
Strategy and Structure in Developing Countries: Business Groups as an Evolutionary Response to Opportunities for Unrelated Diversification

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Business groups are a common type of enterprise in late-developing countries, yet their existence appears to be at odds with extant theory in strategic management. Drawing on Schumpeter, we suggest that entrepreneurs in late development build a business group by engaging in a distinct type of innovation. Instead of creating new products they leverage local and foreign contacts to combine foreign technology and local markets. The capability to leverage contacts is broadly applicable to diverse industries, creating incentives for unrelated diversification. We make two main arguments. First, the main (initial) cause for the creation of business groups can be traced to the selection environment at the beginning of economic development in late-industrializing countries, when the ability to use contacts outweighs other capabilities in importance. Expanding businesses based on this core capability (which is different from the one underlying business success in developed countries) leads to unrelated diversification in terms of products and technological and organizational capabilities, as well as a loose organizational structure. Secondly, we suggest that the selection environment in late-industrializing countries changes systematically over time, altering the reasons underlying the continued existence and creation of business groups. We formulate several testable propositions on the evolution of business groups predicting patterns of diversification and organizational structure over time. We illustrate our theory with two case studies of business groups in late-developing countries.

1. Introduction

The phenomenon of business groups (BGs) seems to be at odds with extant

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theories of diversification and organizational structure, as well as with the resource-based and evolutionary views. These loose constellations of firms spanning a wide variety of manufacturing and service industries held together by common ownership or informal control ties (Cable and Yasuki, 1985; Granovetter, 1995; Ghemawat and Khanna, 1998; Guillén, 2000) bring to mind the *zaibatsu* and *keiretsu* in Japan, the bank-centered industrial groups in Germany, the *chaebol* in Korea, the business houses in India, the family holdings in Turkey or the *grupos económicos* throughout Latin America. We explicitly exclude from our definition of BGs loose interfirm alliances and industrial districts because we believe that an analysis of diversification requires that BGs have some degree of entrepreneurial or managerial coordination, and some common ownership ties. BGs have tended to grow very quickly through diversification, mostly greenfield rather than via acquisition, and to move into quite disparate industries without following an orderly pattern. Moreover, as the recent 100th anniversary of Korea's oldest *chaebol* (Sohn, 1996) indicates, this is not a fleeting, short-lived phenomenon, but a rather stable organizational structure, common to many countries that underwent industrial development relatively late. In fact, research in a variety of countries shows that their financial performance is either similar to or greater than those for independent firms (Chang and Choi, 1988; Lincoln *et al.*, 1996; Khanna and Palepu, 1999).

This paper offers answers to two key questions. First, why do firms in certain development contexts prefer to diversify in an unrelated fashion? Secondly, why do they fall short of creating the organizational structures that the literature presents as most efficient when it comes to managing an unrelated, or loosely related, bundle of businesses?

Our contribution is twofold. First, we propose that the central and primary reason for the initial creation of BGs can be found in the selection environment¹ prevailing at the beginning of economic development in late-industrializing countries. Locals are encouraged to participate in the economy by protecting them from foreign competition, with selection being

¹ The term 'selection environment' is borrowed from biological evolutionary theory, where it refers to the sum of all environmental influences that determine whether an entity, given its current characteristics and functions, will survive. Evolutionary theory analyzes the development of populations of entities by focusing on the variation of the entities' characteristics, the subsequent selection of the fittest entities and the retention of these entities in further periods (e.g. Kauffman, 1993). Such concepts have been transferred to the management literature by Nelson and Winter (1982), Hannan and Freeman (1984) and others. Thinking in terms of firms operating with their respective strategies and their underlying capabilities in a selection environment allows us to focus on those elements of a firm that are critical to survival (or be successful) in one environment versus another. It is also important to note the connection to Stinchcombe's (1965) 'imprinting effect', by which firm structure and behavior owes much to the environment at the time of founding.

based on the ability to use contacts inside (official or unofficial access to resources) and outside of the country to combine local markets or sources of supply, which are closed off to foreigners, with technological and organizational capabilities from outside of the country. These contact capabilities allow for distinct types of innovation, i.e. the creation of new markets and the opening of new sources of supply (Schumpeter, 1934), and give rise to a pattern of diversification (by local firms) that shows no apparent relatedness in terms of products or technology, and to relatively loose organizational structures. This is in marked contrast to more advanced countries, where success in business is linked more to technological and organizational capabilities, and the product and process innovations allowed by these capabilities, and where a concentration on these critical capabilities leads to a pattern of related diversification and centralized or multidivisional organizational structures (Chandler, 1962, 1990).

Secondly, we outline an evolutionary theory of the development of BGs over time that builds on the insights of existing theories of BGs. We suggest that the selection environment in late-developing countries changes systematically as (i) firms within the country gain more experience and (ii) the country's infrastructure (education, labor and financial markets, etc.) develops at a slower speed than the demand for such services from the business community. In particular, we suggest that the importance of contact capabilities, after reaching a peak early on in the economic history of a late-developing country, declines over time. After some locals create firms based on contacts, entrepreneurial survival and growth in the country shift to effectiveness and efficiency at executing projects and running plants (Amsden and Hikino, 1994), as well as to finding ways to cope with inefficient local factor markets (Khanna and Palepu, 1997; Ghemawat and Khanna, 1998). Selection in this second stage thus centers on the generic capabilities described by Amsden and Hikino (1994), as well as on capabilities to cope with market inefficiencies and failures (Leff, 1978, 1979; Caves, 1989). However, a third stage may start if local firms develop organizational and technological capabilities that allow them to engage in advanced product and process innovation on their own. At this point, selection will be based primarily on this latter set of competencies. This three-stage evolution is shown in Figure 1.²

Our approach differs from previous theories of BGs in the central role that we think protectionism plays as a necessary condition for the rise of locally owned BGs in late-developing countries. This emphasis on trade and foreign

² We submit this three-stage model as a useful tool to understand the differences in the type of capability, and the resulting implications for diversification and control strategy, that underlie business success in different periods of a country's economic development.

