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and Comparative Advantage**

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ABSTRACT

We explore the linkage between characteristics of Chinese society and its business system to industry choice and possible comparative advantages in Chinese capitalism. We compare the institutional foundations of salient areas of comparative advantage of the United States and South Korea with institutional conditions in China to explore the potential for China to emulate the patterns of comparative advantage in either of these countries. We argue that China does not presently possess the institutional foundations to mirror US comparative advantages and would seem to be unlikely to evolve these foundations over the next one or two decades. China would seem better positioned to build comparative advantages similar to those of South Korea, though questions remain about China's ability to overcome attendant institutional obstacles.

Keywords: institutional comparative advantage, China, South Korea, United States, convergence, complex adaptive systems, comparative business systems

INTRODUCTION

The issue of convergence in economic systems has been in the background of debates since its original formulation by Kerr, Dunlop, Harbison and Myers (1960). Since then two substantial shifts in perspective have occurred, making the matter more complex than it might have looked at first. First of these is Kerr's (1983) major amendment to the theory, in which he concludes that evidence since 1960 had convinced him that although convergence appeared to be quite widespread in matters of routines and practices, such as factory layouts, accounting routines, etc., there was an underlying realm of beliefs, attitudes and meanings where convergence appeared not to be happening. Convergence in this amended view moved so far and then no further, and systems from then on appeared to follow parallel non-converging trajectories based on differing collective mental frameworks. If the reasons for things happening are not the same, then a subtle and often invisible gap exists between systems.

A second amendment to the theory has accompanied the rise of business systems theory (e.g., Whitley, 1992, 1999), and its related frameworks of complex adaptive systems (e.g., Redding, 2005), societal comparative analysis (e.g., Ragin, 1987), and alternative system of capitalism (e.g., Hall & Soskice, 2001). The main import of these theories is the idea of a business system as a complex configuration, embedded in a societal matrix, and co-evolving (Lewin & Kim, 2004; Lewin & Volberda, 1999), with its context. Because the object of interest is a configuration, then its duplication by another configuration—equally embedded in a home matrix—is highly unlikely. Parts may well be borrowed, copied, and—often in amended form—absorbed, both at the institutional (Aguilera & Jackson, 2003; Djelic, 1998; Pieterse, 1994; Vogel, 2003) and cultural (Ralston, Gustafson, Cheung, & Terpstra,

1993; Ralston, Holt, Terpstra, & Yu, 1997; Witt, 2008) level. But the whole is virtually impossible to transplant. Convergence seen now is a muted force, and interest lies in its partial effects and the way they may influence the host system to adapt itself. Our concern in this paper is to explore the possibility of such adaptations within China, an emergent and so far highly successful system.

Any economic system, whether it be a functioning societal economy, or one of its key components, a business unit, needs to contain three basic competences for survival and growth. These are (1) efficiency in the use of resources—financial, technical, and human—(2) innovation, and (3) adaptability. The coordination of resources in the shape of managed organizations is the arena in which these challenges are met. That process of coordination varies between societies in significant ways and therein lies the key to the understanding of why societies vary in what industries they can best handle.

In the Anglo-Saxon version of capitalism, the three requirements are met by the use of a group of professionally trained managers who take responsibility for handling the three tasks. In the German and Japanese cases, the same responsibilities are diffused throughout the organization from bottom to top, and power structures reflect this. In the Chinese case, the same three responsibilities tend to be in the hands of a single owner/manager—the *lao ban*. These different responses are culturally determined, and deeply rooted.

For the Chinese case there are two forms of response within the *lao ban* formula: large—usually started as government or collective enterprises—and small/medium. The vast majority of industrial firms are small and medium, and the private sector in which they flourish accounts for about two-thirds of the total economy.

There are a number of important surrounding conditions in China at present: (a) much decision-making power within the economy has been de-centralized into the hands of local administrators; (b) authoritarian traditions of management continue to stifle upwards communication in all organizations; (c) the level of scientific inventiveness in the society as a whole remains very low by global standards, so technological dependence is high; (d) there is a high level of mistrust between strangers; (e) traditions of partible inheritance foster the constant break-up of organizations in the long term, a problem made worse by the weakness of managerial professionalism; (f) government traditions of control remain, despite the de-centralization, and they work in parallel with it via the Party.

This leads to two challenges for managers: how to grow large complex organizations at world standards of competitiveness, and how to judge which industries are most appropriate for the organizational strengths available. In dealing with the question of strategic choice, the underlying issue for many is (in the longer term) how to escape from the trap of producing down to a price in commoditized markets, and instead find the sources of added value in the total chain. A related issue is how to legitimate the continuing use of low-cost labor as the key resource in a society where aspirations will rise, and where labor law is becoming more liberal.

