoul proper (Cho and Kim 1991, pp. 349-370).

Rural Agglomerations in Taiwan

At the same time that manufacturing concentrated in the Seoul region, export-oriented manufacturing in Taiwan decentralized and increasingly became located in rural areas outside of

the largest cities of Taipei and Kaohsiung, which were also the locations of most state-owned enterprises, as well as the headquarters of some of Taiwan's largest business groups. One gets a sense of this spatially decentralized industrialization from Samuel Ho's pioneering studies (1978, 1982). Writing in the middle 1970s, Ho (1978) initially did not notice the significant rural component of Taiwan's industrialization. In fact, working within the conventional paradigm of urban-based industrialization, Ho pointed to the significant rural-to-urban migration that occurred in the 1960s as evidence that industrialization was underway. By the early 1980s, however, the decentralized pattern of Taiwan's industrialization had become obvious. Surprised by the presence of rural industrialization in Taiwan, Ho took a closer look at Taiwan's unusual industrial foundation through a revealing comparison with the concurrent industrialization process in South Korea. Defining "rural Taiwan" as "Taiwan minus the five major cities (Taipei, Keelung, Taichung, Tainan and Kaohsiung) and the most industrial prefecture (Taipei prefecture)," Ho (1982, p. 981), using data from the government's 1971 census of manufacturing establishments, found that 52 percent of small factories (5-49 employees), 49 percent of medium-sized factories (50-99), 49 percent of medium to large factories (100-499) and 46 percent of large factories (500+) were located in rural areas. By contrast, in Korea in 1975, 50 percent of small factories, 28 percent of medium-sized factories, 26 percent of medium to large factories, and 19 percent of large factories were located in rural areas, which Ho (1982, p. 981) defined as "Korea minus Seoul, Pusan and the two most industrial provinces (Gyeonggi Do and Gyeongsangnam Do)." Taiwan's spatial patterns of industrialization continued to become more decentralized as Taiwan's industrialization continued, a pattern lasting until around 1990s, when many small and medium sized firms moved to Mainland China.

As revealing as they are, these statistics really do not portray what happened in the countryside between 1965 and 1975. In the late 1960s, the rate of Taiwan's agricultural growth suddenly declined. Many areas of agricultural production declined in absolute terms, including rice, soybeans, peanuts, bananas, pineapples, asparagus, and mushrooms, all of which were important export and domestic cash crops during the late 1950s and 1960s (Taiwan Statistical Data Book 1994, pp 69-73). This sudden decline can be traced to the equally sudden growth in industrial production. Unlike in Korea, where industrial production was concentrated in the Seoul region, in Taiwan, industrial production was widely dispersed throughout the island, in the countryside as well as in the cities. No single city in Taiwan stood out as the center of industrial production as Seoul did in Korea. In fact, the fastest growing locations for manufacturing were small towns and villages. Factories even began to spring up in the middle of rice fields, the very property owned by the rural entrepreneurs themselves.

The government unintentionally helped to nurture this rural industrialization. In addition to land reform, the Nationalist agricultural policies in the 1950s had encouraged local networks by establishing rural cooperatives and local party organizations, associations in which many people living in small towns and villages participated. At the same time, the Nationalist removed the former landlords from economic as well as political power (Ho 1978). This reform was a move to consolidate their power at the local level, but actually encouraged considerable local networking resulting in intra-party factionalism (Jacobs 1979). Although the Kuomintang encouraged local networks, the state gave no direct support for non-agricultural economic pursuits. Nonetheless, people in rural areas began to explore others ways to expand their ability to make money beyond farming. Through extensive interviews, Kao (1999) and his collaborators (Chen 1994, 1995, 1997) learned that many of the earliest entrepreneurs, often sons

of farmers, had migrated for a time to nearby cities to learn skills that later became instrumental in starting their own businesses in the countryside. The capital used to start these new businesses usually came from their savings and from family members or friends and friends of friends, many of whom engaged in part time farming. These interviews correspond to Tai-li Hu's account (1984) of her mother-in-law's rural village, Liu Ts'o, where no factories were started during the 1960s, but where a few villagers had gained sufficient skill in nearby Taichung City to return to Liu Ts'o in the early 1970s to establish, "all of a sudden" (Hu 1984, 2), 20 small-scale factories. As in Hu's account, many firm owners relied heavily on raising capital and recruiting labor from the social networks that developed in the aftermath of land reform, (Ho 1982; Speare 1992; Liao and Huang 1994).¹⁶ These networks, initially based on locale and kinship, enabled the agriculturally based rural society to generate enough resources for a few entrepreneurs to start modest businesses in the late 1960s. By the mid 1970s, however, these early beginnings mushroomed into a full-scale manufacturing boom, a boom that would transform Taiwan's local society (Fu and Shei 1999).

The boom occurred in many different sectors, but the primary growth occurred initially in garments, footwear, miscellaneous plastic products, and household electrical appliances, all of which used labor intensive manufacturing techniques and all of which were linked to retailers and merchandisers in the United States. The manufacture of these exports concentrated in particular rural areas, so that different areas specialized in making different goods. For example, three of Taiwan's primary export products in the early years of industrialization—cotton textiles and garments, footwear, and bicycles--were primarily produced in the rural areas of two districts in central Taiwan: Changhwa and Taichung districts.

Hemei, a small town straddling the border between Changhwa and Taichung districts, became the production center for cotton textile and garments, with several thousand firms, many of which were unregistered, suddenly springing up in the vicinity of the town in a matter of ten years (Chen, C.Y. 1997). Hemei was the site of a traditional cotton industry that in the Japanese colonial period had produced, among other things, narrow width cotton cloth used for foot binding. By the late 1960s, firms around Hemei, linking up with Western buyers, began to make cloth and garments for export, and soon the number of firms and the amount of production exploded. The 1981 Industrial and Commercial Census (pp. 456-58), a survey of all firms in Taiwan, shows that twenty-eight percent of all textile factories (synthetic fiber as well as cotton factories) in Taiwan were located in the area around Hemei. (We should note that these statistics for these two districts exclude the area of Taichung City, which is the principal urban area in the region.) Disaggregating cotton textiles from textiles made from synthetic fabrics, we further see that nearly fifty percent (48.5) of all cotton textile factories in Taiwan (677) were located in these two rural districts.

By 1980, the center of footwear production was located a little to the northwest of Hemei, in the rural areas around Lukang. Thousands of footwear firms were established in this area in the 1970s and early 1980s, many of which were too small to register (Hsing 1998). Of the registered firms making plastic footwear in the 1981 census (1,444), fifty-five percent were located in the rural areas of Changhwa and Taichung districts, and another eight percent in the metropolitan area of Taichung city (Industrial and Commercial Census 1983). The same pattern recurs for bicycle production. The rural areas of the two districts contained sixty percent of all registered factories (329/549) producing bicycles and bicycle parts, with Taichung City adding almost another ten percent (52) (Industrial and Commercial Census 1983).

These and many other examples that could be given show a similar pattern. Small, medium, and some modestly large firms, primarily located outside of the major metropolitan areas, produced finished goods for export. The firms producing the intermediate goods needed to produce these products—the plastics, the steel, the chemicals—were often located in or near the largest metropolitan regions, especially in vicinity of Taipei and Kaohsiung. The sudden boom in the establishment of small firms was closely linked to the ready availability of intermediate goods, but large firms not only did not supervise the production activities of small firms, but also mostly withdrew from trying to produce final goods themselves (e.g., Taniura 1989, p.72; Chou Tein-Chen 1985). Instead, throughout the 1970s and 1980, the integration between the large firms supplying intermediate goods and the smaller firms making export products occurred as a result of the responsiveness of small and medium-sized firms to intermediary demand. In other words, the drivers of Taiwan’s economic integration were the small rather than the large firms.

In summary, although agglomerations emerged in both countries during the early years of industrialization, the spatial dimensions of these agglomerations were strikingly different. South Korea’s industries concentrated in the Seoul region, while Taiwan’s factories dispersed throughout the countryside—in large, small, and medium-sized towns and cities. Although these agglomerations sprang up in a context of rapidly increasing orders from Western buyers, the agglomerations themselves are manifestations of underlying organizational processes, or what Krugman (1996) identifies as “self-organization.”¹⁷

Self-organization, that is the dynamic by which an emergent economy (or some segment thereof) becomes internally organized, should not be seen as a mysterious process. Remember in Schelling’s example (1978) that sequential decisions made by proactive people in regard to their

personal desires about where to live end up having broad systemic consequences for urban space. We are making an analogous argument, namely that entrepreneurs, recognizing their authority to command and their market power to persuade, make sequential competitive decisions regarding their businesses in relation to other businesses in the same economic environment that are also making similar decisions. Although these decisions may be firm specific (for instance, firms owners may decide not to sell intermediate inputs to other firms.), collectively and sequentially over time these decisions have profound and emergent effects on the organization of entire economies.

More specifically, in the cases of South Korea and Taiwan, the divergent patterns of economic organization were the consequences of proactive sequential efforts on the part of South Korean and Taiwan manufacturers to continue and to further extend connections with intermediary demand through the use of whatever leverage and combination of authority and market power that was available to these manufacturers. The collective effects of those decisions, especially those in the early years of industrialization, became “locked-in” (e.g., a term used to indicate systemic integration, which makes going-concerns difficult to change without changing the entire system) and set on a path of development. Certainly, the balance of power and authority among firms at the outset of economic growth had continuing and decisive effects on attempts to create successful firms (Feenstra and Hamilton forthcoming), but it was the reiterated matches between big buyers and Asian manufacturers, with each hotly competing with other firms in their own respective economic environments, that pushed these two Asian economies along very different trajectories of development.

Matching in Economic Space

The final dimension of global matching that we have identified is the selection of partners in economic space, by which we mean the competitive environment in which relative location and relative leverage of two firms linked in a commodity chain are negotiated and resolved. One of the most significant aspects of economic development in both countries was the ability of South Korean and Taiwanese manufacturers to upgrade their location in economic space, often while maintaining their ties with the same intermediary buyers. These initial efforts to create more secure linkages with the big buyers, which occurred in the 1970s and early 1980s, happened at the same time that the retail sector in the United States was in the midst of the remarkable consolidation that made such discount retailers as Wal-Mart, Kmart, and Home Depot the largest retailers in the world and the biggest of big buyers in East Asia. Therefore, the expansion and upgrading of manufacturing capabilities in South Korea and Taiwan occurred, not at the expense of their American buyers, but rather in conjunction with their overwhelming successes.

In the early years of industrialization, as we showed above, both Korea and Taiwan produced very similar products. Although they were often identical, these products were not manufactured in the same way. Brian Levy's comparisons (1988, 1990) of the footwear and electronic appliance industries between both countries provide particularly good illustrations of these differences. As Levy shows, the total values and the rates of growth of footwear exports from Korea and Taiwan were very similar between 1970 and 1985, but the average export value per manufacturer was very different. The big buyers of these shoes (Levy mentions Nike and Reebok, but they were soon joined by many others.), at least initially working with Japanese

trading companies, developed contract manufacturing in both countries simultaneously, but with different results.

As demand for running shoes surged in the United States, observed Levy (1988, p. 47) both Nike and Reebok “turned to the giant Korean footwear factories, which had in-house operations in excess of forty production lines.” In these factories, 50,000 to 60,000 pairs of shoes per month could be produced on a single footwear production line. In order to be able to produce such quantities, Korea footwear manufacturer firms vertically integrated, “stitching in-house the uppers for footwear, and manufacturing in-house rubber soles, as well as assembling complete shoes” (Levy 1988, p. 44). These very large firms were very good at economy-of-scale production, at manufacturing many copies of the same item, so good, in fact, Levy (1988, p. 47) notes, that in 1985 71.3 percent of the entire Korean footwear exports was accounted for by “a single footwear item—non-rubber athletic shoes,” a percentage that is roughly in line with our calculations based on US trade statistics as well (see Figure 6.9).

By contrast, in Taiwan, footwear manufacturers responded to increasing orders from the same American big buyers, not by building larger factories, but rather by extending their subcontracting networks. “Taiwanese producers,” observed Levy (1988, p. 44) “specialized in footwear assembly, and subcontracted the task of upper stitching and sole manufacture to independent vendors.”¹⁸ As a consequence of these subcontracting networks, footwear manufacturers were able to diversify their footwear exports over time, and were able to move up the value chain and “increasingly compete in the high fashion end of the world market for footwear” (Levy 1988, p. 47). The Taiwanese advantage in the footwear market was their ability “to fill rapidly shifting niches for small volume fashion items” (Levy 1988, p. 47).

Besides footwear, Levy also shows that the production of keyboards as a single item, as well as the production of finished personal computers, followed the same pattern, vertical integration in large firms in Korea and diversified networks of independently owned small and medium-sized firms in Taiwan. Moreover, the general pattern—of Korea enterprises growing larger and internally more diversified and of Taiwan enterprises linking with other firms and diversifying their products over time is found in the initial years of industrial growth. The same pattern shows up again in the 1990s in the automotive and electronic industries.

These illustrations show that in Korea, on the one hand, large firms, many of which were affiliated with the *chaebol* developed economy-of-scale productions systems. These firms internalized the manufacture and assembly of most components that went into final products. In Taiwan, on the other hand, the same or similar products were made by small and medium-sized firms arranged in satellite assembly systems, each firm of which would make different components that would later be assembled into the finished good. As both economies become more intensively organized as export-driven economies—with exported goods organized in Korea through *chaebol* and in Taiwan through small and medium-sized firms—the mode of production and many of the actual products being produced increasingly diverged.

Although upgrading and divergence in products were driven by intermediary demand, one of the main reasons that demand kept rising was the ability of manufacturers to respond this demand by building what amounts to systems of production, that is a cross-market organization of production that extends beyond individual firms and individual business groups to incorporate entire sectors and, in our cases, entire economies. As we show elsewhere (Feenstra and Hamilton forthcoming), the core features of these systems of production are not externally imposed by macro-economic incentives or policy directives, but rather arise internally, as

intrinsic aspects of competitive activities themselves where economic players endeavor to position themselves relative to others by exercising authority within firms and groups of firms and by exercising market power over other firms beyond their actual authority to control. More specifically, in terms of our two cases, it was the ability of the manufacturers in both locations to put together internally competitive networks of production that not only responded to initial orders from big buyers, but also soon created demand-responsive systems of production that, in turn, shaped the emerging retail revolution in the United States and elsewhere. Put simply, the firms in the export sectors of both economies specialized not so much in products *per se*, as in a way of organizing production that had affinities to an array of different products for which big buyers would place orders. The organization of economies precedes and largely shapes not only the technology used to manufacture products and the upgrading of that technology, but also the products actually produced.

This divergence between South Korea and Taiwan can be briefly illustrated by showing the economic locations of the largest business groups in each economy. We have described at length elsewhere how these figures have been generated (Feenstra and Hamilton forthcoming). In brief, using internal purchases among member firms in a business group as the measure for vertical integration, we classified business groups into one of three categories. 1) vertically integrated (V), if the majority of group revenues come from final consumer products and the group has a high degree of internal purchases; 2) downstream assemblers (D), if the majority of group revenues come from final consumer products and the group has a low degree of internal purchases, and 3) upstream suppliers (U), if the majority of group revenues come from intermediate goods.

Figures 15 and 16 show the differences in organization between the two economies. In 1988 (the year of our data), in South Korea, the largest business groups produced final products, most of which were exported. There are very few groups that fall into the classification of downstream assemblers, and those that do are domestically oriented producers of food products. By contrast in Taiwan, in 1994, the year of our data, the largest business groups are either upstream suppliers or downstream assemblers. Only three groups fall into the classification of being vertically integrated, and on closer inspection these three groups have a high but very narrow range of internal purchases and are more comfortably classified as downstream assemblers. There are no groups in Taiwan that resemble the *chaebol* in South Korea. Instead, in Taiwan, firms and inter-firm networks (e.g., small, medium-sized, and modestly large firms) that are not affiliated with business groups are the primary suppliers of component parts for downstream assemblers (primarily in electronics industries). These independent firms are also the main manufacturers for a broad range of other types of exported goods, the intermediate goods for which are bought from upstream suppliers.

Conclusions

Networks and Global Matching

In the twenty-five years between 1960 and 1985, both South Korean and Taiwanese manufacturers responded aggressively to the rising demand from intermediary buyers by creating manufacturing networks to produce goods. Both sets of manufacturers, however, responded differently. In Korea, the largest *chaebol* developed networks of firms over which the *chaebol* heads had authority, and as a consequence of this control, these *chaebol* were able successfully to consolidate their hold over the export sector and ultimately over the entire economy. In Taiwan, by contrast, faced with the competition offered by the many and constantly emerging

networks of small and medium-sized firms, the largest business groups retreated from producing consumer products. As a consequence of the proliferation of these networks, organized as they were around satellite assembly systems, Taiwan's export sector grew increasingly diverse—in ownership, in geographical locations, and in the products produced.