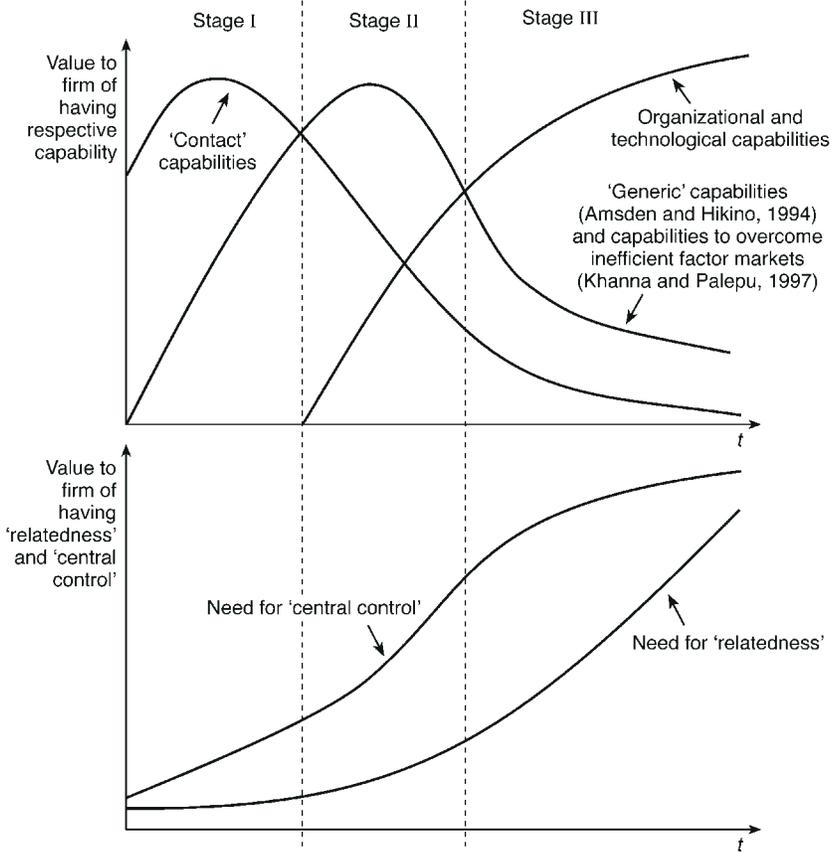


FIGURE 1. Evolution of capabilities and 'efficient' organizational characteristics.

investment protectionism exposes the key shortcomings of previous theories. First, while we acknowledge that market failure plays a role in BG formation and growth (Leff, 1978, 1979; Caves, 1989; Khanna and Palepu, 1997), our view is that foreign multinationals can also take advantage of inefficient markets unless there is protectionism—in the forms of either import restrictions or foreign investment limits. It should be noted, however, that foreign multinationals may choose not to operate in a given country because opportunities are not attractive enough or because they lack the capabilities to operate there. Second, while BGs grow to prominence when entrepreneurs develop project-execution capabilities such as those described by Amsden and Hikino (1994), the resource-based view (RBV) in strategy reminds us that no capability can be maintained as rare, valuable and inimitable unless there are limits to competition (Barney, 1986, 1991; Peteraf, 1993). Further, while

economic sociologists point to important social-organizational variables that facilitate various firm structures (Granovetter, 1995; Hamilton and Feenstra, 1995; Orrù *et al.*, 1997), they do not take into account how foreign and local entrepreneurs and firms interact with each other under different foreign trade and investment regimes. Finally, unlike previous theories of BGs, we formulate testable predictions not only about diversification strategy but also about organizational structure.

2. Capabilities, Relatedness and Control

Strategy theories have proposed a way of looking at diversification that makes it difficult to accept unrelated diversification as a stable arrangement. The RBV of the firm explains corporate diversification as a drive to utilize bulky resources to the fullest extent possible. Such resources include physical, human or organizational capabilities that are at the same time valuable, rare, difficult to imitate, not easily substitutable and relatively indivisible (Penrose, 1959; Wernerfelt, 1984; Barney, 1991), and that enable the firm to be either more efficient than competitors or create more value for customers (Peteraf, 1993; McGrath *et al.*, 1996). Teece *et al.* (1994) identify organizational and technological competences or capabilities as the main drivers of the 'competitive strength' of a particular firm.

Firms accumulate resources dynamically (Helfat, 1997; Teece *et al.*, 1997), incurring underutilization given the indivisibility and the need to bundle multiple resources together so as to pursue any one economic or business activity (Penrose, 1959; Cyert and March, 1963; Teece, 1982). If transaction costs or the tacitness of the resources makes it difficult for the firm to sell the share of their overall resources that constitute 'slack' to other firms, there may be compelling reasons to utilize excess capabilities to grow internally instead of relying on factor markets to dispose of them (Teece, 1982). Such growth may take place along existing lines or through diversification, since resource bundles are not specific to any one product (Penrose, 1959; Teece, 1982) and because economies of scope may exist (Teece, 1980). However, based on the ideas of organizational learning and path dependencies (Dierickx and Cool, 1989), as well as competitive pressure to be efficient (a 'tight' selection environment based on organizational and technological capabilities), firms will tend to diversify only into products that are related to the capabilities they already possess—the firm will show 'coherence' (Teece *et al.*, 1994).