In this paper, we seek to contribute to this discussion of convergence and industrial choice in the Chinese context. We compare the institutional foundations of salient areas of comparative advantage of the United States and South Korea with institutional conditions in China to explore the potential for China to emulate the patterns of comparative advantage in either of these countries. We argue that China does not presently possess the institutional foundations to mirror the comparative advantage of the United States and would seem to be unlikely to build them in the ten

to twenty years ahead. China would seem better positioned to develop comparative advantages similar to those exhibited by South Korea, though questions remain about China's ability to overcome attendant institutional obstacles.

INSTITUTIONAL COMPARATIVE ADVANTAGE

Theories of comparative advantage trace their origin back to the work of Ricardo (1817). Ricardo argues that countries can benefit from trade even if they are not the most efficient producer in any good, that is, they have no absolute advantage. Trade is still beneficial as long as countries specialize in and export the products in which they have a comparative advantage, that is, for which the opportunity costs of production are lowest. While the overall construct of comparative advantage is now widely accepted among social scientists, the determinants of the products in which a country possesses a comparative advantage remain subject to scientific debate.

Prominent in economics has been the Heckscher-Ohlin model of international trade (Ohlin, 1933). It argues that relative endowments in production factors (land, labor, capital) determine comparative advantage. The underlying logic is that abundant factors will be relatively cheap, while scarce factors will be relatively expensive. Goods built using abundant factors will thus be cheaper to produce. While the model seems plausible, its predictions have clashed with empirical evidence. For instance, Leontief (1953) finds that the capital-abundant United States was exporting labor-intensive and importing capital-intensive goods, a result that came to be known as Leontief's paradox. More recently, the validity of the model has been called in doubt by the rise of high levels of intra-industry trade (Hall et al., 2001). As a general equilibrium model, it also does not account for dynamic changes in comparative advantage patterns, as observed, for example, in the industrial

development of Japan and other Asian nations, as pointed out by Porter (1990) 148 when he notes that the building of a total societal system can be protracted, but is faster when there is fluidity and responsiveness in a nation's institutions, individuals, and firms.

Porter's (1990) work on the competitiveness of nations marks a major development from the Heckscher-Ohlin model by allowing for the possibility of actively creating areas of competitiveness, and thus comparative advantage. His "diamond model" links the competitive strength of industries to five factors: (1) firm strategy, structure, and rivalry; (2) demand conditions, including the extent to which customers are demanding; (3) related and supporting industries, with spatial proximity seen as a major plus; (4) factor conditions, with an emphasis on created, rather than inherited, characteristics such as the skills level of labor or the availability of infrastructure; and (5) the role of government in helping the creation of the first four factors.

The diamond model has received much praise, but also much criticism (Redding, 1994, 2005; Yetton, Craig, Davis, & Hilmer, 1992). Three points in particular are relevant to this paper. First, the model seems to work best in the context of advanced industrialized nations. Second, the model black boxes firms, leaving the inside dynamics unspecified. Third, the model does not explore the dependence of factor and demand conditions on cultural and societal factors specific to the respective national, or even regional, context. Recognition of this latter point is at least implied in Porter's later work. As he observes,

The world's leading competitors in a wide variety of industries are all based in one or two countries, especially if industries are defined narrowly in ways that are meaningful for setting strategy, and cases where government heavily distorts competition are eliminated. Within companies, global firms have indeed dispersed

activities to many countries, but they concentrate a critical mass of their most important activities for competing in each business, in one location. (Porter & Wayland, 1995: 64)

The fact that “the home base for a particular business is where comparative advantage ultimately resides” (ibid.) suggests an important role for nationally specific factors that do not travel.

In coining the term “institutional comparative advantage,” Hall and Soskice (2001: 36) argue that the institutional structure of the political economy represents such a nationally specific factor. They propose that the institutions and complementarities present in coordinated market economies, such as Germany and Japan, favor industries featuring incremental innovation, while those in liberal market economies, such as the United States, support industries requiring radical innovation. While the empirical evidence on this specific proposition is mixed (Boyer, 2004; Hall et al., 2001; Lehrer, 2000; O'Sullivan, 2000; Streeck, 1991; Taylor, 2004; Vitols, 2002; Witt, 2006), the construct of institutional comparative advantage as such has taken hold and experienced further refinement.