It is our conclusion that rapidly increasing intermediary demand is the primary driver of Asia's economic transformation. The formation of distinctive trajectories of growth, however, grew out of the competitive struggle among local Asian manufacturers in response to this demand. It is our observation that the iterated and emergent process of global matching corresponds to the equally emergent patterns seen in the export trade statistics analyzed in this paper. We would like more research on this topic, but it seems very likely that the actual process of matching buyers to manufacturers involved not only the products being purchased, but also the system of production by which the products were manufactured. Big orders of the same product were more likely to go to those locations specializing in producing big orders, regardless of the exact product being ordered. Likewise, smaller batch orders were more likely to end up with firms that did not need large orders to survive and that were flexible enough to produce many different small lots effectively and efficiently. This iterated matching process led to economies that became more specialized in their style of production and, accordingly, in the products they produced.

Moreover, we suggest, under conditions of rapidly increasing demand, that the activity of responding to orders (i.e., keeping orders coming in from previous buyers and finding new buyers, possibly for new types of products) meant that owners needed constantly to enlarge, upgrade, or otherwise enhance their production capacity. For chaebol owners, this necessity, brought on by the intense competition from only a few other chaebol, led to aggressive

internalization strategies, strategies to enlarge production in existing firms, to establish new firms with the group, to create a mechanism for internal financing, and to develop greater internal self-sufficiencies, all of which denied competitors any access to internal resources. These internalization strategies began very early in the period of rapid growth and encouraged owners to follow “a path of least resistance” in creating inter-firm networks over which they would have control, namely networks of firms personally owned by chaebol heads and their families and managed by people personally dependent on, and loyal to, these owners. Through such patrimonial systems of control, a few owners and their personal staffs were able to control vast resources within their respective groups and to chart the direction of group expansion. In a relatively short period of time, this centralized control of chaebol owners and the competition among these relatively few large players pushed the entire South Korean economy along a trajectory of development toward oligopoly. By the early 1980s, this trajectory of development was in place and, for all practical purposes, could not be changed, short of a total catastrophe, which as we explained elsewhere (Feenstra, Hamilton, and Lim 2002) occurred during the 1997 Asian financial crisis, when about half of the top fifty chaebol went into bankruptcy or otherwise dissolved, including one of the top four chaebol, Daewoo.

In Taiwan, the activity of responding to orders led to an equally rapid buildup of production networks. Even in the early days of growth, these networks were widely dispersed in rural as well as urban areas, and involved many relatively small and medium-sized firms. In enlarging their production capacity, firm owners, here too, followed the path of least resistance. Instead of trying to greatly expand the size of their firms, they expanded their subcontracting networks. That path was so much easier than trying to obtain large amounts of capital needed for large firms from recalcitrant state-owned banks or to fight the competition from others that

would surely arise if individual entrepreneurs tried to go it alone. Building cooperative *guanxi* networks was a tried-and-true method to accomplish risky tasks and a method that could also be highly predictable. Once these production networks began and turned out to be successful in getting and keeping orders, they quickly proliferated. Joining such production networks became a clear strategy to get rich, and an astounding percentage of Taiwanese households pooled their resources, started their own firms, and, through their connections, joined one and sometime several production networks. The outcome of these crescendoing activities was for entrepreneurs to search frantically for production and service niches in which they might have some relative advantage over others, and, finding such a location, then to organize networks of colleagues to create a position of economic power that would discourage others from entering the same pursuit. In this competitive environment, almost any attempt to upgrade a family owned business, however large, into a self-sufficient production system manufacturing goods for export would be doomed, because such an export strategy, if momentarily successful, would be quickly undermined by the aggressiveness and cheaper cost structures of satellite assembly systems.

The Role of the State

If these conclusions are correct, then economic organization, in general, and in both societies, in particular, is best explained by the organizational dynamics of “doing things together” (Becker 1995). In this explanation, neither the state nor macro-economic conditions nor transaction costs play a direct causal role. In fact, using just the causal connections outlined here is logically sufficient to explain both the rise of the chaebol-led economy of South Korea and the small and medium size firm economy of Taiwan. We do not need to invoke some exterior cause or some incentive structure that is outside the arena of economic activity itself and beyond the actors involved.

If we turn this mental experiment around, and argue instead, as most theorists do, that economic organization arise as a response to a causally prior incentive structure, however constituted, then we also have the added task to explain what the correspondence is between those prior and exterior incentives (e.g., a state directive, an interest rate, a level of education) and the subsequent calculations of economic players that would lead to a mode of organizing. Is there a one-to-one correspondence, a fifty percent correspondence, or some other proportion of those players who can understand what the incentives might mean and act on them in a predictable way? Or do only the most astute players read the signals correctly and thereby survive, while others mistake their meaning and thereby fail? And just how clear are incentives in the first place? Even the most blatant ones, such as Park's arrest and subsequent release of Korea's top business leaders, is certainly open to many interpretations, both from the business leaders' points of view and from what Park really intended to accomplish. For instance, did he intend to create an economy dominated by large business groups or was that just an unintentional outcome of this one event? Analysts are never clear how we get from incentive to organization in such a way that whole sectors and, in our cases, even whole economies become organized in one way or another. If incentive structures really do provide the necessary and sufficient causes of economic organization, then what is the correspondence between structure and action? How do we get from one to the other?

Our opinion is that the more we probe such questions, the less sense they make. In fact, a counterfactual reading of the Korean case is sufficient to call for a closer examination of the state: Using our interpretation, we would have to conclude that even had the Park and subsequent regimes done nothing to support the largest chaebol, the South Korean economy still would have concentrated in patterns similar to what did emerge, although undoubtedly the lineup

of chaebol at the top would have been different. Saying this, however, does not mean we want to infer that states and macro-economic conditions simply play no role in how economies organizationally develop and perform. That, of course, would be nonsense. But, from our point of view, to make “incentive structures,” however constituted, the primary cause of economic organization is equally untenable. Therefore, we need to ask again, “What is the role of the developmental state and macro-economic conditions in creation of economic organizations and development trajectories?”

The perspective developed in this paper encourages us to ask for a reassessment of the answers given by most students of Asian economic development. It is our view that the state officials always perceive economies on which they are trying to develop policies as going concerns. For the most part, they tacitly accept and take for granted the cultural milieu as well as the organizational features of the societies and economies of which they are a part. Perceiving economies as complex objects in motion, state planners spend most of their time trying to figure out what is going on. They collect statistics, they consult experts, they read world economic trends to see which industrial sectors are worthy of support and which ones are not. They also listen to local businessmen, some in official gatherings and others in private within their circle of families, friends, and colleagues. Although their world of activity is as complex and as confusing as any other world of activity in the society, state planners also have an added dimension of needing to plan and to take some sort of action, of needing a product that is reasonable and has some chance of being accomplished. They need to do what is possible, and if politics is art of the possible, then doing what is possible means to refine what is already present, to cultivate what is already growing, and for the most part that is what we believe they do.

Our analysis, therefore, convinces us that much of the literature on the developmental state overstates the rationality and expertise of these government officials and exaggerates the “accuracy” and impact of their policies. Although state policies and programs may enhance an economy's ability to grow and change, the effects of state actions are often very limited, and much more limited than is represented in the literature on the developmental state.

In fact, the position that politicians and state planners occupy in regard to the economic policy in those early years of economic growth is very much like that outlined by Cohen, March, and Olsen (1972) in the “garbage can” theory of organizational choice. In contexts “where goals and technology are hazy and participation is fluid,” solutions, problems, and participants all become at least partially uncoupled. Solutions go in search of problems; only so many choices to problems are available at any one point in time; and these decisions depend more on who is participating at the moment than on what solutions and what problems are being addressed at the same time. In terms of our cases, it is clear that decisions made in reference to the economy were, in fact, often solutions to non-economic problems (e.g., nationalism in time of martial law) that were made after it was apparent that intended goals of the policies would be reached without the actual policies being implemented. The five-year plans developed in both South Korea and Taiwan are cases in point.

That state officials used a “garbage can” approach to make their decisions is not to say that the state has no role in economic development. Quite the contrary, we believe that the state actions are lagging effects (as opposed to a leading cause) of economic growth that, in turn, rationalize existing trends. Capitalist economic organization involves complex interdependent cross-market economic activities linking an array of firms and economic activities. Such interdependent linkages generate an internal momentum that is difficult for any single actor to

alter, however well placed. Howard Becker (1995) calls this momentum the “power of inertia.” The details of the activity are the means of integration and interdependency: the product standards, the requirements of importing and exporting, the rules for accounting, the sizes of containers for container ships, the barcodes on nearly every component, the modes of communication—all these and ten thousand other trivial and nontrivial details combine to interlink the activities and make any attempt to change the direction of the whole such a difficult, if not impossible thing to do.

Insofar as politicians and state planners develop policies that complement the existing organization of the economy, such as industrial targeting in South Korea, then the role of the government will be to push the economy in the direction that it is already going. Such policies often have strong effects. In Korea’s case, state policies undoubtedly favored some chaebol over others, which hastened the dominance of the top four or five chaebol over other business groups. In Taiwan’s case, the development of government-sponsored initiatives in the computer industry to finance factories, such as Taiwan Semiconductor Manufacturing, to supply intermediate inputs for smaller firms downstream was not only tremendously successful in helping Taiwan build a viable high technology sector, but also purposefully built on existing patterns of allowing the exports manufactured by smaller firms to drive the demand for the intermediate inputs manufactured by larger upstream firms.

By contrast, on many occasions when state planner wanted to alter the direction of development, their attempts failed. In South Korea, the government often tried and always failed to curb the growth and economic concentration of the chaebol. The first round of initiatives to limit chaebol growth occurred in the 1970s; another attempt was made in the early 1980s, another in the 1990s; and by far the largest attempt was made in the aftermath of the Asian

financial crisis. But each time the government's efforts failed, and after each of the government's attempts, the chaebol reached yet higher levels of concentration (E.M. Lim 2002). An equal, if not greater, failure was the Korean government's attempt to encourage the growth of small and medium-sized firms (H.R.Lim 1998).

In Taiwan's case, it took many years for state officials to understand Taiwan's intimate connection to intermediary buyers and the deep integration of Taiwan's manufacturers in the global economy. In the early years of industrialization, state officials worried about the small size and the obscure brands of most firms, and tried occasionally to "upgrade" some aspects of the economy. They tried to create large trading companies by emulating the Japanese model, but these attempts were unsuccessful because most production networks grew from orders from overseas buyers that originated with or was handled by brokers in Taiwan who have their own, very small trading firms. Accordingly while these small trading firms proliferated, the government sponsored trading firms languished (Fields, 1995). The state planners also supported the formation of integrated, more or less permanent subcontracting systems, again based upon the Japanese model, but these have also failed (Lorch and Biggs, 1989). The state also started special banks to increase the size of small and medium sized firms through special financing, but the results were disappointing, because businessmen did not want to take loans from state sources. State planners tried to build an export-oriented transportation industry, so that Taiwan could begin exporting automobiles and trucks. But Taiwan, a country that in the 1980s had one of the highest ratios of manufactured exports to total output of any in the world and a country that had 27 automobile firms (all for the domestic market), exported very few automobiles (Biggart and Guillén 1999). Finally, state officials have repeatedly prohibited Taiwan's businesses from investing in Mainland China, but to no avail. Today, billions of

Taiwanese dollars have already been invested in businesses on the Mainland, and around 500,000 Taiwanese business people have invested and now live in the area around Shanghai alone.

All these examples indicate that state policy does not lead to accomplished fact. State planners in both locations have had to contend with and ultimately to accept that economic organization generates its own momentum and produces effects that are independent of state officials and macroeconomic factors. There is obviously a relation among all of these factors, but the role of economic organization is independent from both and, in turn, influences both. Rather than being autonomous and separate from the economy, state officials, as well as entrepreneurs, become encased in an increasingly institutionalized and increasingly rationalized system of firms, creating a distinct economic world, which they can neither ignore nor easily reform. Once the emergent economic organization becomes a going concern, the viable options for the state's economic policies become progressively narrowed. For state officials and entrepreneurs alike, once economic organization develops its own internal momentum, it is like the proverbial tiger: once you begin riding it, you cannot get off.

**Table 1: The U.S. Retail Firms with Revenues over 5 Billion US, 2001
(Ordered by founding year)**

Name	Industry	Fortune rank	Revenues 2001	Founded
Sonic Automotive	Automotive	288	6,337	1997
AutoNation	Automotive	101	19,989	1996/99
United Auto Group	Automotive	292	6,221	1990
Office Depot	Office Products	173	11,154	1986
Staples	Office Products	178	10,744	1986
BJ's Wholesale Club	Warehouse Club	331	5,280	1984
Costco Wholesale	Warehouse Club	44	34,797	1983
Home Depot	Home Improvement	18	53,553	1978
Nike	Apparel Marketer	204	9,489	1972
Gap	Apparel	149	13,848	1969
Best Buy	Electronics	131	15,327	1966/83
CVS Limited	Food and Drug	93	22,241	1963
Rite Aid	Food and Drug	208	9,363	1963
Wal-Mart Stores	Food and Drug	132	15,297	1962/68
Target	General Merchandisers	1	219,812	1962
Kmart	General Merchandisers	34	39,888	1962
Kohl's	General Merchandisers	40	36,910	1962
Toys `R` Us	General Merchandisers	253	7,489	1962
Dollar General	Toys	175	11,019	1957
Circuit City Stores	General Merchandisers	326	5,323	1955
Winn-Dixie Stores	Electronics	157	12,959	1949
Albertson's	Food and Drug	160	12,903	1939/55
Dillard's	Food and Drug	38	37,931	1939
Publix Super Markets	General Merchandisers	230	8,388	1938
Federated Dept. Stores	Food and Drug	133	15,284	1930
TJX	General Merchandisers	118	16,895	1929
Safeway	Apparel	179	10,709	1929
Lowe's	Food and Drug	45	34,301	1926
J.C. Penney	Home Improvement	94	22,111	1921/1961
Walgreen	General Merchandisers	50	32,004	1902
Nordstrom	Food and Drug	78	24,623	1901
Saks	General Merchandisers	314	5,634	1901
VF	General Merchandisers	297	6,071	1900/1924
Sears Roebuck	Apparel Marketer	320	5,519	1899/1951
Kroger	General Merchandisers	32	41,078	1893
May Dept. Stores	Food and Drug	22	50,098	1883
	General Merchandisers	143	14,175	1877

Table 2: Top Ten Retail Buying Office in Taiwan, 1992

Company	Year Established	Value of Orders Placed in Taiwan (US\$ millions)	Sourcing Channels ^a		Types of Merchandise	
			Taiwan (%)	Offshore (%)	Soft Goods ^b (%)	Hard Goods (%)
Kmart	1971	500	40	60	45	55
Wal-Mart ^c	1981	300	55	45	30	70
J.C. Penney	1971	200	70	30	50	50
Associated Merchandising Corp. (AMC) ^d	1973	180	60	40	65	35
Mast Industries ^e	1973	140	100	0	100	0
Montgomery Ward	1983	135	77	23	35	65
Woolworth	1975	110	80	20	46	54
Sears	1967	75	98	2	40	60
May Department Stores	1974 ^f	70	78	22	65	35
R.H. Macy & Co.	1986 ^f	50	80	20	73	27

Source: Gereffi and Pan (1994, p. 137), based on interviews in Taiwan by Gary Gereffi.

a. Combined total for soft goods and hard goods.

b. The soft goods percentages are exclusively apparel, with the following exceptions: Kmart—apparel, handbags, and home fashions; Wal-Mart—apparel (70%) and footwear (30%); and Montgomery Ward—apparel and footwear (minimal).

c. Wal-Mart's sole sourcing agent in Taiwan, and much of the rest of Asia as well, is Pacific Resources Export Limited (PREL). Although registered as a Hong Kong trading company, PREL is owned by Indonesia's Salim Group, one of the biggest industrial conglomerates in Asia.

d. Associated Merchandising Corporation is a group buying office that serves about 40 different stores in the United States, including Dayton-Hudson, Federated Department Stores, Target, and Bradlees.

e. Mast Industries is the main overseas sourcing arm and a wholly owned subsidiary of The Limited.

f. R.H. Macy and the May Company bought jointly in Asia from 1960 to 1973. The following year, May Company set up its own buying office; Macy purchased through Linmark Services, an independent buying agent, until 1986, when Macy established a separate buying office.