The literature has offered theoretical and empirical evidence to the effect that such related diversification is associated with higher corporate performance than unrelated diversification (Ansoff, 1987; Teece *et al.*, 1994;

Robins and Wiersema, 1995; Markides and Williamson, 1996), although other studies have failed to find a clear link (for a review see Ramanujam and Varadarajan, 1989). While some researchers have found that unrelated diversifiers do reduce corporate variability in rates of return (Hoskisson, 1987; Amit and Livnat, 1988, 1989), critics have noted that profitability of each business unit drops (Montgomery and Wernerfelt, 1988), and that risk diversification may also be achieved by investors themselves (Jahera *et al.*, 1987). Taken together, the extant literature can be interpreted as suggesting that firm diversification is efficient if it is either (i) related, based on organizational and technological capabilities, and intent upon exploiting economies of scope; (ii) unrelated, and intent on diversifying risk; or (iii) in a middle position, i.e. intent on improving the risk–return trade-off (e.g. Amit and Livnat, 1989; see also Hoskisson and Hitt, 1990).

The strategy literature has also answered the question of which organizational form best fits a diversified firm in a way that does not seem to apply to the loosely coupled structures so characteristic of most BGs in developing countries, which are constellations of firms rather than integrated organizational structures (see Table 1). As originally formulated by Chandler (1962) and later developed by Williamson (1975), diversification produces rising size and organizational complexity that have to be managed with special organizational arrangements. These include the separation of the planning, coordination and capital allocation functions, on the one hand, from operating decisions, on the other, which should be performed, respectively, by a central office and a set of divisions for each separate product line, i.e. a multidivisional structure (M-form). The critical capability of this structure to effectively and efficiently perform audits and create incentive systems across semi-related units allows these firms to economize on transaction costs that would accrue in financial markets. However, some critics have noted that closely related diversification requires much more centralization than envisioned by Chandler or Williamson due to the fact that organizational and technological capabilities reside at a lower level in the organization than the capabilities required to manage a diversified firm as an internal capital market. Hence, the firm requires more central coordination to leverage these capabilities amongst its units (Hill, 1985, 1988; Hill and Hoskisson, 1987; Hill *et al.*, 1992; Hoskisson *et al.*, 1993).

In summary, the recent capabilities-oriented literature on diversification strategy posits that efficient corporate diversification is driven by the existence of firm-specific organizational and technological capabilities. These capabilities are partly idle and have application beyond the current scope of a firm's business. Such diversification, if sufficiently related, requires an

TABLE 1. Organizational Structures for Diversified Firms

Structure	M-form	Centralized M-form	Business group
Definition	Internal capital market among autonomous product divisions (Williamson, 1975)	Exploitation of interrelationships through involvement of head office in operating decisions of divisions (Hill, 1988)	Loose grouping of firms, held together through ownership or other (informal) ties (Granovetter, 1995)
Type of diversification	Somewhat unrelated	Related	Stage I: completely unrelated. Stage II & III: increasing relatedness
Core capability underlying diversification	Diversification of financial (idiosyncratic) risk of individual operating units	Organizational and technological capabilities that allow for product and process innovations	Stage I: getting into business in late development. Stage II: overcome local market failure. Stage III: innovation
Locus of core capability	Corporate head office, financial analysts	Operational level of units (manufacturing, R&D, HRM, marketing, etc.)	Family members and confidants of the owner/founder
Advantage of having a group of firms rather than individual units	Economize on transaction costs in financial markets	Units cross-utilize organizational and technological capabilities	Leverage contacts (step 1), and other generic capabilities (step 2) across units
Coordinating body/head office	Small, few financial specialists	Large staff and central strategic planning managers to coordinate functions (e.g. marketing, manufacturing, etc.) of units across group	Small/informal – perhaps only informal meetings (e.g. Presidents' Council) or a family head office
Criticism	Ignores potential of cross-utilizing organizational and technological capabilities (Hill, 1985, 1988)	Mixes operational and strategic management, difficult to use incentive systems and financial control due to interference of head office in operational units (Williamson, 1975)	Too unrelated for both centralized and traditional (internal financial market) M-form—against predictions of extant theory
Examples	ITT	VEBA, ABB, Unilever	Korean <i>chaebol</i> , Latin American grupos, Indian business houses

organizational response that exploits the synergies across product lines: a centralized M-form structure (e.g. Hill, 1988). As diversification becomes more unrelated, firms should adopt a pure M-form structure. Fully unrelated

diversification is deemed unstable by the literature. When lacking overlapping capabilities, integration is meaningless, and internal capital market functions in fully unrelated businesses (audits, incentive systems) appear not to be superior to external market capabilities (e.g. Teece, 1982). As an implication, authority over such unrelated entities should be delegated to the capital markets by splitting the business into its constituent units. Table 1 contrasts the features of M- and CM-form structures with the loose organizing principles found in BGs.

We contend that the apparent inability of existing strategy and organizational theories to explain the continued existence of BGs in developing countries is due in large measure to the fact that too little attention has been paid to the environment surrounding the firm and BG as a major contingency that influences which resources form the critical capability of the firm (see Hoskisson *et al.*, 1993). Indeed, most of our theories about organizational change in the course of industrialization assume that countries, industries and firms are uniformly affected by economic development. Moreover, the context assumed for this development is usually the situation found historically in the USA (Cable and Dirrheimer, 1983). This assumption underlies the most important studies in business history (Chandler, 1962, 1977), strategic management (Rumelt, 1974), transaction cost economics (Williamson, 1975), evolutionary economics (Nelson and Winter, 1982) and organizational studies (Fligstein, 1990). Little attention is given to the fact that economic growth has taken place at different times and followed various patterns depending on the country and the industry. In this paper we argue that such cross-national differences in the timing and pattern of industrialization have direct consequences for the ways in which firms acquire capabilities, which in turn shape whether and how growth via diversification takes place, as well as the type and sequence of organizational structures that are adopted. These consequences, we argue, should be most pronounced in environments that are most different from the default US context.