Of particular relevance to the rest of this paper is the approach proposed by Redding (2005). Building on Whitley (1999), Redding proposes that the business system of a society be conceptualized as a system of coordination and control exercised in three domains: (i) the integrating of action into business units that become the key interactive survival units in the environment, usually firms, but at least held together—i.e., coordinated—under a form of ownership; (ii) networks of connection between such units across the economy; and (iii) managerial systems inside units that coordinate human skills, technology and capital. These three interlocked features rest on a bed of institutions designed to provide order in the sourcing and allocation of three forms of capital: financial, human, and social. These

in turn rest on a bed of cultural features providing the meanings that permit the constructing of reality, specifically in terms of (a) rationale, or espoused intentions, and the values and beliefs underlying the ordering principles of (b) authority and (c) identity. All relationships of determinacy are reciprocal and complex. In successful economic action certain equilibrium states emerge in which forms of coordination lock together with certain forms of institution, legitimized by certain values in the cultural sphere. These relatively locked (although co-evolving) equilibrium states include ways of allocating capital (e.g. mobile or patient), ways of allocating human skill (long-retained deep skill or mobile shallow general skill), and ways of managing (autocratic or participative) that combine to predispose a society to be competitive in some industries and not others. The main distinguishing features around which such industrial choice is made include, for example, reliance on mobile professional skill, incremental product improvement, rapid opportunistic resource transfer, reliance on branding, mass marketing capacities, low cost labor, and information networking.

A BRIEF OVERVIEW OF THE CHINESE BUSINESS SYSTEMS

The pattern of the Chinese economy, in terms of the modes of coordination and control of economic action that have emerged to date, seems to have settled so far into three formulae. Each is a configuration of different features, in other words a form of equilibrium that—although still inevitably evolving—is nevertheless showing signs of stable self-replication. The three responses within what is bound to be an extremely complex and disparate economy are:

1. The state-owned enterprises left over from the state planning era, and now under severe scrutiny over their performance. Simply put, they are now required to perform at global standards or to be privatized. Some will be retained on grounds

of their strategic significance for the state. They tend to be large, to be both capital and labor intensive, and to have been run until recently at low standards of capital and productive efficiency. They also contributed heavily to the accumulation of major over-capacity in industry. Under new management in many cases they are now changing radically towards professionalism and market sensitivity. The state sector probably accounts now for about 15 percent of the economy.

2. The local corporates emerged mainly during the 1990s as access by local entrepreneurs to the assets of what had earlier been the “collective” enterprises became an important side effect of the reforms initiated by Deng Xiaoping. Such assets were generally available at bargain prices and often brought with them access to soft loans available via local branches of the state banking system. Access was not possible without the co-opting of political support, and this became feasible as economic decision power in China moved incrementally from Beijing into the provinces, cities and local administrations over the past two decades. State control was not given away in this process, as the Party kept its grip on local appointments. But the shift in ideology away from Communism towards economic growth has resulted in such officials acting in ways very different from those within earlier dogma. Such organizations can be large in scale, although usually local or regional in reach. Their productivity is increasing at a high rate and they account for something like 20 percent of the economy.
3. The private sector consists of very large numbers of small and medium enterprises, serving either local markets with services, or engaged in the network capitalism of the “workshop of the world.” In this latter configuration they normally become components in a production system of connected highly

specialized enterprises. They depend on intermediaries to connect with external sources of design, technology, brand, and marketing logistics, and their distinct competences are flexibility, quality production, and low cost. This form of organization accounts now for about 65 percent of the economy. It gives full expression to the restored ideology of seeking private wealth, as the foundation for restored family status.

COMPARATIVE ADVANTAGES, INSTITUTIONAL FOUNDATIONS, AND FIT WITH CHINA

Countries of Comparison

We compare Chinese institutional conditions with those underlying comparative advantages in two countries, the United States and South Korea. We choose the United States in part because of its status as the world's leading economy and its salience in the literature on convergence, as discussed earlier. It is also the case that many of the new institutions being brought into China on the back of WTO, and of foreign direct investment more generally—even though their eventual application may be in Chinese form—still have their origins in the US system. Examples in fields such as marketing and human resources management are clearly visible.

We choose South Korea because it is a relatively large East Asian economy with cultural proximity to China that commenced its phase of modern economic growth only fifteen years before China did. In addition, many of the features of “state-led” capitalism as found in South Korea are similar to the characteristics of “fragmented” capitalism (Whitley, 1999). By contrast, Japan—still the leading Asian economy—has a business system so different from what Chinese society could

support (cf. Whitley, 1999) that we do not consider it sensible to undertake a comparison in this paper.

For each country, we first identify the areas of comparative advantage. Our focus is on more knowledge- and skills-intensive industries, as we expect to see there the greatest impact of societally distinct “ways of doing things.” By contrast, comparative advantage in low-technology industries tends to be almost entirely a function of developmental stage and the associated levels of labor costs. We then discuss the possibility that Chinese society will develop the characteristics underlying these strengths, and thus similar comparative advantages.