Table 3: Exports of Korean Trading Companies (US\$ million)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Company:											
Samsung	223	355	507	493	767	1,237	1,608	1,836	2,199	2,754	3,017
Ssangyong	125	141	176	265	420	642	754	956	1,033	1,239	1,262
Daewoo	161	301	501	709	1,119	1,415	1,895	1,958	2,490	2,576	2,990
Kukje	64	197	328	472	564	744	849	934	0	0	0
Hanil	37	218	127	188	0	0	0	0	0	0	0
Hyo Sung	0	113	199	338	583	764	784	598	682	749	897
Bando/LG	0	134	212	330	467	493	611	688	1,059	1,440	1,443
Sunkyong	0	114	247	283	320	430	578	600	653	846	940
Samwha	0	0	167	260	0	0	0	0	0	0	0
Kum Ho	0	99	204	256	305	356	185	166	0	0	0
Hyundai	0	0	320	260	450	1,028	1,721	2,632	3,138	3,334	3,969
Yulsan	0	0	91	151	0	0	0	0	0	0	0
Korea Trade ^a	0	18	25	24	51	67	84	75			
Total	610	1,690	3,104	4,029	5,046	7,176	9,069	10,443	12,376	13,995	15,144
% share of Korea's exports	12	21.9	30.9	31.7	33.5	41	42.7	47.8	50.6	47.9	50

Notes:

Zero indicates zero or no data available

a. Korea Trade is an exporting agent for small and medium-scale producers.

Sources:

For years from 1975 to 1980, Rhee, et. al. 1984, pp. 148-149, using data from Korean Traders Association, 1981. For years from 1981 to 1985, Fields 1995, p. 193, using data from Business Korea 4/93.