If related outperforms unrelated diversification, and the M-form or the centralized M-form is more efficient than other organizational arrangements (for large diversified businesses at least), then, according to the 'survivor principle' (Teece *et al.*, 1994, p. 5), we might conclude that firms that display the more efficient criteria will eventually drive less efficient competitors out of the market. However, BGs, despite their unrelated diversification and their (widespread) failure to adopt the M-form (Cable and Yasuki, 1985) or other more integrated forms of governing diversified businesses, apparently display sustainable profitability or at least survivability over long periods of time. How can we resolve this seeming contradiction?

We develop the following two propositions that address the initial creation as well as the development of BGs over time in certain development contexts: (i) the apparently unrelated diversification of BGs (in terms of their various product/service lines and/or markets) can actually be understood as a logical extension of a sequence of core capabilities that are different from those underlying business success in developed countries; and (ii) under the particular conditions of late development, the loose group structure of BGs actually constitutes an appropriate structural response to the strategic contingencies in the environment in specific time periods.

3. Countries, Industries, Entrepreneurs and the Development of Capabilities

If the kinds of capabilities that firms acquire over time are intimately related to the country and industrial environment surrounding them (Porter, 1986, 1990; Kogut, 1991), then any theoretical attempt at understanding BGs ought to conceptualize how a country's late development and late entry into mature industries dominated by well-established multinational firms based in advanced countries affects the accumulation and use of such capabilities. It is important to note that the emerging economies of East Asia, Latin America and Southern Europe developed late in the 1960s and 1970s, mostly by entering mature industries such as simple assembled goods, electrical appliances, rubber, transportation equipment, steel and chemicals (Haggard, 1990).³ By contrast, firms in the previous wave of 'late' developers at the turn of the century—e.g. Germany, Japan, Italy and Sweden—were entering not only mature industries, like textiles or food-processing, but also, and primarily, what amounted then to new industries, like chemicals, electrical goods, transportation equipment or heavy machinery, in which they were often leaders as opposed to followers. It is the combination of late economic development and late entry into mature industries that makes the emerging economies of the 1960s and 1970s such an ideal laboratory for exploring the effects that the environment has on the accumulation of capabilities at the firm level, the pursuit of strategies of unrelated diversification and the evolution of organizational structures, including BGs.

³ It is true, however, that some BGs enter new industries. Examples include the Internet and biotechnology ventures of several of the South Korean and Latin American groups. Below, we will argue that these 'exceptions' can be understood in terms of a typical evolutionary process in the capability structure underlying BGs. Such entrance in new, innovative industries can be expected at a later stage in the development of poor countries and their local firms. However, most of the acts of diversification by these groups have historically had to do with entries into mature industries in which multinationals already have an established presence.

While the RBV tells us which resources are able to confer a competitive advantage upon a firm in a given situation, and the evolutionary perspective addresses the question of how firms change from one resource position to another, we are left in the dark about how the initial resource position of a given firm was achieved in the first place. In other words, the notion that a firm's ability to develop new resources is path-dependent on its accumulated base of existing resources (Dierickx and Cool, 1989), and the related idea of dynamic capabilities (Teece *et al.*, 1997), are not very helpful if a firm does not yet exist. In the absence of existing resources and, consequently, evolutionary paths, we may ask what determines whether firms appear and what functions they will perform. To answer this question we need some additional framework that informs us about the process of the initial creation of resources and/or firms, paying special attention to the influence of the environment.

Our approach relies on the work of Schumpeter (1934), who perceived economic development to be driven by innovations that are performed by entrepreneurs. Innovations are defined as the 'carrying out of new combinations', i.e. the recombination of existing 'materials and forces' to 'produce other things or the same things by a different method'. These new combinations or innovations can essentially be interpreted as the creation of new knowledge or new capabilities. Schumpeter (1934, p. 66) distinguishes among five types of innovations: the introduction of a new good, the use of a new method of production, the opening of a new market, the utilization of a new source of supply or raw materials and the creation of a new type of industrial organization. If the creation of an innovation is not quickly followed by imitation, such a new combination creates scarcity or monopoly rents (Winter, 1995).

Schumpeter's account establishes the centrality of innovation and entrepreneurship: in order to create an initial resource position that allows for economic 'rent-earning', at least one of the aforementioned types of innovation has to be performed by an entrepreneur. Furthermore, if innovations generate new knowledge or capabilities, then we should assume that the type of knowledge that is created depends on the type of innovation pursued. While product and process innovations appear to be linked to the organizational and technological capabilities analyzed by the RBV and evolutionary economics, the opening of a new market or 'conquest of a new source of supply' (Schumpeter, 1934, p. 66) seem to be more likely to result in market knowledge and an enhancement of a (potentially valuable) network of contacts with market participants.⁴

⁴ While the argument could be made that knowledge about markets and supplies also falls in the category of organizational and technological capabilities, we are here more concerned with the relative

Further, the resource-based perspective discussed above suggests that a critical condition for capabilities to confer a competitive advantage is that they eventually lead to the creation of value for the customer. As organizational and technological capabilities are the direct antecedents of potentially valuable products ('primary' capabilities in the following), we should assume that the intrinsic ability of these resources to generate a competitive advantage and economic rents for an entrepreneur is higher than that of ('secondary') capabilities that do not directly result in new products. Hence, developing organizational and technological capabilities should, in general, lead to a greater competitive advantage. However, the second crucial part of RBV reasoning requires valuable resources also to be scarce. Thus, which type of capability will lead to the highest actual advantage for a firm depends on the (selection) environment. If the capability to produce valuable products is rare, then the environment will reward most strongly firms possessing organizational and technological capabilities. If, by contrast, new markets or access to factor markets are the bottleneck, then rents will flow to the holder of capabilities associated with overcoming these obstacles. Hence, given free access to markets and factors, holders of organizational and technological capabilities will most likely appropriate most of the available rents.