Areas of Comparative Advantage

We use the *revealed comparative advantage* approach (OECD, 2003) to establish areas of comparative advantage by industry. Unlike pure export statistics, this measure takes into account both exports and imports in a given industry. The inclusion of imports is necessary because imports may subsequently be re-exported, which would distort the results if only exports were taken into account.

In line with the OECD’s methodology (OECD, 2003), we compute this measure as follows:

$$(X_i - M_i) - (X - M) \frac{(X_i + M_i)}{(X + M)},$$

where $(X_i - M_i)$ is the observed trade balance in industry i and the remainder of the formula is the theoretical trade balance for this same industry i . To make the results comparable across countries, we express the results as a percentage of total trade.

Data for South Korea and the United States come from the OECD STAN Bilateral Trade and the Statistics on International Trade in Services databases, with industries classified by ISIC Rev. 3. We also compute the measure for China to

illustrate the current state of comparative advantage there. Since no ISIC Rev. 3 data were available for China, we obtained data in the Harmonized System (HS) classification from the United Nations Commodity Trade Statistics Database (Comtrade). We then converted these data to ISIC Rev. 3, using the classification scheme used by the OECD. Chinese data on services are from the UNCTAD Handbook of Statistics On-line, which combines "merchandising and other trade related services", "operational leasing services" and "miscellaneous business, professional and technical services" under the category of "other business services."

Figure 1 shows for each of the three countries the industries in which they register a revealed comparative advantage greater than one percent of the overall trade volume. We include the full results for all industries in the appendix.

*** Insert Figure 1 about here ***

United States

Figure 1 shows that main areas of revealed comparative advantage for the United States are, in descending order of magnitude: travel; royalties and license fees for intellectual property created through R&D (i.e., excluding payments for other intellectual property such as movies, music, and books, which are included in another category, "personal, cultural, and recreational services"); aircraft and spacecraft; chemicals excluding pharmaceuticals; and miscellaneous business, professional, and technical services, which includes services such as accounting, consulting, and law. There is no overlap with the areas of revealed comparative advantage for China.

Comparative advantage in travel is predominantly the result of relatively large numbers of people traveling to the United States for business or tourism. As such, it seems mostly unrelated to the kind of institutional comparative advantage of interest

here. By contrast, institutional patterns of determinacy can be linked to comparative advantage in the other four industries. A common theme among the industries with the next three largest revealed comparative advantages is that they are R&D intensive. Royalties and license fees are directly derived from selling intellectual property growing out of R&D, and both the aircraft and spacecraft as well as the chemicals industries draw heavily on R&D. By contrast, comparative advantage in business, professional, and technical services such as accounting, consulting, and international law rests on the availability of a cadre of professionals able to provide these services.

The R&D strength of the United States is evident in comparative statistics. Among OECD countries, the United States ranks seventh in terms of R&D expenditure over GDP, sixth in terms of triadic patents¹ per capita, and fifth in terms of researchers per capita in the workforce (all data the most recent available, taken from OECD, 2007). Given the population and economic size of the United States, the result is that 37.1 percent of all triadic patents in 2003 stem from there—more than from any other country (OECD, 2007). The institutional infrastructure for creating new knowledge includes world-class research universities such as Harvard, MIT, and Stanford, which are supported by government policy favoring R&D and in turn support innovation clusters such as Silicon Valley and undertake collaborative research with industry; military support of high technology research; a strong venture business culture encouraging the commercialization of research, with firms either marketing new technology themselves and growing large in the process (e.g., Cisco, Google, Microsoft), or their technology being acquired by other firms; and in the

¹ “Triadic patents” represent an attempt to standardize for varying patenting practices in the various OECD countries by counting only those patented in all three parts of the Triad: Europe, Japan, and the United States.

background, deep financial markets and a sophisticated legal system supporting the requisite transactions.

Comparative advantage in professional services is exemplified by the contribution of the United States to the international landscape of professional services firms. The leading management consultancies—including AT Kearney, Bain, Booz Allen Hamilton, Boston Consulting, McKinsey, Monitor—are all US firms, and it is believed that the whole industry started with the founding of McKinsey in Chicago in 1926. Three quarters of the world’s largest law firms by revenue are US American (*The Lawyer*, 2006). Of the Big Four global accounting firms, three have historical roots in the United States.