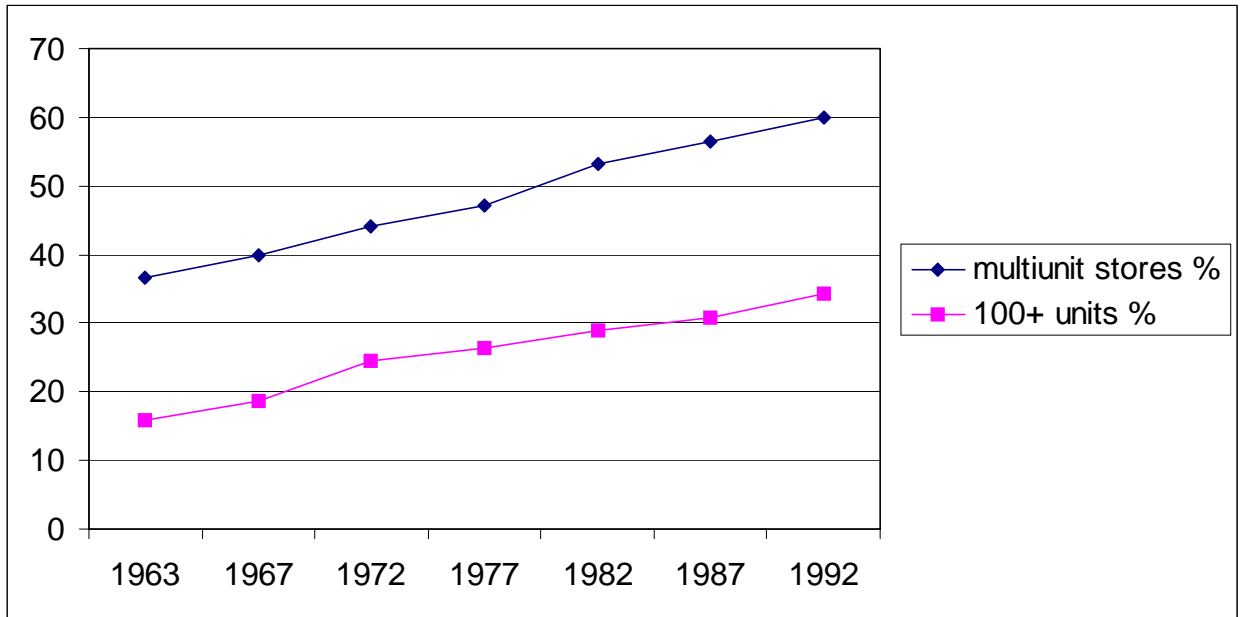


Figure 1: Consolidation in the Retail Sector, 1963-1992

Source: BEA, Economic Census

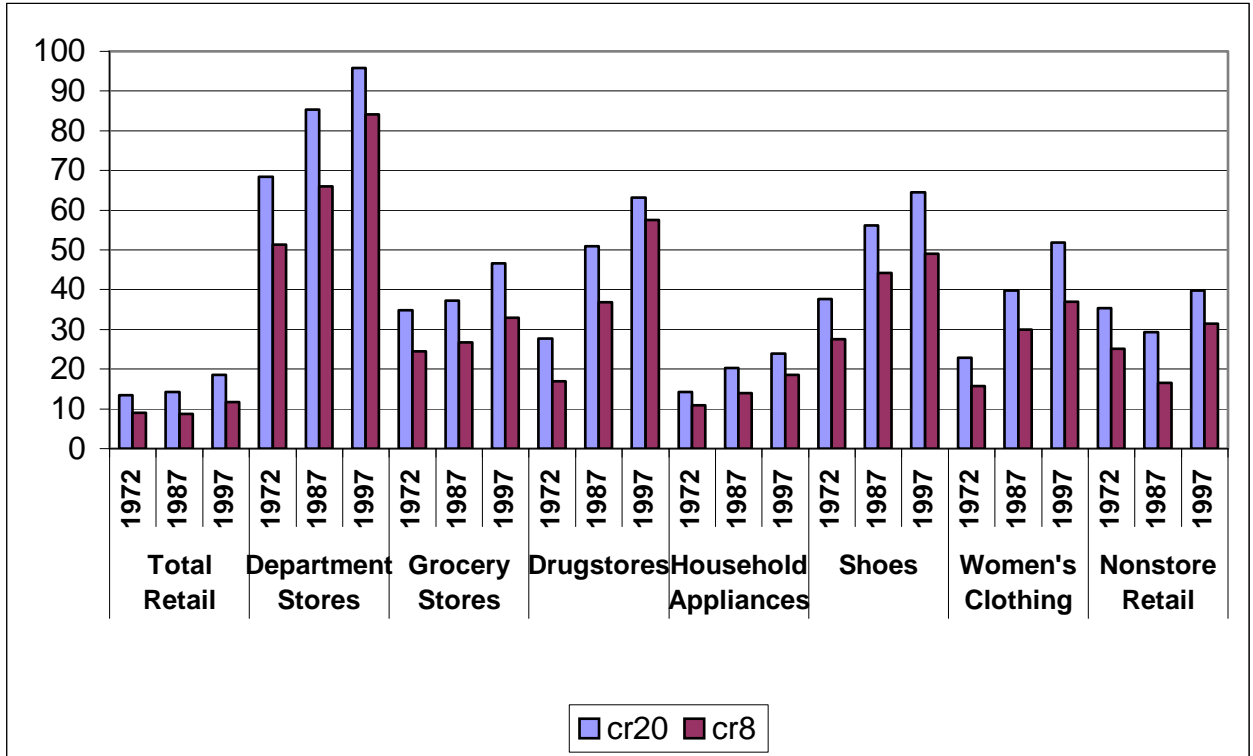


Figure 2: Concentration in Select Retail Sectors, 1972-87

Source: BEA, Economic Census

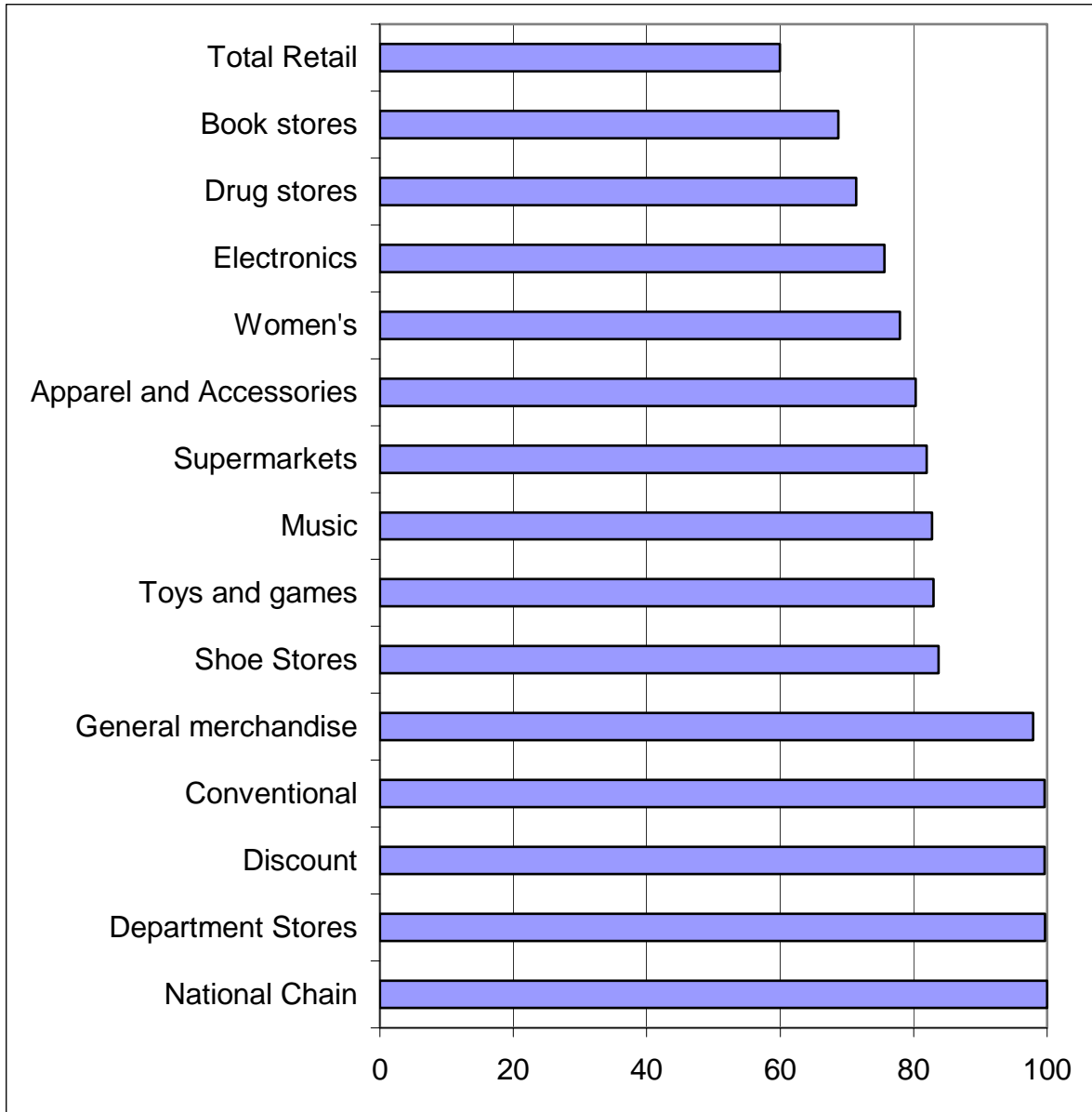


Figure 3: Chain Store Revenue Share in Select Retail Sectors, 1997

Source: BEA, Economic Census

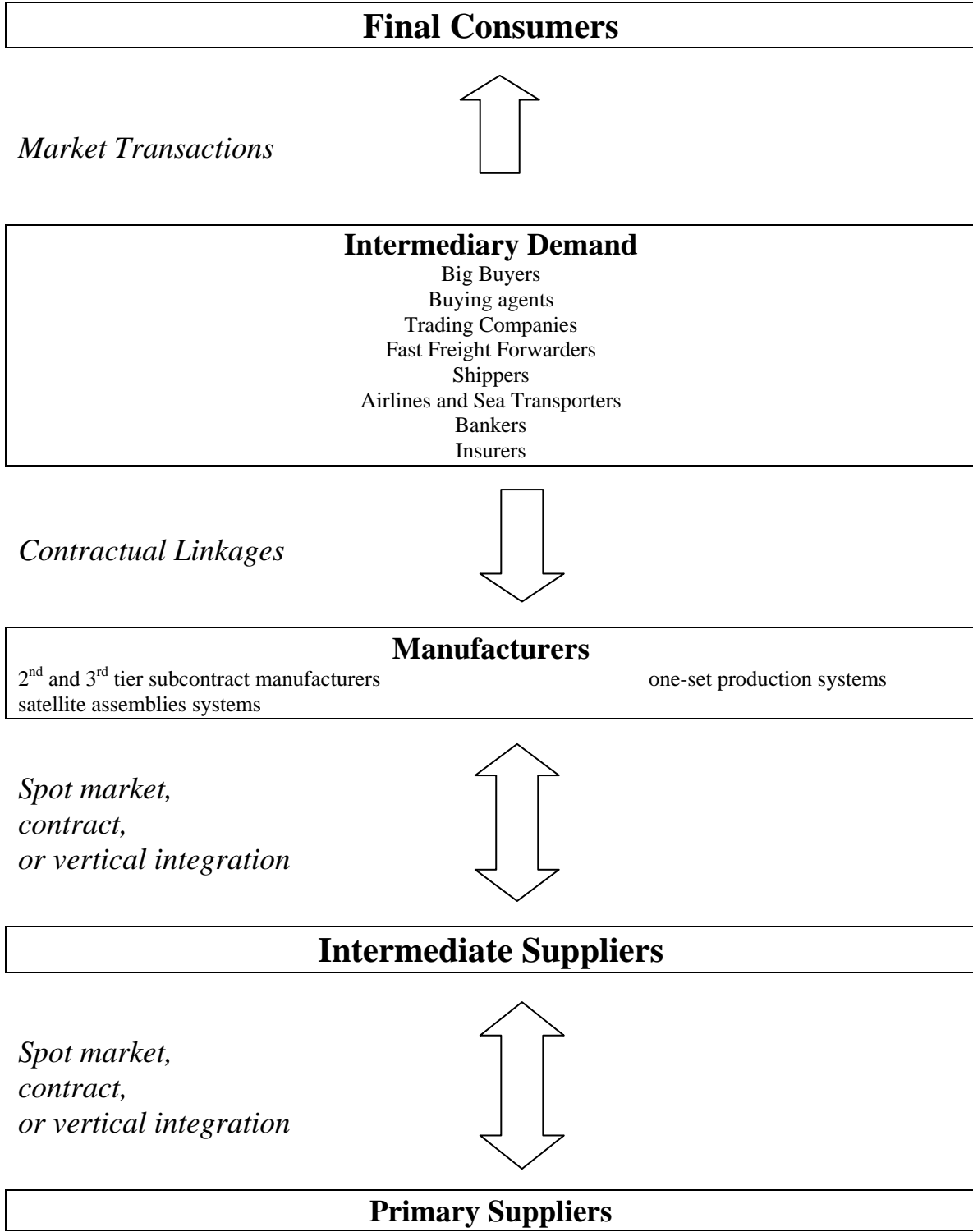


Figure 4: The Emergent Economic Organization of the Global Economy

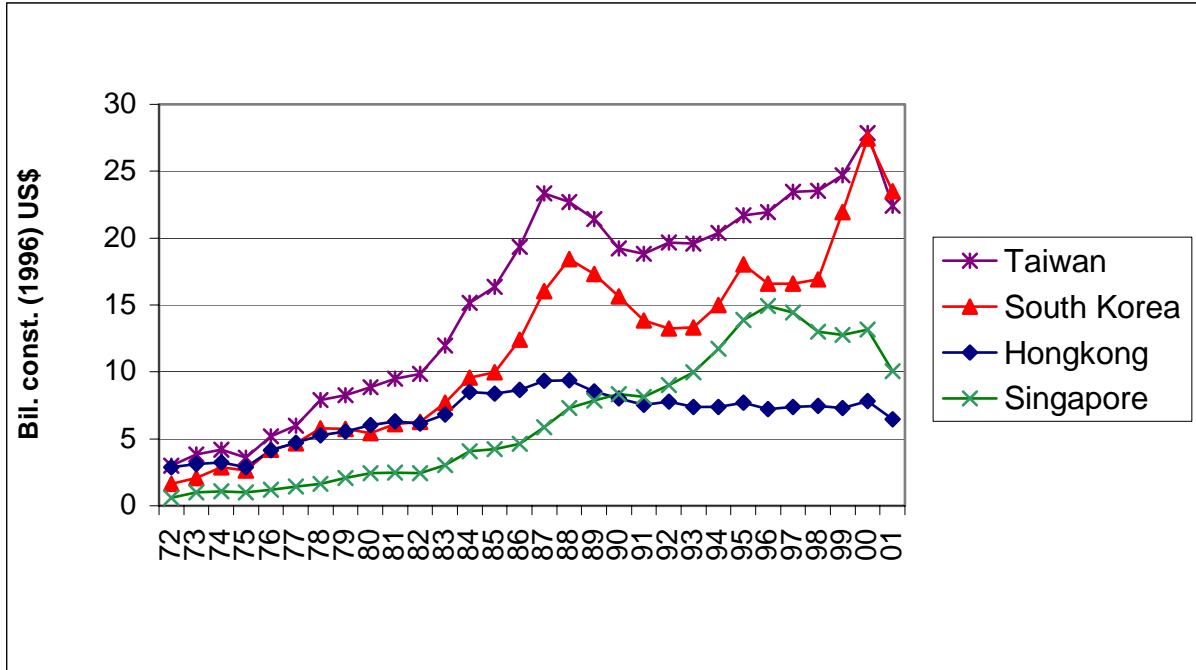


Figure 5: U.S. Imports from the NICs, 1972-2001

Source: NBER Trade Data

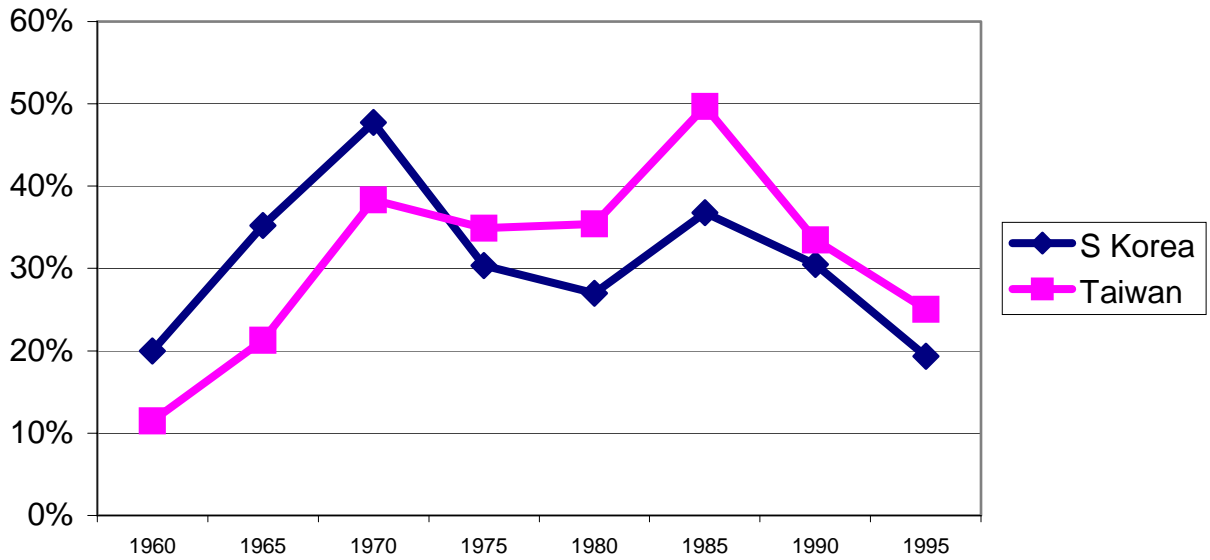


Figure 6: The Ratio of Exports to the U.S. in Total Exports from South Korea and Taiwan, 1960-1995

Source: NBER Trade Data

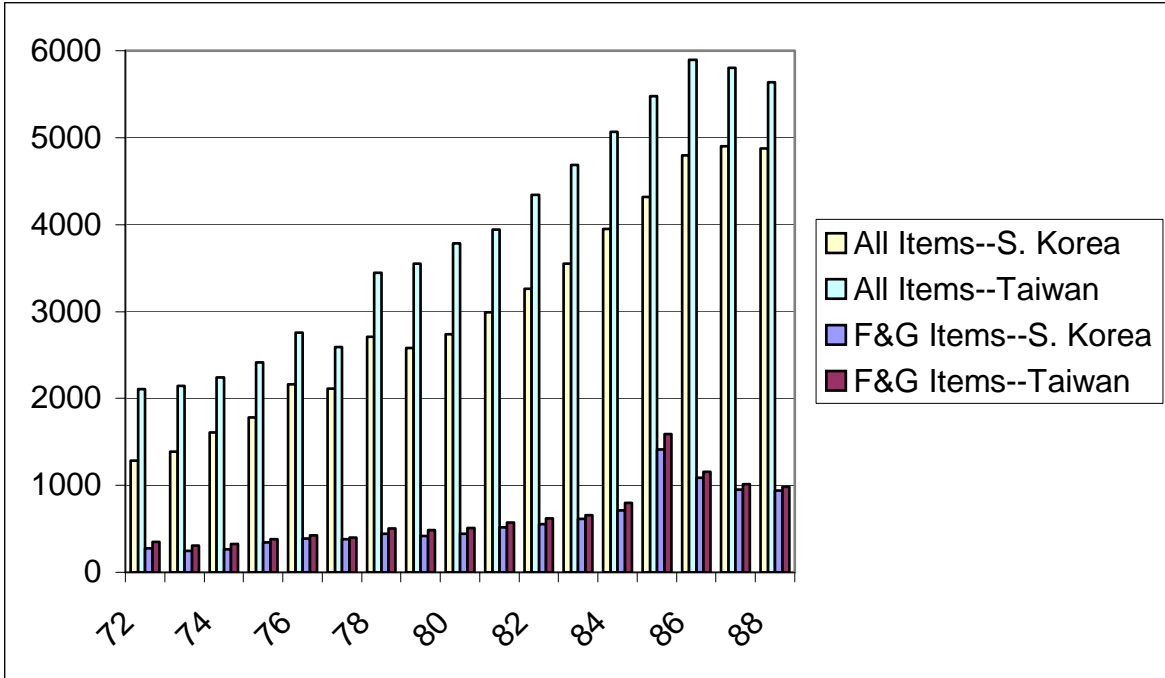


Figure 7: Number of Categories of Imports (TSUSA 7-Digit)—Total and Footwear and Garments Combined

Source: NBER Trade Data

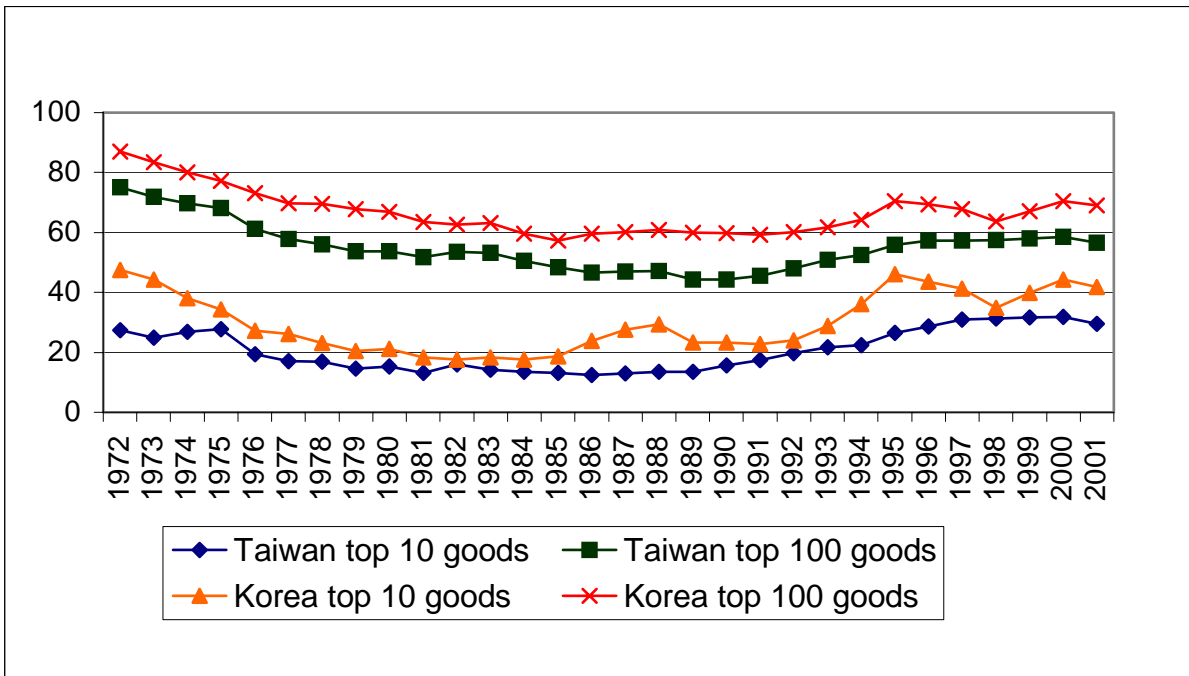


Figure 8: The Share of Top 10 and Top 100 Categories of Goods in Total Value of Exports to the U.S. 1972-2001

Source: NBER Trade Data

US Imports from South Korea, 1972-88 (Mil. US\$)

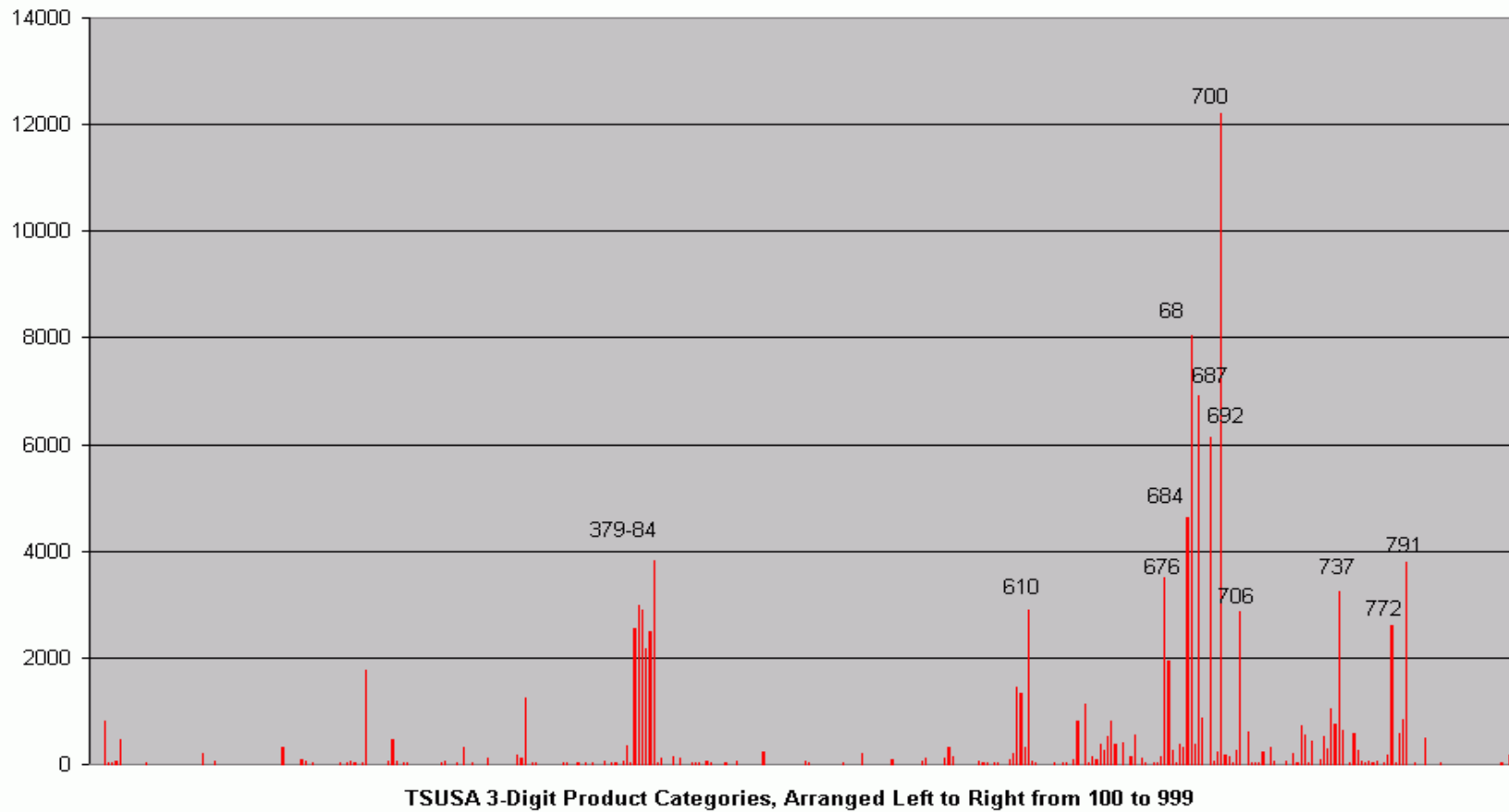


Figure 9a: South Korea Exports to the U.S., 1972-88

Source: NBER Trade Data

US Imports from Taiwan, 1972-88 (Mil. US\$)