The key question now becomes what determines when innovations arise, and especially which specific kind of innovation, and thus which type of capability, is more likely to obtain under certain circumstances. The focus for our following analysis is the local entrepreneur, as BGs have empirically been found to be created by nationals of late-developing countries or by recent immigrants (Granovetter, 1995). In particular, we need to understand what is different as we move from the entrepreneurial world of new products and new processes so characteristic of countries that started their development before the Great Depression to the late-developing countries of the second half of the twentieth century, which, we contend, display a different type of innovative pattern, i.e. the opening of new markets and new sources of supply, as opposed to new products or production methods.

Regardless of the timing of industrialization, innovation in terms of creating a resource combination that adds value to customers and allows the entrepreneur (or entrepreneurial firm) to earn economic rents seems to require the coincidence of three factors (Roepke, 1978). First, the creation of innovations requires a certain skill level—while innovations create new capabilities that may enable entrepreneurs to earn economic rents in the market, they require the prior existence of at least some initial skills or capabilities that

weighting of capabilities from these different types of innovations that we suspect occur in early- versus late-developing countries.

pertain to the desired type of innovation. If the entrepreneur, however, is lacking such an initial endowment, he or she must first absorb the existing knowledge and capabilities that are resident in the environment. These environmental capabilities include 'the quality and the quantity of scientific and technological capacity' (Perez and Soete, 1988, p. 468), general infrastructure like education, and spillover effects from organizational and technological knowledge accumulated by existing firms, and constitute the base for all other economic activities in the same environment. As country borders appear to be less permeable for knowledge flows than firm boundaries (Kogut, 1991), we should expect that the relevant environment that determines the initial skill endowment for an entrepreneur is in most cases the country he or she grows up in.

The second factor is an appropriate challenge that entices the entrepreneur to innovate (a selection environment favorable to the entrepreneur's capabilities)—i.e. the level of technical or competitive difficulty of an innovation must be suitable relative to the skill level of the entrepreneur. If the challenge is too demanding (in technological or competitive terms), the immanent risk of failure will likely inhibit attempts to innovate. Thus, only a challenge that is appropriate to the existing skill level will lead to the successful development of firm resources and increase the innovative stock of the country (see also McClelland, 1961).

The third factor is a property rights regime that allows for the appropriation of economic rents by the (local) innovator and/or privileges potential entrepreneurs over others. On the one hand, it is clear that a property rights regime that does not allow for the appropriation of rents by private entities (e.g. a socialist or communist regime), or one in which widespread corruption or inefficient protection of individual rights diminishes the potential rents to be earned by an entrepreneur, reduces the incentives to engage in any kind of innovative (business) activity (e.g. Krueger, 1974; Murphy *et al.*, 1993; Shleifer and Vishny, 1993). On the other hand, while a 'flawed' property rights regime must be assumed to hinder entrepreneurial activity and investment on average (Murphy *et al.*, 1993), to the extent that such a regime creates asymmetries between groups of entities it may reduce an otherwise inappropriately high innovative challenge for one group and thus actually promote innovative activity in that particular group. A corrupt property rights regime may well help create an entrepreneurial class in a developing country (see Bardhan, 1997). The same may be true for a protectionist property rights regime, with the privileged group being locals as opposed to foreigners.

Holding the third dimension—property rights—constant, we can identify

TABLE 2. Appropriateness of Challenge for Initial Innovation (Assuming.No Protectionism)

Industry type		Country type	
		Early developing: Overall skill level equal to or higher than in other countries	Late developing: Overall skill level (far) below that in other countries
Infant	No/few competitors; few established organizational and technological capabilities	Appropriate challenge for innovation	Overall lower capability level may preclude the chance to move before entrepreneurs from other countries: challenge probably not appropriate
Mature	Many competitors; large existing organizational and technological capabilities	Spillover skills from other industries and general country skills mediate weakness in focal industry: challenge may be appropriate	Local entrepreneurs are overpowered: challenge for innovation is inappropriately high

four historical situations concerning the ability of locals to engage in business, and develop organizational and technological capabilities that in turn enable them to engage in product and process innovation (see Table 2). The four situations result from cross-classifying the type of industry (mature versus new) and the type of country (early versus late developing). For the sake of simplicity, we lump all countries that industrialized prior to the Great Depression under the early developers category. Let us analyze each of the four cells in turn.

3.1 Entrepreneurs in Early-developing Countries Entering New Industries

During the British industrial revolution, the accumulated knowledge base of pre-industrial society converged to overcome the technological challenge of creating the mechanical steam engine and powered mechanical clothing machinery. Since there was initially no international competition with a comparable level of organizational and technological capabilities, British entrepreneurs were able to appropriate rents from their innovation by capturing the global markets in their respective industries. This allowed

for a path-dependent improvement of firm as well as country capabilities (emergence of infrastructure, public education, etc.), leading to a long-term dominance in their initial industries (Landes, 1969; Chandler, 1990). In such a situation, given undeveloped and thus unsaturated markets at home as well as in other countries, we should expect the entrepreneur (or firm) to exploit these capabilities by growing in existing or closely related lines of business. Further, these industry-specific capabilities are likely also to increase overall country capabilities, implying a growing ability to tackle strong technological challenges as well as to withstand competitive assaults from (foreign) entrepreneurs with a lower base of capabilities, and thus will have an impact on the nature of follow-up innovations by other local entrepreneurs. Hence, at least initially, we would expect entrepreneurs in such countries to concentrate on specific industries, and to gain a competitive advantage in their respective fields by accumulating industry-specific organizational and technological capabilities which give these first movers a competitive advantage over later entrants, by creating scale- and learning-based entry barriers (Tushman and Anderson, 1986; Lieberman and Montgomery, 1988; Powell, 1993). Such a trajectory may last as long as the technological paradigm does not shift to invalidate the accumulated capabilities (Perez and Soete, 1988). The significant and persistent ‘technology gaps’ (Fagerberg, 1988) that exist between countries support this view.