The existence and viability of professional services firms is linked to the growth of management as a profession in the United States, as evident in the notion of management as a science and the acceptance of the MBA as the entry to managerial ranks. Dispersed ownership of corporations requires professional managers to run firms as agents of owners. A coldly rational concentration on financial performance, led by portfolio managers, stimulates the creation of shareholder value. Strong competition policy leads to the separation of firms from each other into discrete units whose performance is relatively easy to measure, which imposes discipline on management and allows for performance-based rewards. Responsibility for performance goes hand in hand with strong managerial control and decision power.

This system depends on the availability of outside professional services. Measuring the performance of firms and their management requires the public availability of credible information about firms, as provided by the big accounting firms. Strong competition policy inhibits the flow of information among firms, which encourages managers to use consultants to acquire new perceived “best practices” for

their own firms. And the delegation to essential strangers evident throughout the system—from owners to managers, from owners to accountants, and from managers to consultants—requires large amounts of social capital in form of institutionalized trust. In the United States, part of this social capital grows out of professional standards, including codes of ethics. Main foundation of institutionalized trust, however, is the strong legal system, of which law firms represent a key component.

It is difficult to see how China could emulate the US formula, at least within the foreseeable future of the next ten to twenty years. In terms of applying science to everyday life, China has for the past several hundred years had a poor record and will probably require considerable time to develop the requisite capabilities. It is true that on the one hand, China has paid much attention to improving its university infrastructure, and this is beginning to bear fruit. Innovation clusters have developed around some universities, such as around Peking University and Tsinghua University in the northwest of Beijing and around Zhejiang University in Hangzhou. China is now said to be the world's second-largest VC market, with considerable IPO and M&A activity. R&D may also benefit from the push of the Chinese military to upgrade its technological capabilities, and financial market regulations as well as the legal system are undergoing continuous improvement.

On the other hand, the output side suggests that much remains to be done. While patent numbers have shot up in recent years, foreign firms are holders of about fifty percent of Chinese patents (Wilsdon & Keeley, 2007); the remainder includes not only genuine new inventions, but also large numbers of patents taken out on knowledge produced by foreign firms who failed to register a Chinese patent for their intellectual property. The influence of foreign firms active in China is also evident in the one high technology area of Chinese comparative advantage—electronics. This

comparative advantage is in good part the result of foreign firms' taking advantage of cheap labor in China to have electronic products assembled there, with components and subassemblies often provided from overseas.

In terms of triadic patents, the number for China in 2003, the last year available, is 177, as compared with 19,222 for the United States. Under the strong assumption that Chinese and US triadic patents will continue to grow at 23 percent and 4.3 percent annually as they have since 1990 (OECD, 2007), China would catch up with the United States in 2032. However, the United States employs about 8 times as many researchers per capita and spends more than twice the proportion of GDP on research (OECD, 2007).

Accordingly, most Chinese start-ups are not innovators, but copy business models of foreign firms, operate at the low end of the semiconductor design and manufacturing market, or are based on China-specific business models rather than technology.² Even on the military side, much progress seems to be owed to collaboration with Russia. There is also general agreement that market regulations and the legal system remain very much work in progress, offering small firms limited access to money and aggrieved parties little chance of obtaining justice (Batjargal & Liu, 2004; Duckett, 2004; Greeven, 2007; Krug & Polos, 2004).

The development of a comparative advantage in professional services is likewise likely to face serious challenges. One issue is the relative absence of skills. Though professional training programs have multiplied rapidly in recent years, numbers remain small compared with the needs of the economy, and the quality of the qualifications obtained at all but the best institutions is dubious. A second obstacle,

² This is the conclusion of a forthcoming report of which we have received an advance copy on the condition of keeping it confidential. We will add the proper reference in a later version.

likely to pose greater difficulties than the first point, relates to the reluctance to truly delegate to anyone who is not personally trusted (cf. Chen, Peng, & Saporito, 2002). In most firms, the *lao ban* formula still seems to apply, with decision-making in the hands of one person or a small group of leaders and, to a lesser extent, their confidantes, who often include family members. Managers outside this circle of decision-makers, even if highly qualified, are reduced to conduits and enforcers of orders (Lieberthal & Lieberthal, 2003).

Implied is a lack of institutionalized trust, with neither professional codes nor the legal system providing sufficient assurance that outcomes will be fair. Societies with high levels of institutionalized trust, such as the United States, parts of Europe, and Japan, took centuries to develop them. It seems doubtful that China will be able to shortcut this process to less than a couple of decades. Complicating the development of institutionalized trust is the absence of checks and balances on the Communist Party; even with the best of intentions, the Party can not make a credible commitment that it will let justice run its course even if it contravenes its own interests. It is unlikely that this environment will within the next decade or two permit the development of natively Chinese professional service firms to world standards of competitiveness, with attendant implications for the possibility of China's emulating a US-style, coldly rational shareholder-based financial market order.