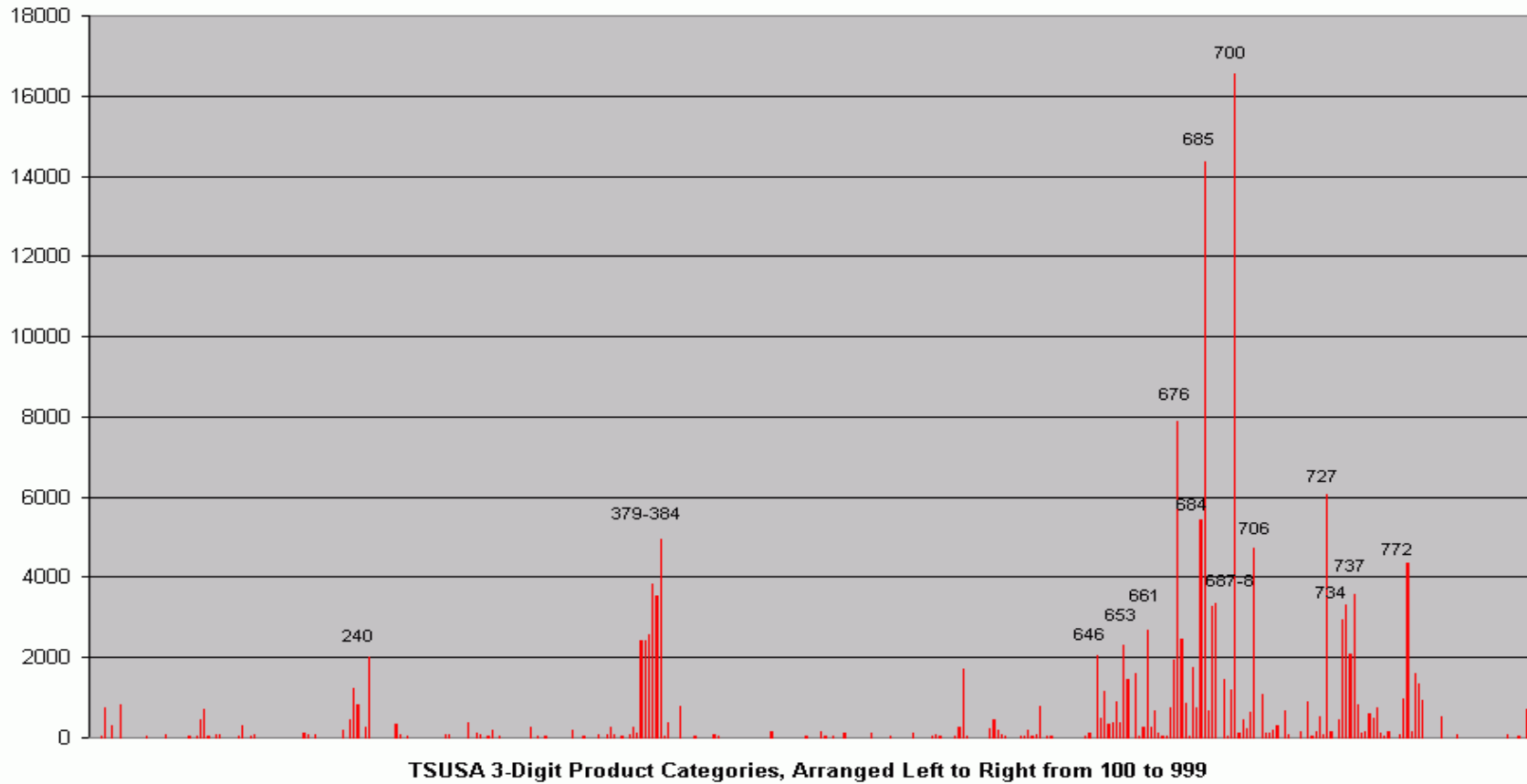


Figure 9b: Taiwan's Exports to the U.S., 1972-88

Source: NBER Trade Data

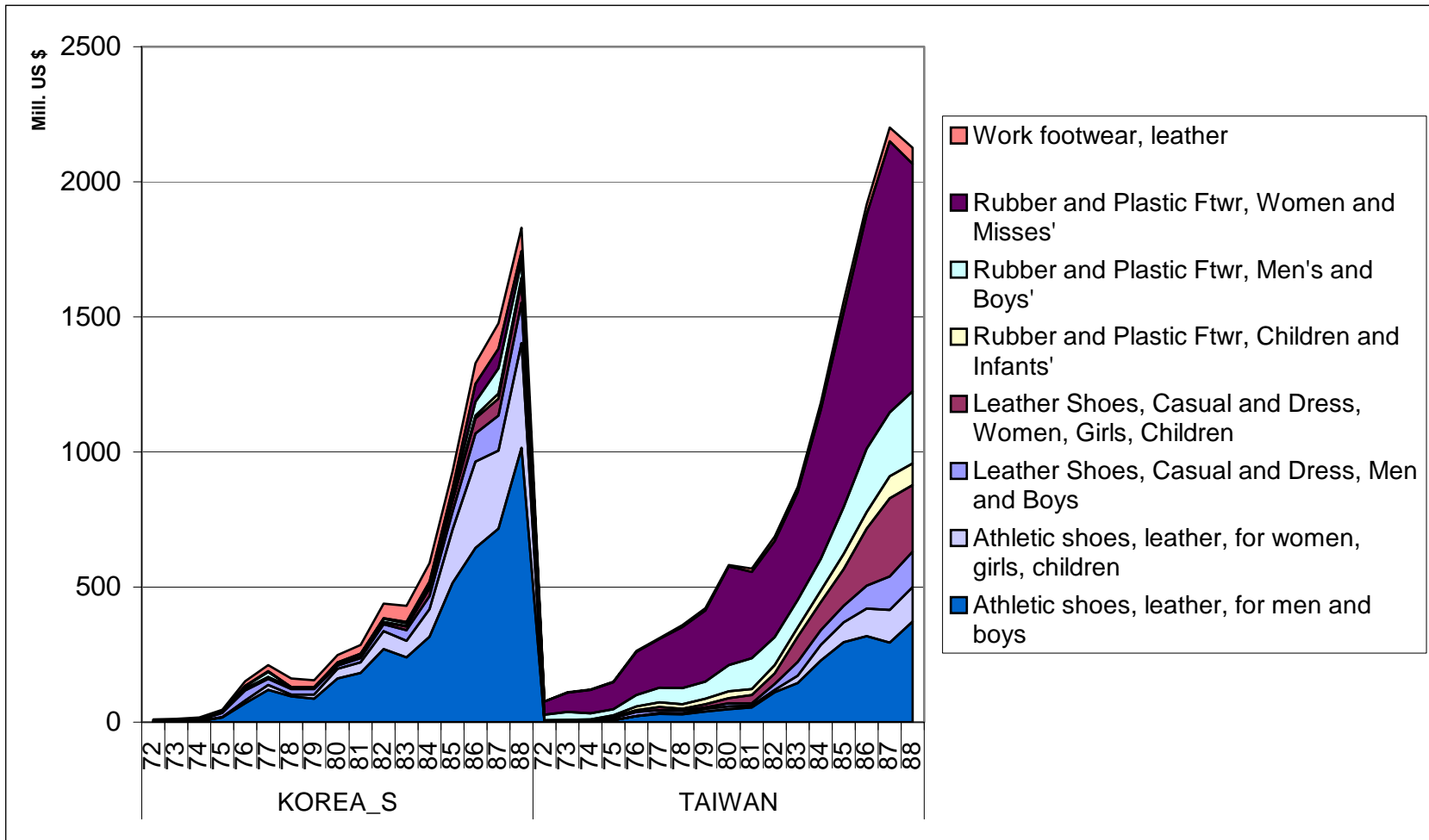


Figure 10: Footwear, Select Categories, 1972-88

Source: NBER Trade Data

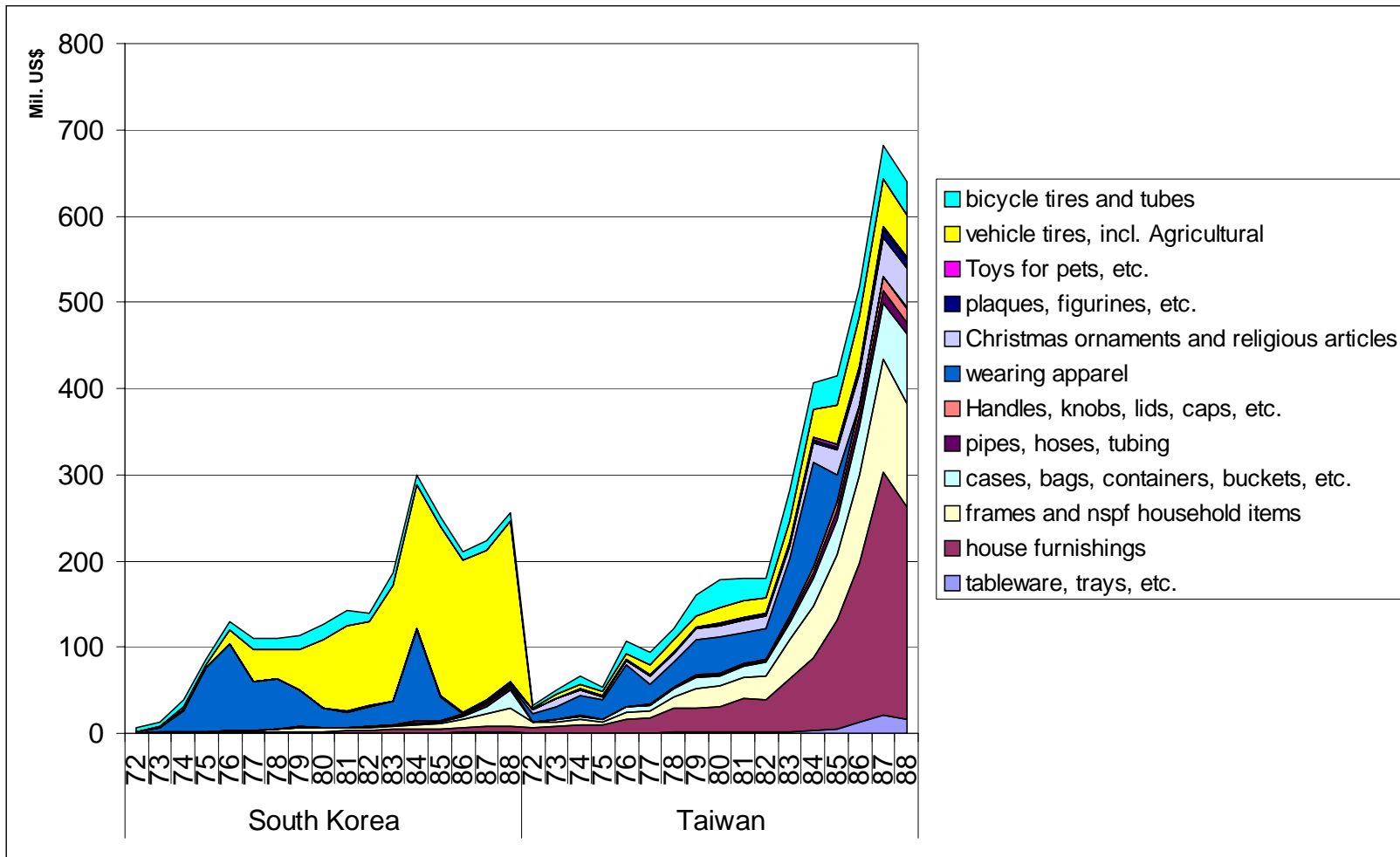


Figure 11: Rubber and Plastic Products, 1972-88

Source: NBER Trade Data

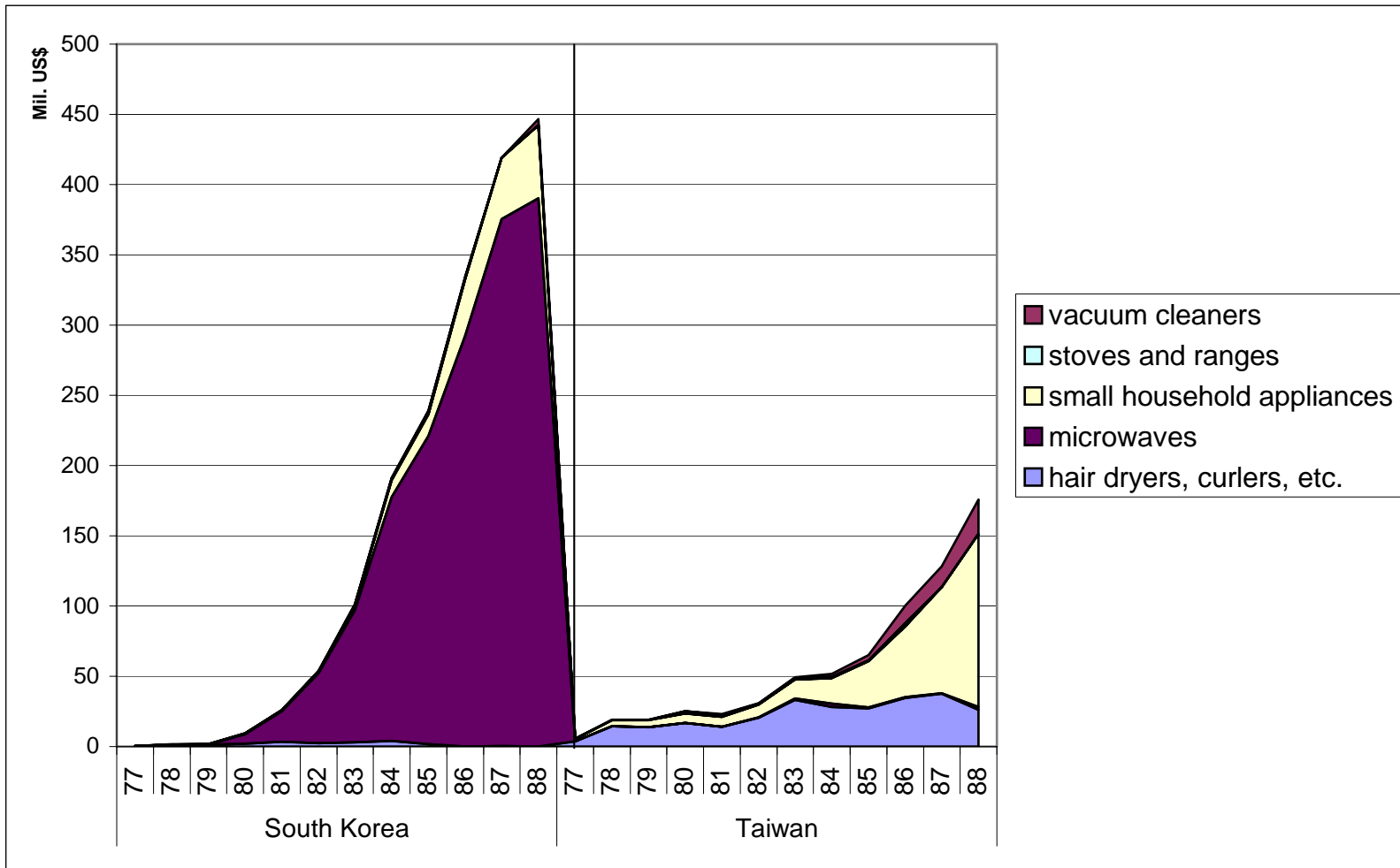


Figure 12: Household Appliances, 1972-88

Source: NBER Trade Data

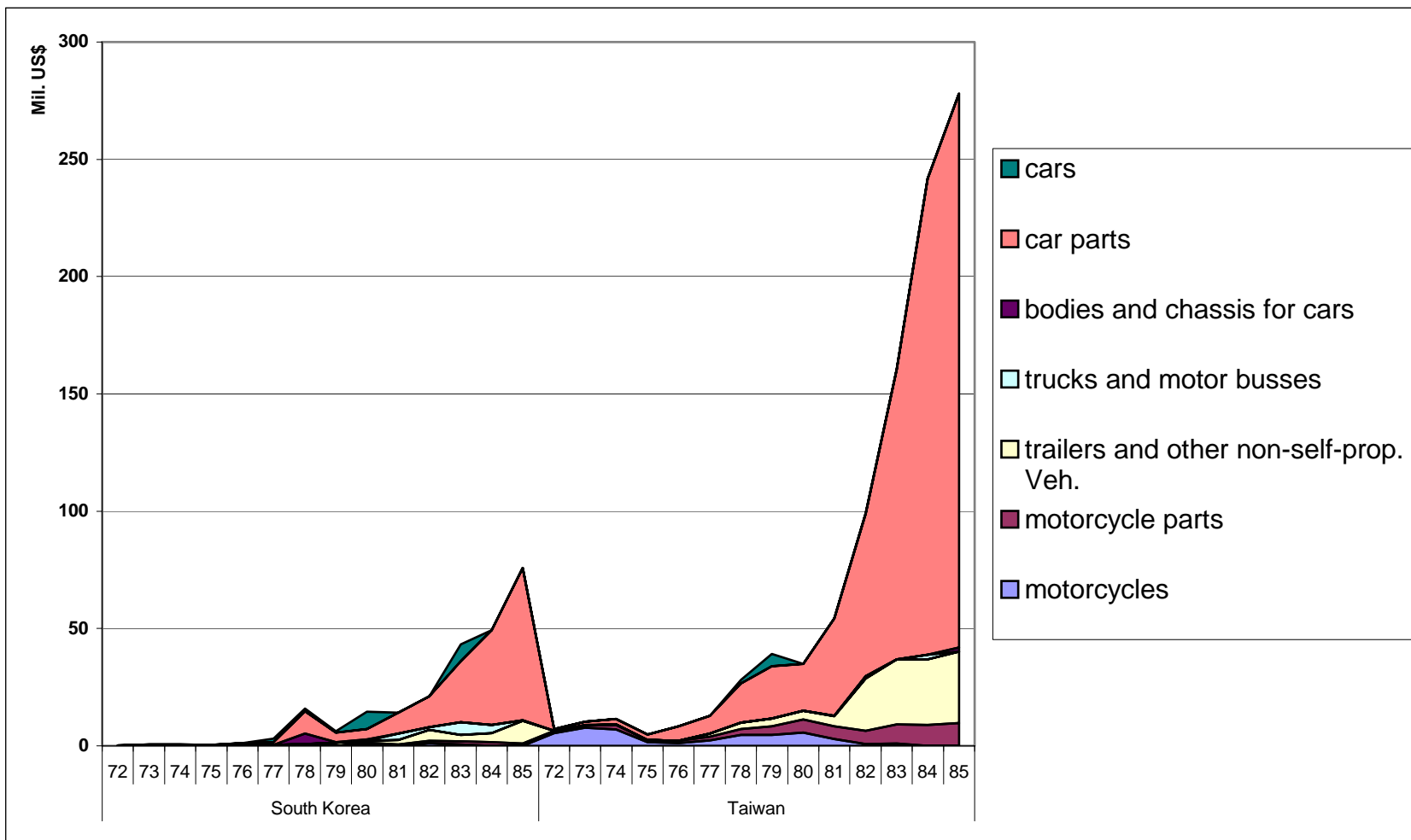


Figure 13a: Transportation equipment, 1972-85

Source: NBER Trade Data

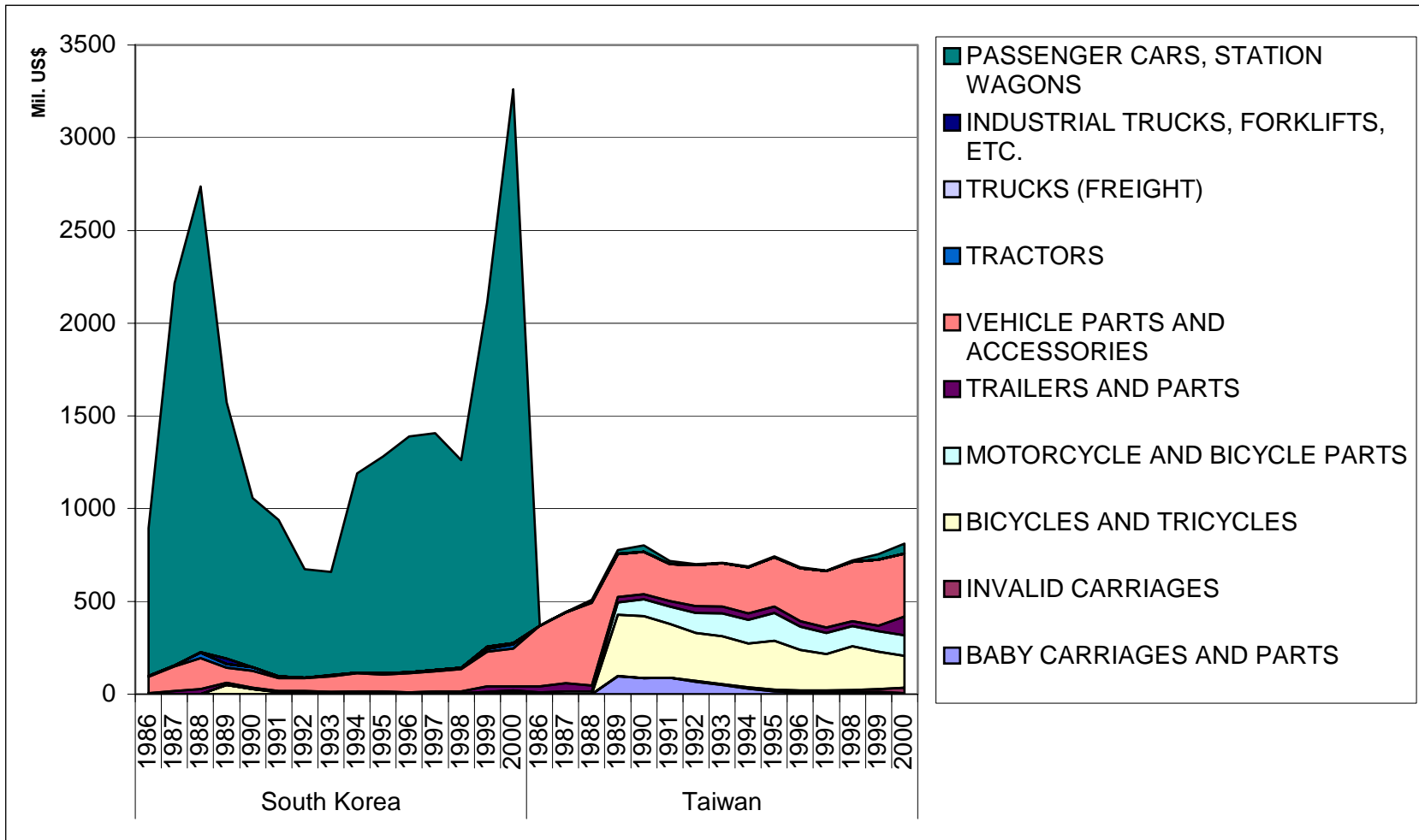


Figure 13b: Transportation Equipment, 1986-2001

Source: NBER Trade Data

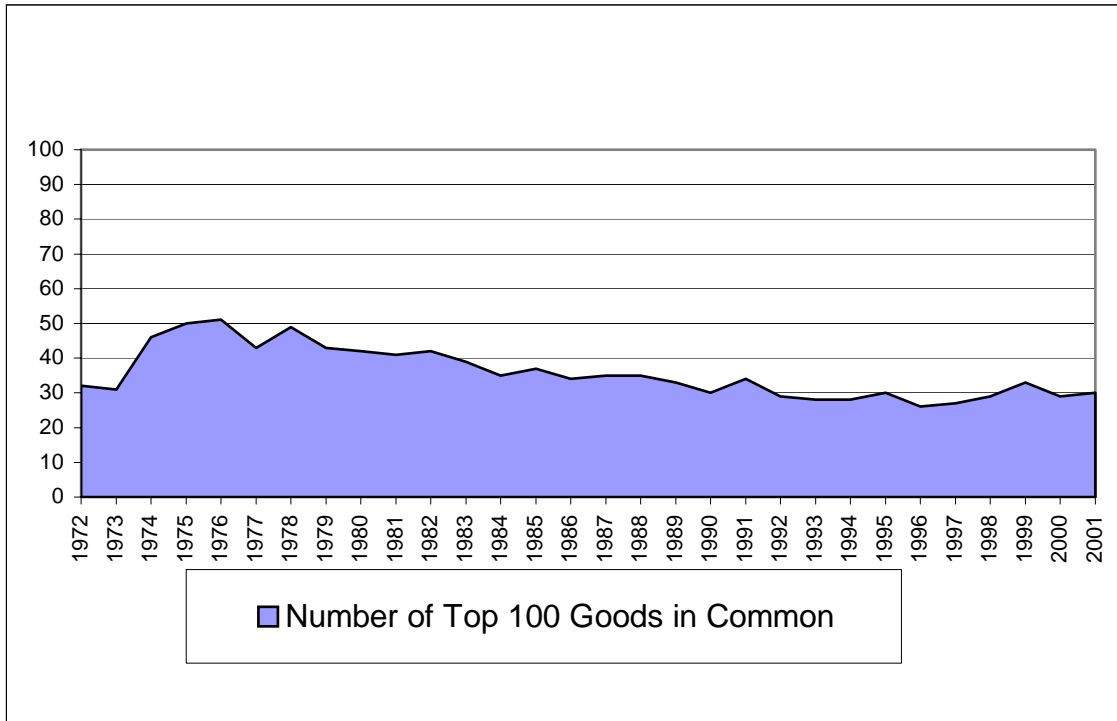


Figure 14: Divergence Between South Korea's and Taiwan's Export Landscapes

Source: NBER Trade Data

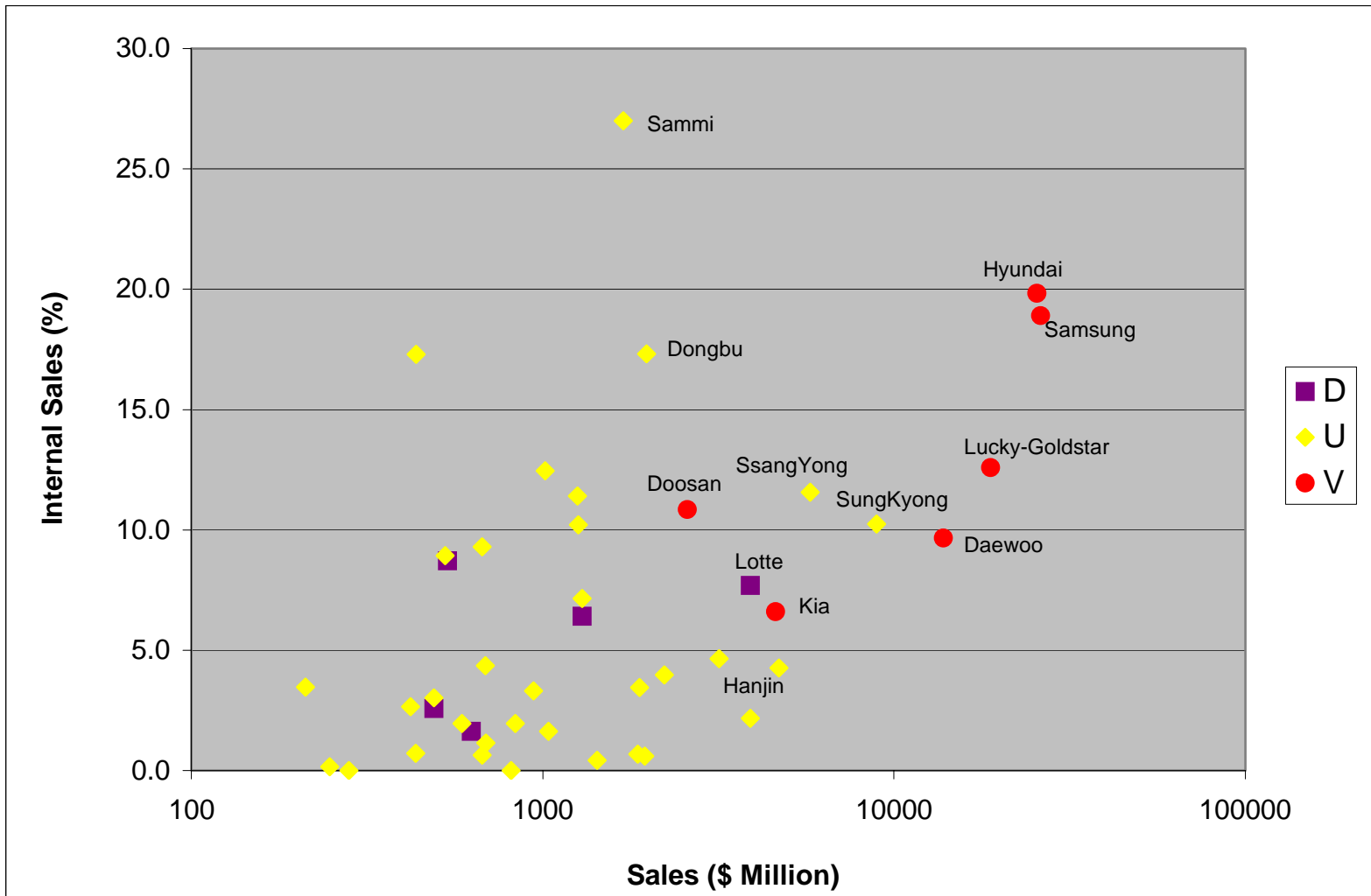


Figure 15: Types of Korean Business Groups

Source: Korean Business Groups Dataset

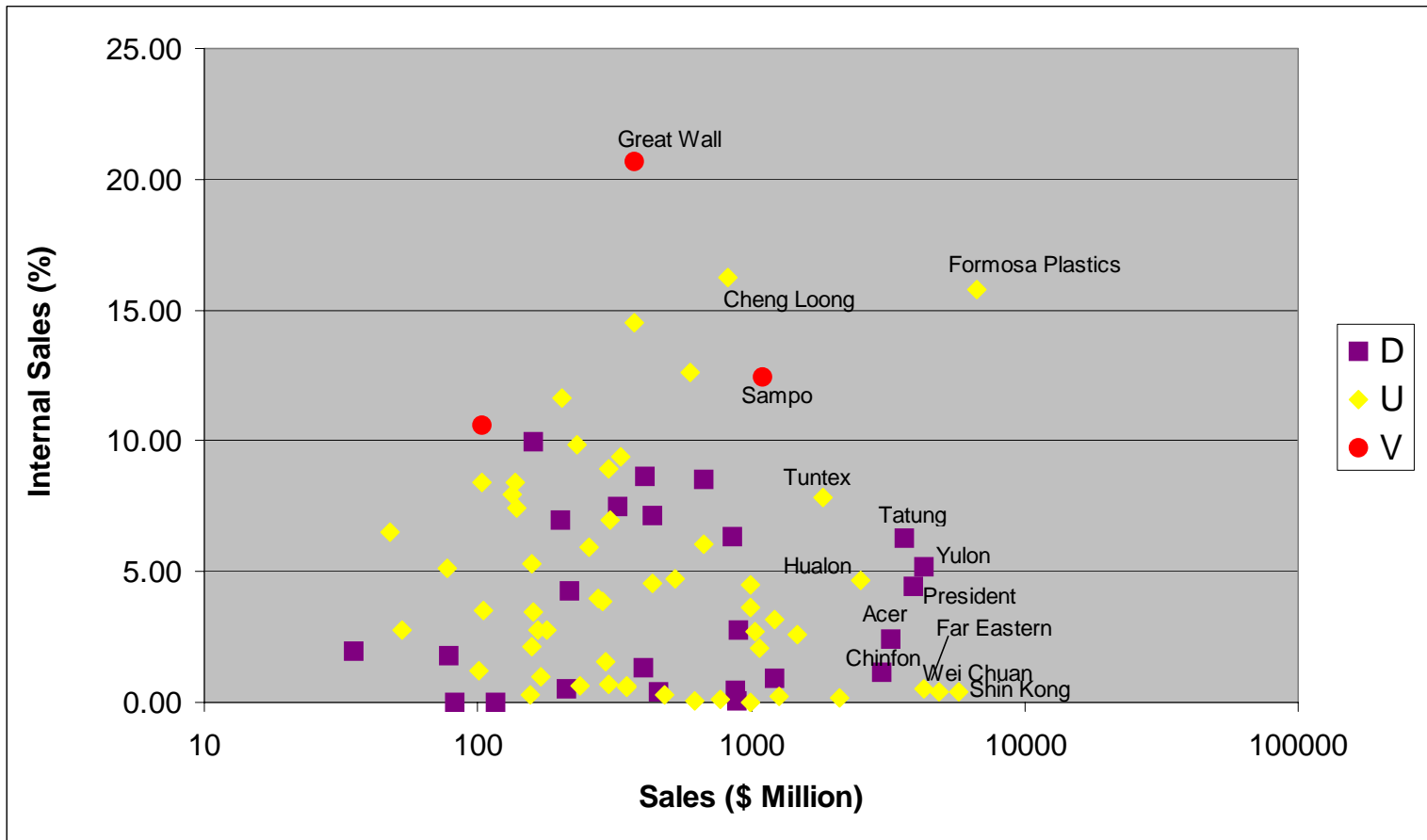


Figure 16: Types of Taiwanese Business Groups

Source: Taiwan Business Groups Dataset

References Cited

- Abernathy, Frederick H., John T. Dunlop, Janice H. Hammond, and David Weil. 1999. *A Stitch in Time: Lean Retailing and the Transformation of Manufacturing—Lessons from the Apparel and Textile Industries*. New York: Oxford University Press.
- 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 "the Rest": Challenges to the West from Late-Industrializing Economies*. New York: Oxford University Press.
- Anderson, Philip W., Kenneth J. Arrow, David Pines (eds.). 1987. *The Economy as an Evolving Complex System*. Redwood City, Calif.: Addison-Wesley Pub. Co.
- Aoki, Masahiko. 1988. *Information, Incentive, and Bargaining in the Japanese Economy*. Cambridge: Cambridge University Press.
- Appelbaum, Richard P. and David Smith. 1996. "Governance and Flexibility: The East Asian Garment Industry." Pp 79-106 in *Economic Governance and the Challenge of Flexibility in East Asia*, Frederic C. Deyo, Richard F. Doner, and Eric Hershberg.
- Arthur, W. Brian, 1989, "Competing Technologies, Increasing Returns, and Lock-in by Historically Small Events." *Economic Journal* 99:116-31.
- Arthur, W. Brian, 1994, *Increasing Returns and Path Dependence in the Economy*, Ann Arbor: University of Michigan Press.
- Arthur, W. Brian, Steven N. Durlauf, and David A. Lane. 1997. *The Economy as an Evolving Complex System II*. Reading, Massachusetts: Addison-Wesley.