Given that entrepreneurs in the earliest developing countries concentrated on particular industries, entrepreneurs in other European and North American countries approaching the threshold to industrialization eventually found appropriate technological and competitive challenges in different new industries. The implications for the development of individual and country skills are as above. Moreover, as long as the number of simultaneously developing countries is small compared with the number of potential industries, entrepreneurs from one country have little incentive to enter industries that are dominated by entrepreneurs from a different country (the more so, the more different the underlying capabilities). Thus, early movers in one industry are not quickly imitated and—in the absence of political intervention—have the ability to appropriate the rents from their endeavor.

A quick look at history confirms that this is precisely what happened—the USA took the lead in cars, Germany in chemicals, Sweden in natural-resource industries and so on. A result of this development pattern is the ‘corporate coherence’ as well as the introduction of the M- or centralized M-form characteristic of firms in early-developed countries. Altogether, it is in this world of early-developed countries—now advanced—that extant theories like the RBV are particularly applicable.

3.2 Entrepreneurs in Early-developing Countries Entering Mature Industries

Entering new industries in the absence of competition appears easy. But once such industries mature, and significant organizational and technological capabilities are accumulated by the first movers, entry by entrepreneurs from countries lacking a skill base in the targeted industry becomes increasingly difficult. However, if the aspiring entrepreneur commands a high level of organizational and technological capabilities from engaging in different industries, or is able to acquire such capabilities (in his country), there may be a valid chance for entering mature industries (even without protectionism). In particular, experience from different industries may introduce previously unthought-of productive combinations into a target industry and disrupt the accumulated knowledge of incumbents. Numerous studies on disruptive or revolutionary changes in industries (e.g. Tushman and Anderson, 1986; Christensen and Bower, 1996; Tripsas, 1997) demonstrate that incumbents may be replaced by newcomers when such radical change occurs. Another possibility to participate in a mature industry may exist when entering firms are large enough to withstand competition from firms with superior organizational and technological capabilities long enough to build their own set of capabilities [e.g. Levinthal (1991) suggests that size acts as a 'buffer'].

3.3 Entrepreneurs in Late-developing Countries Entering Mature Industries

Entrepreneurs in countries that witnessed the bulk of their industrialization after the Great Depression, however, face a completely different situation. Essentially all industries are 'mature' in the sense that they have been occupied by earlier movers, who have developed strong organizational and technological capabilities in these industries. But countries that are just starting their development do not have any capabilities, nor do individual entrepreneurs within them. Thus, the option to enter with technologically superior or disruptive combinations does not exist. In the extreme, when entrepreneurs do not command any skills, even a marginal existence in a mature industry may not be feasible.

This case, which exemplifies a typical situation faced by entrepreneurs from late-developing countries, may lead to such a high relative level of technological and competitive challenge for entrepreneurs that innovative momentum in these countries becomes completely stalled (e.g. Roepke, 1978). This innovative challenge for locals to engage in business may be

reinforced if the late-developing country has been vertically and horizontally penetrated by powerful firms from developed countries, which exploit oligopolistic industry advantages to expand globally (Hymer, 1960).

However, it has been suggested by various scholars that in the late stage of a product or technology life cycle comparative advantage shifts to less-developed countries (e.g. Vernon, 1966, 1979; Abernathy and Utterback, 1978; Perez and Soete, 1988). As technologies become standardized and diffuse internationally, cheap resources (raw materials, labor) in less-developed countries enable the low-cost style production that is necessary to compete in such mature technologies. Since the locational advantages of less-developed countries become important, firms from more-developed countries may relocate some of their production facilities into these countries, or cash out of these mature industries by selling their (standardized) technologies to firms in these countries (Perez and Soete, 1988). However, it is unlikely that the local, 'skill-less' entrepreneur of the late-developing countries would be able to acquire and effectively (not to mention efficiently) use standardized knowledge. The transfer of productive knowledge in order to either tap into cheap local resources or open/serve a local market with foreign products obviously involves different types of innovations and does not require organizational and technological capabilities to the same extent as product or process innovations. Nevertheless, we would expect that the entrepreneur needs to command at least some relevant capabilities that apply to introducing a technology into his or her home country. For example, Amsden and Hikino (1994) suggest that local entrepreneurs need mass production and project execution skills in order to manage such transfers.

Altogether, in the absence of relevant capabilities it would be highly questionable to argue that the local entrepreneur can actually implement the technology and reimburse the foreign firm for its knowledge. Given such uncertainty, the risk-adjusted value of selling or licensing a technology may be so low that the foreign firm prefers to operate the technology itself in the would-be entrepreneur's country, or to sell or lease the technology to other entrepreneurs from developed countries with higher capabilities.

3.4 Entrepreneurs in Late-developing Countries Entering New Industries

While it is straightforward to see that the combination of late country development and entry into mature industries may create inappropriate challenges for entrepreneurs in developing countries, one might wonder whether infant industries may offer better prospects. Perez and Soete (1988)

suggest that ‘techno-economic’ paradigm discontinuities, e.g. the shift towards information based technologies, may create new industries while simultaneously partially invalidating the accumulated stocks of capabilities in early-developed countries. At such turning points, they suggest, ‘windows of opportunity’ open for entrepreneurs in late-developing countries to enter and prosper in these new industries. But in order to take advantage of this window, developing countries must already possess a sizeable level of capabilities, accumulated ‘through decades of efforts at entering mature technologies’ (Perez and Soete, 1988, p. 477). Under free-trade conditions, however, it is hard to see where this capability level should come from. Early developers have attained the technological lead in every industry and, given shifting market conditions, may be actively seeking to enter emerging industries, whereas late-developers cannot even enter any industry to acquire initial organizational and technological capabilities. Entrepreneurs in late-developing countries are overpowered by the large knowledge differential with firms in developed countries. Thus, in the absence of protectionism, we cannot expect any innovative activity that contributes to closing the gap. Altogether, given free-trade conditions and the associated problems for late developers to create initial innovations and build up capabilities, it seems very likely that entrepreneurs in these countries get bypassed in the development of new technologies.