South Korea

Figure 1 shows that main areas of revealed comparative advantage for South Korea are, in descending order of magnitude: Motor vehicles, trailers and semi-trailers; office, accounting and computing machinery; radio, television and communication

equipment; building and repairing of ships and boats; and textiles, textile products, leather and footwear.

Two of these areas overlap with areas of comparative advantage for China. The overlap in textiles, textile products, leather and footwear is, in our view, mostly a function of the development process. China is enjoying a large comparative advantage in the area on the basis mostly of low labor costs and highly efficient production networks. For South Korea, on the other hand, it is a sunset industry, remaining from the early stages of industrial development and attendant low labor costs (cf. Amsden, 1989; Song, 2003). The overlap in the high-technology industry of office, accounting and computing machinery is the result of different mechanisms. As already mentioned, in China, much of the production in these areas involves either foreign factories or contract assembly work for foreign firms. By contrast, most of the electronics production in South Korea is by Korean firms, with the country's hostility to inward FDI preventing a large role of foreign firms (Song, 2003).

With the exception of textiles, all areas of comparative advantage for South Korea are closely related to the success of South Korean conglomerates, the *chaebol*. Hyundai Motor Company dominates the Korean car industry with its Hyundai and Kia brands and has made major forays especially in the United States. Samsung Electronics and LG Electronics are the major players both in office, accounting and computing machinery as well as in radio, television and communications equipment. Both sell most of their products abroad. Areas of strength are similar, including displays and TVs, mobile handsets, and household appliances. In addition, Samsung is one of the world's leading producers of memory chips. In shipbuilding, Korean firms held more than 40 percent of the world market in 2003, with Hyundai Heavy

Industries, Samsung Heavy Industries, and Daewoo Shipbuilding and Marine Engineering as leading Korean players.

The ability of the *chaebol* to enter these markets successfully developed in the context of a business system featuring quick decision-making and deployment of labor, risk tolerance, and the long-term availability of large amounts of capital (Whitley, 1999). The focus on the chairman's office of the *chaebol*, paired with hierarchical top-down decision-making, has been conducive to quick, decisive action to change course or enter new industries. Average job tenure has been low (OECD, 2005), especially in production jobs (Whitley, 1999). This discourages the development of deep, firm-specific skills of the sort seen in Japanese and German firms, and instead encourages the development of generalizable skills (Hall et al., 2001). As a result, it is relatively easy to acquire the labor needed in new industries. Government support for the *chaebol*, at least until the Asian crisis in 1997, meant that the necessary capital for entering new industries was readily available in form of loans. Banks routinely rolled over these loans so that the *chaebol* could in effect treat loans as capital (Amsden, 1989). In recent years, non-bank financial institutions affiliated with the *chaebol* seem to have taken over the role of providers of long-term loans.

Of importance is also that over the years, as they grew large, a professional managerial class seems to have developed in the more successful *chaebol*. Samsung, for instance, is famous for the training it gives to its white-collar employees, which makes Samsung managers a valuable commodity in the South Korean labor market. While most strategic decisions still seem to be made in the chairman's office, much of the actual running of large Korean conglomerates thus seems to be delegated to professional managers acting on behalf of the chairman. This implies the presence of

a certain level of institutionalized trust, without which such delegation would not occur.

From a present-day perspective, the most likely strategic orientation of South Korean firms for the time being would seem to be that of close follower. While they can enter new industries quickly, the *chaebol* have to contend with a still relatively weak indigenous technology basis. This is evident in the dependence on especially Japanese manufacturing equipment in semiconductors and LCDs. In addition, government no longer guarantees the survival of the *chaebol*, and even if it wanted to, given the size of the conglomerates today, it is not clear whether it could. The dominant strategy for the *chaebol* may thus be to observe nascent industries until the period of foment has passed and then pounce, relying on competitive advantages in labor and capital costs. This is consistent with *chaebol* behavior in industries like memory chips, LCDs, or cellular phones, where Korean firms rolled up the market coming from behind.

Many of the characteristics of the South Korean context seem to correspond well with the Chinese context. Chinese decision-making is top-down and focused on the chairman. The fact that the *chaebol* are a family-dominated form of business also fits well with the Chinese propensity for family business. Chinese labor is highly mobile and has limited skills, and to the extent firms can obtain loans from banks, they tend to be available on favorable terms and for the long-term.