- Becker, Howard S., 1995. "The Power of Inertia." *Qualitative Sociology* 18,3: 301-309.
- Biggart, Nicole Woolsey ,1990, "Institutionalized Patrimonialism in Korean Business," *Comparative Social Research* 12: 113-133.
- Biggart, Nicole Woolsey and Mauro F. Guillén, 1999, "Developing Difference: Social Organization and the Rise of the Auto Industries of South Korea, Taiwan, Spain and Argentina," *American Sociological Review*, 64, October, 722-747.

- Biggs, Tyler S. 1988a. "Financing the Emergence of Small and Medium Enterprise in Taiwan: Heterogeneous Firm Size and Efficient Intermediation." Employment and Enterprise Policy Analysis Project. EEPA Discussion Paper No. 16.
- Biggs, Tyler S. 1988b. "Financing the Emergence of Small and Medium Enterprise in Taiwan: Financial Mobilization and the Flow of Domestic Credit to the Private Sector." Employment and Enterprise Policy Analysis Project. EEPA Discussion Paper No. 15.
- Bluestone, Barry and Bennett Harrison. 1982. *The Deindustrialization of America*. New York: Basic Books.
- Bluestone, Barry, Patricia Hanna, Sarah Kuhn, and Laura Moore, 1981, *The Retail Revolution: Market Transformation, Investment, and labor in the Modern Department Store*. Boston: Auburn House Publishing Company.
- Bonacich, Edna and David V. Waller. 1994. "The Role of U.S. Apparel Manufacturers in the Globalization of the Industry in the Pacific Rim." Pp. 80-104 in *Global Production: The Apparel Industry in the Pacific Rim*, Edna Bonacich, Lucie Cheng, Norma Chinchilla, Nora Hamilton, and Paul Ong (eds.). Philadelphia: Temple University Press.
- Bonacich, Edna, Lucie Cheng, Norma Chinchilla, Nora Hamilton, and Paul Ong. 1994. *Global Production: The Apparel Industry in the Pacific Rim*. Philadelphia: Temple University Press.
- Bradford, C.I. 1994. "From Trade-Driven Growth to Growth-driven Trade: Reappraising the East Asian Development Experience." Washington, DC: Organization for Economic Co-operation and Development
- Brown, Stephen A. 1997. *Revolution at the Checkout Counter*. Cambridge, Mass.: Harvard University Press.
- Burawoy, Michael. 1985. *The Politics of Production : Factory Regimes under Capitalism and Socialism*. London : Verso, 1985.
- Chandler, Alfred D., Jr. 1977. *The Visible Hand: The Managerial Revolution in American Business*. Cambridge, Mass: Harvard University.
- Chandler, Alfred D., Jr. 1990. *Scale and Scope: The Dynamics of Industrial Capitalism*. Cambridge, Mass: Harvard University.