4. Property Rights, Late Development and Firm Behavior over Time

The four situations depicted in Table 2 illustrate that as long as the stock of organizational and technological capabilities available to entrepreneurs in a given country is comparable to or better than that of any other country, such entrepreneurs face very appropriate technological and competitive challenges to innovate in new industries and still somewhat appropriate challenges in mature industries. By contrast, entrepreneurs in late-developing countries, in the absence of protectionism, face inappropriately high challenges when contemplating to enter (innovate in) both infant and mature industries.

Thus, given free-trade and free-investment conditions, we should not expect local entrepreneurs in any underdeveloped country to be able to successfully enter industries by creating new products or processes. Economic development in late-industrializing economies based on economic activities by locals appears to be feasible only if the dimension of property rights is manipulated to create asymmetries that reduce the innovative challenge for

locals and enable them to weather the competition from technologically more advanced foreign firms.

The literature on late development has documented that the property rights regime of free trade and investment has been altered in two (related) ways. First, official protectionism of infant industries, either of an explicit (e.g. tariffs and investment restrictions, subsidies) or implicit nature (e.g. political discrimination of foreigners, product regulations), is deliberately introduced to favor locals over non-locals (Gerschenkron, 1962; Amsden, 1989). Second, widespread corruption—‘. . . the sale by government officials of government property for personal gain’ (Shleifer and Vishny, 1993, p. 599)—places a hurdle on economic activity in general, albeit it appears likely that sometimes locals may be in a preferred position to overcome such hurdles (e.g. due to personal relations, cultural and language familiarity). In fact, Guillén (2000) finds corruption to increase the size of locally owned BGs across emerging economies. Thus, while the presence of rent earning from corruption is likely to diminish overall incentives to innovate, locals that take advantage of corruption to invest in new knowledge may eventually obtain innovation rents. While political and ideological motives have frequently played a role in protectionism, and social or cultural issues may influence the extent and type of corruption (e.g. Shleifer and Vishny, 1993), we are concerned here only with their implications for the selection environment facing local entrepreneurs, and thus the level and type of innovative activity.

The imposition of protectionism does not, by itself, confer any organizational and technological skills on local entrepreneurs. However, the effects of protectionism and forms of corruption favoring locals are twofold. First, they reduce the competitive and technological challenge of entering economic activities for locals by acting as a buffer against the overpowering superiority of foreign firms. Given sheltered markets, local entrepreneurs may slowly adapt to technological standards that would be beyond their reach in the heat of competition. Secondly, they alter the selection environment by artificially raising the value of what we have called ‘secondary’ capabilities—i.e. the creation of asymmetries in terms of (i) information (i.e. political actions increase information needs for foreigners) and (ii) access (i.e. foreigners have no direct access to markets for goods or factors) increases the importance of capabilities to overcome these asymmetries relative to the ability to create new products. In essence, rather than rewarding the presence of organizational and technological capabilities (which, at the beginning of late development reside almost exclusively outside of the country), the altered environment selects based on the capability to bring together foreign organizational and technological capabilities with local markets and/or cheap

sources of supplies. To the extent that there is discrimination against foreigners, foreign firms wanting to do business in a protectionist country thus become dependent on the help of locals, who in turn are not at risk of being left out of the game anymore. The underlying source of these abilities can therefore be traced to the 'contacts' that locals possess among their own government and other entities with power over resources and markets, and perhaps with foreign entities. They can use their abilities to overcome asymmetries and enter businesses even though they have no organizational or technological capabilities. Thus, we suggest, for the point in time at which a heretofore underdeveloped country starts its industrial development in a world economy dominated by advanced nations, that a protectionist selection environment will allow for, and encourage the participation of, locals in the economy based on contact capabilities which enable such locals to engage in two distinct classes of Schumpeterian innovation, i.e. creation of new markets and exploitation of new sources of supply.

4.1 Competitive Advantage

Do these contacts really constitute a source of competitive advantage, and should they really be called 'capabilities'? Without these entrepreneurs, whose contacts bridge critical asymmetries, foreign firms attempting to set up businesses in the developing country would have to spend considerable amounts of time and funds to understand local requirements (e.g. politics and business culture), and gain access to all the local resources they need (i.e. they incur high transaction costs)—if they obtain permission from the government at all. Likewise, local firms without access to foreign capabilities—technology, marketing know-how, access to export markets—may not find viable business opportunities. However, firms that do possess contacts inside and outside the late-industrializing country should be able to generate higher economic profits than other firms.

It thus appears that late development under protectionism constitutes a fundamentally different selection environment from the one assumed in early-developed countries (for the latter see Teece *et al.*, 1994). Local firms that are low on organizational and technological capabilities (and are in a disadvantaged position to develop these capabilities to the level of foreign competition) compete with each other for a chance to participate in the developing economy. In order to do so, however, an entrepreneur or a firm needs to gain (i) access to (foreign) organizational and technological capabilities (for without them there is no business); and (ii) approval and support of

local authorities and owners of resources. The existence of protectionist barriers enables a local (entrepreneur or firm) to enter the game in the first place, as otherwise we would expect foreigners with superior capabilities to enter and pre-empt the local market. However, these barriers do not eliminate competition, they only shift it from a foreigner–local dyad to a local–local one. Local entrepreneurs must now compete with each other to establish foreign contacts and gain approval for their combination of foreign capabilities with local resources or markets. This illustrates that entrepreneurship in late development is of a different type than in early development. Whereas entrepreneurs in the latter situation stimulate growth primarily by creating new products and processes, entrepreneurs in the former create new combinations by combining existing products with new markets or sources of supply. To the extent that opportunities are limited, there may be an intense competition between would-be entrepreneurs—those opportunities that do exist will be appropriated by those entrepreneurs or firms that possess or are able to create the requisite contacts.