The devil is in the details, however. In the Korean context, the state put in place a system that allowed for the relatively objective identification and promotion of the most capable businessmen, with the objective of using their talent to build large-scale enterprises in Korea (Amsden, 1989). The strategy of the Chinese state seems to be different. Instead of promoting private entrepreneurs, the Chinese state

leaves most of them to their own devices, offering very little access to loans. Instead, it pursues a strategy of transforming SOEs, which are already large, into efficient enterprises (Nolan, 2001). While this policy has led to major improvements in these SOEs, it remains to be seen whether they can really perform at world levels of efficiency in the long run. In particular, it raises the question of whether really those with the greatest managerial talent are running the companies that are supposed to form the core of the future Chinese economy.

It is possible that the local corporates of China will succeed in emulating the *chaebol*. To be able to do so, the present local corporate model would need to develop two more features. First, they would need to find a way to professionalize management. This would benefit, as the *chaebol* have found, from the introduction of foreign talent to help interpret international conditions and their implications. Second, they would need to improve their technological capabilities to a point that fast followership becomes possible. As already discussed in the section on the United States, both represent a challenge.

CONCLUSION

In this paper, we have explored the linkage between characteristics of Chinese society and its business system to industry choice and possible comparative advantages in Chinese capitalism. We compared the institutional foundations of salient areas of comparative advantage of the United States and South Korea with institutional conditions in China to explore the potential for China to emulate the patterns of comparative advantage in either of these countries. In our interpretation, it seems highly unlikely that China will develop US-style comparative advantage patterns in

the next one or two decades. China would be better positioned to evolve comparative advantages in the same areas as South Korea, though important obstacles remain.

Salient among these obstacles, both in the comparison with the United States and with South Korea, are two points: innovative capacity of the economy, and managerial delegation. The former issue may, over time, be overcome as areas such as universities, capital markets, and intellectual property rights are strengthened. The latter challenge may well prove more difficult. The natural affinity of Chinese business to the *lao ban* model is related to low levels of institutionalized trust in Chinese society. Under such conditions, delegation beyond a small circle of confidantes is inhibited, and with it organizational capacity to handle highly complex tasks at world levels of efficiency. To the extent this problem persists, Chinese firms may thus find it difficult to break into what Zeng and Williamson (2007) call “systemic” businesses, with concomitant implications for the development of Chinese multinational enterprises and their ability to capture the high value added typical of products exhibiting high levels of complexity.

From a theoretical perspective, the most important lesson from studies of convergence that take account of the comparison of societal systems is that if societies are to act similarly in ways that show up in similar organizational behavior and strategic competences, then it means not that they have adopted the same techniques or routines, but they have found their entire business system configurations overlapping. The possibility of this is remote in the extreme, as it would require the overlapping of meanings, institutions, and forms of coordination, even perhaps the sharing of historical influences and social philosophies.

The implications for theorizing are two-fold. In the first place it becomes necessary to understand much better than we do at present the nature of the

embeddedness of economic action in not just the set of institutions, but further—in the set of meanings that inform and shape the workings of such institutions. We have pointed to this aspect here but it requires more elaboration than is possible in a brief paper. Recent work by institutional theorists such as North (2005) and Greif (2006) makes it clear that the cultural or “societal” effect has a major impact on economic behavior, and that work is needed to make more clear how the effect is transmitted. The failure of cross-cultural work based in social psychology—coming at the issue, as it were, from the other direction—has also been commented on as an important gap (Boyacigiller, Kleinberg, Phillips, & Sackman, 1996; Child, 2000; Nakata, 2007).

The second implication is that the systemic nature of business systems, and the evolutionary process of complex adaptive systems, brings to the fore new thinking in that domain, as, for instance, that inspired by the Santa Fe Institute and summarized by Beinhocker (2005). If the new complexity economics is capable of explaining the evolution of the configurations we detect, but of doing so while retaining their mutiplex nature, then the field of socio-economics may well advance towards to the essential issue it has faced for many years—that of how societies stay distinct in their economic behavior, even while borrowing extensively from others and appearing on the surface to converge.