- Chang, Dukjin. 1999. *Privately Owned Social Structures: Institutionalization-Network Contingency in the Korean Chaebol*. Unpublished dissertation, Department of Sociology, University of Chicago.
- Chen, Chieh-hsuan. 1994. *Xieli wangluo yu shenhuo jiegou: Taiwan zhongxiao qiye de shehui jiji fenxi Chinese name* (Mutual aid networks and the structure of daily life: A social economic analysis of Taiwan's small- and medium-sized enterprises). Taipei: Lianjing.
- Chen, Chieh-hsuan. 1995. *Huobi wangluo yu shenhuo jiegou: Difang jinrong, zhongxiao qiye Taiwan shisu shehui zhi zhuanhua* (Monetary networks and the structure of daily life: Local finances, small and medium-sized enterprises, and the transformation of folk society in Taiwan). Taipei: Lianjing.
- Chen, Chieh-ying, 1997, *Gongyehua chongde chuantonghua—Hemei fangzhiye zhi yanzhou* (The traditionalism of industrialization—Research on the cotton industry in Hemei). *Difang shehui* (Local society) 1, 1: 211-254.
- Cheng, Lu-lin and Yukihiro Sato. 1998. "The Bicycle Industries in Taiwan and Japan: A Preliminary Study Toward Comparison between Taiwanese and Japanese Industrial Development." *Joint Research Program Series* No. 124. Tokyo: Institute of Developing Economies.
- Cho, Lee-Jay and Won Bae Kim. 1991. "The Population Redistribution Plan (1977) and Urbanization Problems." Pp. 349-367 in *Economic Development in the Republic of Korea: A Policy Perspective*, Lee-Jay Cho and Yoon Hyung Kim (eds.). Honolulu, Hawaii: East-West Center.
- Chou, Tein-Chen, 1985, *Industrial Organization in the Process of Economic Development: The Case of Taiwan, 1950-1980*. Louvain-la-Neuve: Universite Catholique de Louvain, Faculte des Science Economiques, Sociales et Politiques.
- Chung, Wai-keung and Gary G. Hamilton. 2001. "Social Logic as Business Logic: Guanxi, Trustworthiness, and the Embeddedness of Chinese Business Practices." Pp 325-346 in *Rules and Networks: The Legal Culture of Global Business Transactions*, Richard P. Appelbaum, William L.F. Felstiner, and Volkmar Gessner (eds.). Oxford: Hart Publishing.

- Cohen, Michael D., James G. March, and Johan P. Olsen. 1972. "A Garbage Can Model of Organizational Choice." *Administrative Science Quarterly* 17, 1 (March): 1-25.
- Dicken, Peter. 1998. *Global Shift: Transforming the World Economy*, 3rd Edition. New York: The Guilford Press.
- Dollar, David and Kenneth L. Sokoloff. 1994. "Industrial Policy, Productivity Growth, and Structural Change in the Manufacturing Industries: A Comparison of Taiwan and South Korea." Pp. 5-25 in *The Role of the State in Taiwan's Development*, Joel D. Aberbach, David Dollar and Kenneth L. Sokoloff (eds.). Armonk, NY: M.E. Sharpe.
- Dunlop, John T. and Jan W. Rivkin. 1997. "Introduction." Pp. 1-38 in *Revolution at the Checkout Counter*, by Stephen A. Brown. Cambridge, Mass.: Harvard University Press.
- Economic Research Center of Korea. 1962. *Industrial Structure of Korea, Vol. 1, Manufacturing Industries*. Seoul: Pyonghwa-dang Printing Co.
- Evans, Peter B. 1995. *Embedded Autonomy: States and Industrial Transformation*. Princeton, NJ: Princeton University Press.
- Evans, Peter. 1997. "State Structures, Government-Business Relations, and Economic Transformation." Pp. 63-87 in *Business and The State in Developing Countries*, Sylvia Maxfield and Ben Ross Schneider. Ithaca, N.Y.: Cornell University Press.
- Feenstra, Robert C. and Gary G. Hamilton. Forthcoming. *Emergent Economies, Divergent Paths: Business Groups and Economic Organization in South Korea and Taiwan*.
- Feenstra, Robert C., 1996, U.S. Imports, 1972-1994: Data and concordances. NBER Working Paper no. 5515, March, with accompanying CD-ROM.
- Fei Xiaotong. 1992 [1947]. *From the Soil: The Foundations of Chinese Society*. Trans., Introduction, and Epilogue by Gary G. Hamilton and Wang Zheng. Berkeley: University of California Press.
- Fligstein, Neil. 1990. *The Transformation of Corporate Control*. Cambridge, MA: Harvard University Press.
- Fligstein, Neil. 2001. *The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies*. Princeton: Princeton University Press.

- Fu, Tsu-tan and Shun-yi Shei. 1999. "Agriculture as the Foundation for Development: The Taiwanese Story." Pp. 207-230 in *Taiwan's Development Experience: Lessons on Roles of Government and Market*, Erik Thorbecke and Henry Wan (eds.). Boston: Kluwer Academic Publishers.
- Fujita, Masahisa, Paul Krugman, and Anthony J. Venables. 1999. *The Spatial Economy: Cities, Regions, and International Trade*. Cambridge, Mass.: The MIT Press.
- Gereffi, Gary and Donald Wyman (eds.), 1990, *Manufacturing Miracles: Paths of Industrialization in Latin America and East Asia*. Princeton, NJ: Princeton University Press.
- Gereffi, Gary and Miguel Korzeniewicz (eds.), 1994, *Commodity Chains and Global Capitalism*, Westport, Connecticut: Praeger.
- Gereffi, Gary and Pan Mei-lin. 1994. "The Globalization of Taiwan's Garment Industry." Pp. 126-146 in *Global Production: The Apparel Industry in the Pacific Rim*, Edna Bonacich, Lucie Cheng, Norma Chinchilla, Nora Hamilton, and Paul Ong (eds.). Philadelphia: Temple University Press.
- Gereffi, Gary, 1994, "The International Economy and Economic Development." Pp. 206-233 in *The Handbook of Economic Sociology*, edited by Neil Smelser and Richard Swedberg. Princeton: Princeton University Press.
- Gereffi, Gary. 1999. "International Trade and Industrial Upgrading in the Apparel Commodity Chain." *Journal of International Economics* 48,1 (June): 37-70.
- Gerlach, Michael, 1992, *Alliance Capitalism: The Strategic Organization of Japanese Business*. Berkeley: University of California Press.
- Gold, Thomas B., 1986, *State and Society in the Taiwan Miracle*. Armonk, New York: M.E. Sharpe.
- Granovetter, Mark, 1994, "Business Groups," in Neil Smelser and Richard Swedberg, eds., *Handbook of economic sociology* (Princeton: Princeton University Press, Princeton), 453-475.
- Granovetter, Mark, 1995 "Coase revisited: Business groups in the modern economy," *Industrial and Corporate Change*, 4(1), 93-130.

- Haggard, Stephan, Byung-kuk Kim and Chung-in Moon. 1991. "Transition to Export-Led Growth in South Korea, 1954-1966." *Journal of Asian Studies* 50, 4 (November): 850-873.
- Hamilton, Gary G. 1985. "Why No Capitalism in China." *Journal of Developing Societies* 2: 187-211.
- Hamilton, Gary G. 1997. "Organization and Market Processes in Taiwan's Capitalist Economy," in Marco Orrù, Nicole Woolsey Biggart, and Gary G. Hamilton, eds. *The Economic Organization of East Asian Capitalism*, edited by. Thousand Hills: Sage Publications, 237-296.
- Hamilton, Gary G., and Nicole Woolsey Biggart, 1988, "Market, Culture, and Authority: A Comparative Analysis of Management and Organization in the Far East," *American Journal of Sociology, Special Issue on Economic Sociology*, 94, July, S52-S94.
- Harrison, Bennett & Barry Bluestone. 1988. *The Great U-turn: Corporate Restructuring and the Polarizing of America*. New York: Basic Books.
- Hayek, Friedrich. 1967. *Studies in Philosophy, Politics, and Economics*. London: Routledge and Kegan Paul.
- Ho, Samuel P.S., 1978, *Economic Development of Taiwan, 1860-1970*. New Haven: Yale University Press.
- Ho, Samuel P.S., 1982, "Economic Development and Rural Industry In South Korea and Taiwan." *World Development* 10, 11: 973-990.
- Hollingsworth, J. R. and Robert Boyer (eds.). 1997. *Contemporary Capitalism. The Embeddedness of Institutions*. Cambridge: Cambridge University Press.
- Hsing, You-tien. 1998. *Making Capitalism in China: The Taiwan Connection*. New York: Oxford University Press.
- Hu, Tai-li, 1984, *My Mother-in-Law's Village: Rural Industrialization and Change in Taiwan*. Taipei: Institute of Ethnology, Academia Sinica.
- Industrial and Commercial Census. 1983. *The Report on 1981 Industrial and Commercial Taiwan-Fukien Area, The Republic of China, Vol III, Manufacturing*. Taipei: Directorate-General of Budget, Accounting and Statistics, Executive Yuan.

- Institute of Developing Economies. 1975. *Development of Manufacturing in Korea in the 1960's: A Statistical Analysis*. I.D.E. Statistical Data Series, No. 17. Tokyo: Asian Economic Press.
- Ito, Takatoshi. 2001. "Growth, Crisis, and the Future of Economic Recovery in East Asia." Pp. 55-94 in *Rethinking the East Asian Miracle*, Joseph E. Stiglitz and Shahid Yusuf eds. New York: Oxford University Press.
- Jung, Ku-Hyun. 1984. "Trade Channel Evolution between Korea and the United States." Pp. 97- 122 in *From Patron to Partner: The Development of U.S.-Korean Business and Trade Relations*, Karl Moskowitz (ed.). Lexington, Mass.: Lexington Books.
- Kao, Cheng-shu and Gary G. Hamilton, 2000, "Reflexive Manufacturing: Taiwan's Integration in the Global Economy," *International Studies Review*, 3(1), June, 1-19.
- Kao, Cheng-shu. 1999. *Toujia Niang* (The boss's wife) . Taipei: Lien Chin Publishing Co.
- Khanna, Tarun and Jan W. Rivkin, 2001, "Estimating the Performance Effects of Business Groups in Emerging Markets," *Strategic Management Journal*, 22, 45-74.
- Khanna, Tarun and Krishna Palepu, 2000a, "Is Group Affiliation Profitable in Emerging Markets: An Analysis of Indian Diversified Business Groups," *Journal of Finance*, 55(2), 867-891.
- Khanna, Tarun and Krishna Palepu, 2000b, "The Future of Business Groups in Emerging Markets: Long run Evidence from Chile," *Academy of Management Journal*, 43, 268-285.
- Khanna, Tarun and Krishna Palepu, 2000c, "Emerging Market Business Groups, Foreign Investors and Corporate Governance," in Randall Morck, ed. *Concentrated Corporate Ownership*, Chicago: Univ. of Chicago Press and NBER, 265-294.
- Khanna, Tarun and Krishna Palepu. 1999. "Policy Shocks, Market Intermediaries, and Corporate Strategy: The Evolution of Business Groups in Chile and India." *Journal of Economics and Management Strategy* 8 (2, Summer): 271-310.

- Kim, Eun Mee, 1997, *Big Business, Strong State: Collusion and Conflict in Korean Development, 1960-1990*. Berkeley: University of California.
- Kim, Kon Sik. 1995. *Corporate Governance in Korea*. Unpublished Dissertation, Department of Law, University of Washington.
- Korea Development Bank. 1970. *Industry in Korea, 1970*. Seoul: The Korea Development Bank
- Krugman, Paul R. 1991. *Geography and Trade*. MIT Press: Cambridge, MA.
- Krugman, Paul R. 1996. *The Self-Organizing Economy*. Oxford: Blackwell.
- Krugman, Paul, 1994. "The Myth of Asia's Miracle," *Foreign Affairs*, November/December, pp. 62-78.
- Kuo, Cheng-Tian. 1995. *Global Competitiveness and Industrial Growth in Taiwan and the Philippines*. Pittsburgh: Pittsburgh University Press.
- Lazonick, William. 1991. *Business Organization and the Myth of the Market Economy*. Cambridge: Cambridge University Press.
- Lee, Seung Hoon, and Ho Keun Song. 1994. "The Korean Garment Industry: From Authoritarian Patriarchism to Industrial Paternalism." Pp. 147-161 in *Global Production: The Apparel Industry in the Pacific Rim*, Edna Bonacich, Lucie Cheng, Norma Chinchilla, Nora Hamilton, and Paul Ong (eds.). Philadelphia: Temple University Press.
- Lee, Sheng-Yi. 1990. Money and Finance in the Economic Development of Taiwan. London: Macmillan
- Leff, Nathaniel. 1977. "Capital Markets in the Less Developed Countries: The Group Principle." Pp. 97-122 in *Money and Finance in Economic Growth and Development: Essays in Honor of Edward S. Shaw*, edited by Ronald I. McKinnon, New York: Dekker
- Leff, Nathaniel. 1978. "Industrial Organization and Entrepreneurship in the Developing Countries: The Economic Groups." *Economic Development and Cultural Change* 26, 4: 661-75.
- Levy, Brian. 1988. "Korean and Taiwanese Firms as International Competitors: The Challenges Ahead." *Columbia Journal of World Business* (Spring): 43-51.

- Levy, Brian. 1991. "Transactions Costs, the Size of Firms, and Industrial Policy: Lessons from a Comparative Case Study of the Footwear Industry in Korea and Taiwan." *Journal of Development Economics* 34: 151-178.
- Liao, Cheng-hung and Chun-chieh Huang. 1994. "Attitudinal Changes of Farmers in Taiwan." Pp. 354-369 in *The Role of the State in Taiwan's Development*, Joel D. Aberbach, David Dollar and Kenneth L. Sokoloff (eds.). Armonk, NY: M.E. Sharpe.
- Lim, Eun Mie. 2002. *Big Horses Don't Die: The Chaebol Dominance in the Course of Korean Industrialization*. Unpublished Dissertation, Department of Sociology, University of Washington.
- Lim, Haeran. 1998. *Korea's Growth and Industrial Transformation*. New York: St Martin's Press.
- Lin, Pao-an. 1991. "The Social Sources of Capital Investment in Taiwan's Industrialization." In Gary G. Hamilton (ed.), Business Networks and Economic Development in East and Southeast Asia. Hong Kong: Centre of Asian Studies, University of Hong Kong.
- Lorch, Klaus, and Tyler Biggs. 1989. "Growing in the Interstices: The Limits of Government Promotion of Small Industries." Paper presented at the annual meeting of the Association for Asian Studies, Washington, D.C.
- Marsh, Felicity. 1983. *Japanese Overseas Investment: The New Challenge*. Special Report, No. 142. London: The Economist Intelligence Unit.
- Meyer, David R. and Kyonghee Min. 1988 (check year and vol). "Concentration and Specialization of Manufacturing in Core and Peripheral Cities during Rapid Industrialization Korea: 1960-1970." *Comparative Urban and Community Research* pp. 38-61.
- Morgenstern, Oskar. 1963. *On the Accuracy of Economic Observations*. Princeton: Princeton University Press.
- Mortensen, Dale T. 1988. "Matching: Finding a Partner for Life or Otherwise." *American Journal of Sociology* 94 (Supplement), pp.S215-S240.

- Okumura, Hiroshi. 1991. "Intercorporate Relations in Japan." Pp. 219-229 in *Business Networks and Economic Development in East and Southeast Asia*, Gary G. Hamilton (ed.). Hong Kong: Centre of Asian Studies, University of Hong Kong.
- Olson, Lawrence. 1970. *Japan in Postwar Asia*. New York: Praeger Publisher.
- Orrù, Marco, Nicole Woolsey Biggart, and Gary G. Hamilton. 1997. *The Economic Organization of East Asian Capitalism*. Thousand Hills: Sage Publications.
- Pack, Howard. 2001. "Technological Change and Growth in East Asia: Marco versus micro Perspectives." Pp. 95-142 in *Rethinking the East Asian Miracle*, Joseph E. Stiglitz and Shahid Yusuf (eds.). New York: Oxford University Press.
- Page, John, 19xx. "The East Asian Miracle: Four Lessons for Development Policy."
- Patrick, Hugh and Henry Rosovsky. 1976. *Asia's New Giant: How the Japanese Economy Works*. Washington, DC: The Brookings Institution.
- Perrow, Charles. 2002. *Organizing America: Wealth, Power, and the Origins of Corporate Capitalism*. Princeton: Princeton University Press.
- Piore, Michael J. and Charles F. Sabel. 1984. *The Second Industrial Divide: Possibilities for Prosperity*. New York: Basic Books.
- Porter, Michael E. 1990. *The Competitive Advantage of Nations*. New York: The Free Press.
- Rauch, James E. 1999. "Networks versus Markets in International Trade." *Journal of International Economic* 48, 1 (June): pp. 7-36.
- Rauch, James E. 2001. "Black Ties Only? Ethnic Business Networks, Intermediaries, and African American Retail Entrepreneurship." Pp. 270-309 in *Networks and Markets*, Alessandra Casella and James E. Rauch, eds. New York: Russell Sage.
- Redding, Gordon. 1991. "Weak Organizations and Strong Linkages: Managerial Ideology and Chinese Family Business Networks." Pp. 30-47 in *Business Networks and Economic Development in East and Southeast Asia*, Gary G. Hamilton (ed.). Hong Kong: Centre of Asian Studies, University of Hong Kong.
- Redding, S. Gordon. 1990. *The Spirit of Chinese Capitalism*. Berlin: Walter de Gruyter.
- Revolution at the Checkout Counter

- Rhee, Yung Whee, Bruce Ross-Larson, and Garry Pursell. 1984. *Korea's Competitive Edge: Managing the Entry into World Markets*. Baltimore: The Johns Hopkins University Press.
- Rosser, J. Barkley Jr. 1999. "On the Complexities of Complex Economic Dynamics." *Journal of Economic Perspectives* 13(4), Fall, pp. 169-192.
- Roy, William G. 1997. Socializing Capital: The Rise of the Large Industrial Corporation in America. Princeton: Princeton University Press.
- Saxenian, Anna Lee, 1994, *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Cambridge, Massachusetts: Harvard University Press.
- Schelling, Thomas C. 1978. *Micromotives and Macrobehavior*. New York: W.W. Norton and Company.
- Scitovsky, Tibor, 1986, "Economic Development in Taiwan and South Korea: 1965-81." In Lawrence J. Lau (ed.), *Models of Development: A Comparative Study of Economic Growth in South Korea and Taiwan*. San Francisco, CA: Institute for Contemporary Studies.
- Semkow, Brian W. 1994. Taiwan's Capital-Market Reform: The Financial and Legal Issues. New York: Oxford University Press.
- Shafer, Michael, 1997, "The Political Economy of Sectors and Sectoral Change: Korea Then and Now." Pp. 88-121 in *Business and the State in Developing Countries*, edited by Sylvia Maxfield and Ben Ross Schneider. Ithaca, N.Y.: Cornell University Press.
- Shieh, G.S. 1992. *"Boss" Island: The Subcontracting Network and micro-Entrepreneurship in Taiwan's Development*. New York: Peter Lang.
- Speare, Alden Jr. 1992. "Taiwan's Rural Populace: Brought in or Left out of the Economic Miracle?" In *Taiwan: Beyond the Economic Miracle*, eds. Denis Fred Simon and Michael Y.M. Kau. Armonk, N.Y.: M.E. Sharpe.
- Spulber, Daniel F. 1996. "Market Microstructure and Intermediation." *Journal of Economic Perspectives* 10, 3 (Summer): 135-152.
- Spulber, Daniel F. 1998. *Market Microstructure: Intermediaries and the Theory of the Firm*. Cambridge: Cambridge University Press.

- Stiglitz, Joseph E. and Shahid Yusuf, eds. 2001. *Rethinking the East Asian Miracle*. New York: Oxford University Press.
- Taiwan Statistical Data Book*, Various years, Taipei: Council for Economic Planning and Development.
- Taniura, Takao, 1989, "Management in Taiwan: The Case of the Formosa Plastics Group." *East Asian Cultural Studies* 28, 1-4 (March): 63-90.
- The Oriental Economist. 1984. *Japanese Overseas Investment: A Complete Listing by Firms and Countries, 1984-85*. Tokyo: The Oriental Economist.
- Tsurumi, Yoshi. 1984. *Sogoshosha: Engines of Export-Based Growth*. Montreal: The Institute for Research on Public Policy.
- Wade, Robert ,1990, *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*. Princeton: Princeton University Press.
- Wallerstein, Immanuel. 1974. *The Modern World-System: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century*. New York: Academic Press.
- Wallerstein, Immanuel. 1984. *The Politics of the World-Economy*. Cambridge: Cambridge University Press.
- Weber, Max. [1921-22] 1978. *Economy and Society*. Trans. and ed. G. Roth and C. Wittich. 3 vols. Berkeley: University of California Press.
- Whitley, Richard D. 1992. *Business Systems in East Asia*. London: Sage
- Whitley, Richard D.1999. *Divergent Capitalisms: The Social Structuring and Change of Business Systems*. New York: Oxford University Press.
- Williamson, Oliver E. 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*. New York: Free Press.
- Williamson, Oliver E. ,1985, *The Economic Institutions of Capitalism*. New York: The Free Press.
- Winn, Jane Kaufman. 1991. "Banking and Finance in Taiwan: The Prospectis for Internationalization in the 1990s." *The International Lawyer* 25, 4(Winter):907-952.

- Winn, Jane Kaufman. 1994. "Relational Practices and the Marginalization of Law: Informal Financial Practices of Small Businesses in Taiwan." *Law and Society Review* 28, 2: 193-232.
- Woo, Jung-en (also Woo-Cumings), 1991. *Race to the Swift: State and Finance in Korean Industrialization*. New York: Columbia University Press.
- Woo, Wing Thye, Jeffrey D Sachs, and Klaus Schwab (eds.). 2000. *The Asian Financial Crisis: Lessons for a Resilient Asia*. Cambridge, Mass.: MIT Press.
- Woo, Wing Thye, Jeffrey D Sachs, and Klaus Schwab (eds.). 2000. *The Asian Financial Crisis: Lessons for a Resilient Asia*. Cambridge, Mass.: MIT Press.
- Woo-Cumings, Meredith (see also Woo, Jung-en), 1999a, "The State, Democracy, and the Reform of the Industrial Sector in Korea," in T.J. Pempel, ed. *The Politics of the Asian Economic Crisis*, Ithaca: Cornell University Press.
- Woo-Cumings, Meredith, 1999b, *The Developmental State*. Ithaca: Cornell University Press.
- Woo-Cumings, Meredith. 2001. "Miracle as Prologue: The State and the Reform of the Corporate Sector in Korea." Pp 343-378 in *Rethinking the East Asian Miracle*, Joseph E. Stiglitz and Shahid Yusuf eds. New York: Oxford University Press.
- World Bank, 1993, *The East Asian Miracle: Economic Growth and Public Policy*, Washington, D.C.
- Yeung, Henry Wai-chung and Kris Olds (eds.). 2000. *Globalization of Chinese Business Firms*. New York: St. Martin's Press.
- Yoshino, M.Y. and Thomas B. Liffson. 1986. *The Invisible Link: Japan's Sogo Shosha and the Organization of Trade*. Cambridge, Mass.: The MIT Press.
- Young, Alwyn, 1992, "A Tale of Two Cities: Factor Accumulation and Technical Change in Hong Kong and Singapore," in Olivier Blanchard and Stanley Fischer, eds. *NBER Macroeconomics Annual, 1992*. MIT Press: Cambridge, MA, 13-53.
- Young, Alwyn, 1993, "Lessons from the East Asian NICs: A Contrarian View." *European Economic Review* 38, 964-973.
- Young, Alwyn, 1995, "The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience." *Quarterly Journal of Economics* 60, 3 (August), 641-680.

Endnotes

¹ In the conventional debate, the fight over which sets of causes are more important—the state or the market—is largely a interdisciplinary struggle between economists and political economists (mostly political scientists and a number of sociologists) that no amount of evidence and demonstration can resolve, principally because the debate is over which independent variable represents the “true cause” in the absence of clearly specified dependent variables. By contrast, the demand-responsive alternative that we offer is an organizational view that defies simple reduction into tidy sets of first causes from which definite and singular outcomes emerge. In this context, rising demand is not a first cause from which everything else flows, but rather is an empirical condition that elicits responses from multiple actors in differently organized settings that in turn lead to divergent emergent outcomes. These outcomes cannot be reduced to a single simple lineal causal model. What we do in our analysis is to follow the empirical trail (i.e., the evidence) and to demonstrate how different outcomes flows from similar empirical conditions. Although this approach is inductive, it is, in addition, an approach directed by and interpreted through our theoretical view of economic organization, in general, and the ideal-typical model of authority and economic power, in particular (Feenstra and Hamilton forthcoming).

² Although recognizing some points of the opposing sides, the theorists still remain partisan advocates of their own points of view (Stiglitz and Yusuf 2001; Woo-Cummings 1999)

³ These critiques claimed instead that there was no real growth in productivity

beyond the capital inputs, a finding (later questioned by others, such as Pack 2001) that fueled the post-crisis charge that the Asian states' economic policies rested on cronyism and created conditions of moral hazard instead of being based on dispassionate economic analysis.

⁴ For more discussion on this point, see Hamilton et. al.2000.

⁵ Aside from a Wallersteinian world system perspective, whose predictions are at odds with what is observed in the East Asia economies,⁵ the only concerted effort to analyze pull factors has been the global commodity chain approach, first developed by Gary Gereffi (1994, Gereffi and Korzeniewicz 1994) and elaborated by others (Appelbaum and Smith 1996, Bonanich, et. al. 1994). This approach, however, has been used primarily to examine specific industrial sectors, such as garments and footwear, without at the same time linking what is happening in these sectors to changing economic phenomenon, including Asian industrialization. Put more precisely, the global commodity chain approach misses both ends of the phenomena in question: it neither examines changes in the organization of demand nor the consequences of global commodity chains on the organization of production. It is focused on industries rather than economies. The demand-driven explanation offered here does not challenge Gereffi's approach, but rather incorporates it at more general levels of empirical and theoretical analysis.

⁶ There are, however, a few notable exceptions, such as Gereffi's work mentioned above, as well as others, such as Porter (1990), and Dicken (1998). Although these works remain focused on understanding production, and on conceptualizing

production in terms of commodity chains, value chains, and globalized networks, they nonetheless recognize that retailing is an important activity organizationally linked to manufacturing. Other scholars, more often than not located in business schools, (Bluestone, et. al. 1981; Abernathy, et. al. 1999; Spulber 1996, 1998; Brown 1997; Dunlop and Rivkin 1997) have examined the retail sector more directly, and have begun to realize that an extraordinary transformation in retailing is well underway and that this transformation, in turn, affects production. Except for extensive studies on apparel manufacturing, the connections between retail and manufacturing have not been extensively examined and linked to the industrialization of developing countries.

⁷ From the late 1950s through the 1980s, investment in retailing grew at a faster rate than the growth of sale or the GDP (Regan 19xx, p. 399)

⁸ Leading the fight against fair trade laws (Bluestone, et. al., 1981, p. 125), discount retailers began to compete directly with full-service department stores by sourcing items that they regularly stocked and that were not necessarily branded (e.g., children's clothes, toys, tools, kitchenware) and by working closely with brand-name merchandisers to sell products that were branded (e.g., household electronic products, such as TV and stereos). K-Mart opened its the first discount store in 1962, in 1976 changed its name from Kresge to K-Mart, and rapidly expanded after that. In 1969, according to Kresge's Annual Report (1969, p. 6), only five percent of the company's sales was from imported items, but they planned to expand "imported merchandise from the Orient" in the "near future." Kmart established buying offices in Taiwan in 1971 and by 1992 had placed over 500

million US\$ worth of orders from Taiwan alone, where approximately 40 percent of their foreign orders were placed (Gereffi and Pan 1994, p. 137). Toys-R-Us started as a toy supermarket in 1957, adopted discount methods in the 1960s, became a publicly listed firm in 1970, and grew quickly to be the dominant retailer of toys in the United States; many of their lines of toys were sourced in East Asia. Wal-Mart opened its first discount store in 1969, its first distribution center in 1970, and went public in 1979 with one billion dollars worth of sales. By 1990, both Wal-Mart and K -Mart had replaced Sears and Penney as the top U.S. retailers. Home Depot, now the world's largest home improvement retailer, started in 1978.

⁹ For a comprehensive review of this literature, see Vallas (1999).

¹⁰ These data are available at www.internationaldata.org.

¹¹ We should point out, however, some limitations to our use of these data.

Systematically reported trade data are a fairly recent development (Morgenstern 1963, pp. 167-168). Standardized import/export data were only developed after the United Nations established standardized national economic statistics in the 1950s, and most developing nations only established an adequate customs accounting system in the 1960s. (For political reasons, the UN still does not report the trade statistics for Taiwan.) Therefore, we do not have access to highly disaggregated trade data for Taiwan and South Korea before 1972, after which we rely on the U.S. import statistics.¹¹ For the 1960s, we rely on aggregated trade data based on different classificatory systems reported in the statistics given by each country. Although the comparison are not as exact or as fine grained as we

would wish, they still give us sufficient information to infer that the products manufactured for export from the late 1960s were similar to those in 1972 when standardized reporting begins.

¹² In order to depict this trend graphically, we included all seven-digit categories of footwear whose total value exceeded \$10,000,000 US in any year period between 1972 and 1985.

¹³ To the readers unfamiliar with the literature on complexity and self-organization, we need to emphasize that term “self-organization,” as it is generally used and as we use it here, refers to the outcome of a process of interaction among participants, in this case, an interaction among economic actors. Under conditions of continued competitive activity, what starts out as random, chaotic, or disorganized quickly becomes organized and interdependent. Even though individual decisions may be calculated and are even “rational” from the actors’ point of view, they do not aggregate to become an organization that can be predicted based on individual intentions. As Rosser (1999, p. 182) notes, “Probably the most obvious implication of the study of complexity in its various forms is that a general assumption of rational expectations is very unlikely to hold.”

¹⁴ Brian Levy (1994) cites these figures from the Korea Traders Association, but his calculations for the “average value of industrial exports per trader” of \$5,200,000 per each of the 5,300 traders must include the exports from eight trading companies, as the total value of these exports nearly equals the total value of Korean exports in 1984. In fact, Jung (1984, p. 107) notes that in the early 1980s

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- there were about 4,500 trading companies in Korea and this classification includes general trading companies as well as other large manufacturing firms that have trading subsidiaries in the United States, most of which would be members of the largest *chaebol*.
- ¹⁵ In 1969, the Korea Development Bank reported that “the share of exports (in electrical machinery) held by foreign-invested firms (was) 75.8 percent” (The Korea Development Bank 1970, p. 107).
- ¹⁶ Hu (1984, 212) argues, however, that in her case study “the capital accumulated for the development of rural small-scale industry was not mainly from agriculture.” Our interviews indicate that, although rural-based capital accumulation might have been modest, the use of rural resources, including the land and labor of those living in the countryside, was substantial and facilitated the rapid growth of industries that occurred in the 1970s and early 1980s.
- ¹⁷ By the term “self-organization,” Krugman wants to convey, first, that economic order (by which he means an organized economy) emerges out of instability (“the principle of order from instability”) and, second, that the emergent order is shaped by random endogenous factors (the principle of order from random growth). In thinking through our two cases, we would agree with Krugman that the divergent economic orders that were firmly in place by 1985 in South Korea and Taiwan emerged from earlier periods of economic instability and uncertainty, which arose from civil wars, martial law, poverty, and mixed policies from governments that were unsure how to proceed economically. (We might note, moreover, that government policy in retrospect seems a lot more rational and more export growth

oriented than it actually was at the time.) However, the second principle does not square with what happened. Although the factors determining these emergent organizations were certainly endogenous, they were hardly random. Indeed, the endogenous factors shaping self-organization within these economies were institutionally in place before the period of growth began and continually worked to structure the process of growth as demand-driven industrialization accelerated.

¹⁸ We should add here, that these manufacturers obtained their intermediate inputs from local and international suppliers, from whom they maintained impersonal market based connections.