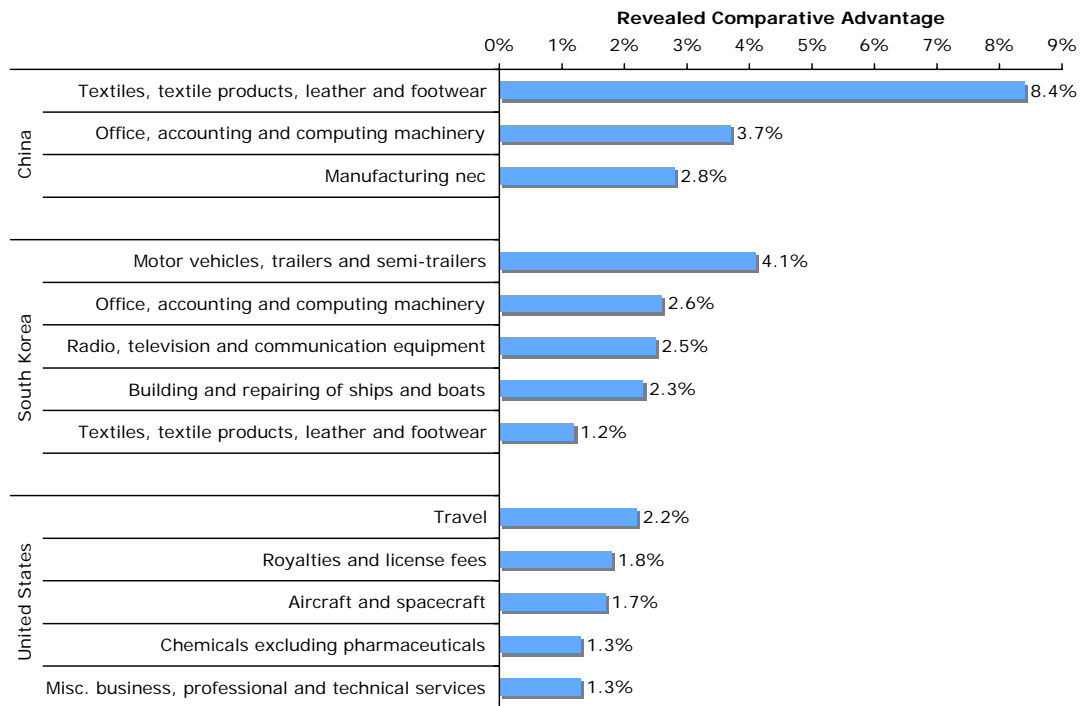


Figure 1. Industries with Greatest Revealed Comparative Advantage in China, South Korea, and the United States, 2003.

APPENDIX

Table 1. Revealed Comparative Advantage for China, South Korea, and the United States, by Industry, 2003. Sources and method as indicated in the text. Note: “nec” = not elsewhere classified.

Industry	China	South Korea	United States
Low technology manufactures			
Food products, beverages and tobacco	0.4%	-1.4%	0.0%
Textiles, textile products, leather and footwear	8.4%	1.2%	-3.1%
Wood and products of wood and cork	0.2%	-0.3%	-0.5%
Pulp, paper, paper products, printing and publishing	-0.6%	-0.3%	0.2%
Manufacturing nec	2.8%	0.1%	-1.8%
Low-medium technology manufactures			
Coke, refined petroleum products and nuclear fuel	-0.4%	-0.6%	-0.7%
Rubber and plastics products	0.5%	0.4%	0.0%
Other non-metallic mineral products	0.5%	-0.5%	-0.3%

Basic metals	-2.9%	-1.6%	-0.3%
Fabricated metal products exc. machinery & equipment	0.9%	0.2%	-0.2%
Building and repairing of ships and boats	0.3%	2.3%	0.0%
Medium-high technology manufactures			
Chemicals excluding pharmaceuticals	-4.1%	-0.4%	1.3%
Machinery and equipment, nec	-2.4%	-0.8%	0.7%
Electrical machinery and apparatus, nec	0.2%	-1.2%	-0.3%
Motor vehicles, trailers and semi-trailers	-0.8%	4.1%	-3.0%
Railroad equipment and transport equipment nec	0.4%	0.0%	-0.1%
High technology manufactures			
Pharmaceuticals	0.2%	-0.3%	-0.3%
Office, accounting and computing machinery	3.7%	2.5%	-0.9%
Radio, television and communication equipment	-3.2%	2.6%	0.2%
Med., precision, optical instruments, watches, clocks	-1.9%	-1.6%	0.7%
Aircraft and spacecraft	-0.5%	-0.1%	1.7%

Services			
Transportation	-1.3%	0.0%	0.0%
Travel	0.0%	-1.6%	2.2%
Communications services	0.0%	-0.1%	0.1%
Construction services	0.0%	0.0%	0.0%
Insurance services	-0.5%	-0.1%	-0.7%
Financial services	0.0%	0.1%	0.8%
Computer and information services	0.0%	0.0%	0.2%
Royalties and license fees	-0.4%	-0.7%	1.8%
Personal, cultural and recreational services	0.0%	-0.1%	0.5%
Merchanting and other trade related services	n/a	-0.3%	0.0%
Operational leasing services	n/a	-0.3%	0.3%
Misc. business, professional and technical services	n/a	-1.0%	1.3%
Other business services (China only)	0.6%	n/a	n/a

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