It follows that the ability to utilize contacts so as to set up and maintain businesses linking national resources with foreign organizational and technological capabilities constitutes in itself a capability (or competence): it is knowledge idiosyncratic to the entrepreneur (or group of entrepreneurs); it is subject to causal ambiguity as it is difficult to ascertain precisely which contact(s) are essential for facilitating a given business; it is difficult to imitate not only because of the causal ambiguity involved, but also owing to the finite capacity of, for example, government officials to maintain close relationships with agents; and it is subject to continuous path-dependent learning, as the use of contacts is likely to reinforce these contacts as well as open new ‘doors’. To the extent that the ‘entrepreneur’ is a single individual, these contact capabilities may be reducible to a single-person skill, one that is firm-specific in that the entrepreneur simply ‘is’ the firm that matters. However, in many cases, there may exist an entrepreneurial team, e.g. a family or some other multiple of persons. Here we would expect a complex interlocking of individual skills, i.e. disparate contacts held by individuals are combined and utilized within the group. Further, while this capability is neither product specific⁵ nor involves organizational or technological capabilities as described above, the ‘contact-capability’ makes it easier to operate businesses profitably in countries under conditions of protectionism. Thus, we argue:

⁵ The capability need not be product specific unless political or institutional conditions create boundaries to the usefulness of the contacts. For example, contacts with policy makers in one area or industry may not be useful in another area.

Proposition 1: In countries at the beginning stage of late development, the ability to utilize ‘contacts’ is a valuable, rare, imperfectly tradable and difficult-to-imitate capability, leading to BG growth, but only insofar as significant regulatory asymmetries and protectionism favoring locals exist.

Contacts, as a type of human knowledge, are costly to create initially, but are less costly to apply to additional tasks (Arrow, 1971; Teece, 1982), suggesting a potential for scope economies. Further, contacts seem to be subject to the market failure conditions alluded to above—they are difficult to sell in a market without giving them away (e.g. ‘selling’ a contact by introducing a ‘customer’ to a person in authority may allow the customer to go directly to the authority in the future and cut out the initial contact holder). Hence, an application of Teece’s (1982) rationale for diversification, i.e. the existence of economies of scope based on internal capabilities combined with a market failure in factor markets for such capabilities, implies that firms in this situation will choose to grow internally by diversifying in areas where they can utilize their existing capabilities.

Therefore, the firm would utilize its contacts to gain the authorities’ and other resource owners’ approval for additional combinations of foreign standardized know-how and local factor or product markets, in order to produce additional goods either for export or for the domestic market.⁶ As contact capabilities are not necessarily product specific, we should expect that the resulting diversification pattern will show a high diversity of product–market combinations. Also, exposure to new markets in turn leads to an increase in available contacts. This leads to:

Proposition 2: Entrepreneurs whose key capability is in the form of contacts are likely to pursue unrelated diversification.

Further, as the locus of contact capabilities is at the level of the entrepreneur itself, rather than at a lower level within the individual operating units, there appears to be no need for a centralized M-form organization with a costly head office staff trying to leverage capabilities that reside deep within individual firms or operating units. Rather, the entrepreneur (or entrepreneurial group) can set up a diverse holding of firms each with its own, self-contained management, without losing the benefits of applying the critical capability ‘contacts’ across all businesses in the group. Further, as the incentive for

⁶ It is important to note that kinship or clan power structures may create imbalances just as important as those on the government level. Thus, to be successful, an entrepreneur likely needs contacts at several levels in the social strata of society.

unrelated diversification (at least in this early stage) results from an application of the firm's non-product-specific core competency and not (primarily) from considerations linked to risk diversification, there is no need for a Williamson-style M-form as internal capital market.

Proposition 3: Entrepreneurs whose key capability is in the form of contacts are likely to establish only loose relationships between their individual firm holdings.

The argument so far has isolated 'contact' capabilities as the driving force behind the initial engagement of locals in economic activities as well as the development of typical structural elements of Business Groups at the beginning of late development in a country. We call this 'Stage I' in Figure 1.

However, the logic behind 'contact' capabilities is essentially one of effectiveness, rather than efficiency. At the very beginning of development, protectionism serves as the vehicle to pave the entry of essentially skill-less locals, i.e. allows them to be effective in terms of being in business at all (and, as discussed above, saves on transaction costs). Whatever operational efficiency (e.g. costs of operations, yields of production) is achieved in such an early stage operation is most likely due to the organizational and technological skills of the foreign partners rather than to any capabilities on the part of the locals that go beyond 'contacts'. Now, as the number of entrepreneurs who capitalize on asymmetry-induced opportunities for setting up (potentially multiple) businesses grows, they will have to increasingly compete with each other for market share or access to raw materials or other inputs—notably equity capital, but also labor and further contacts. As a result, the selection environment changes towards more emphasis on organizational efficiency on dealing with input or output market competition.

Thus, after setting up a business based on contacts and imported effectiveness and efficiency, we should expect local firms to attempt to develop some organizational and technological capabilities of their own, based on the experience they gain through actual participation in a business, that allow them to succeed in the country's internal selection environment. Amsden and Hikino (1994) suggest that the most likely candidates for such 'Stage II' capabilities are the 'generic skills' of project execution and mass production. If we assume that foreign firms with large organizational and technological capabilities are also likely to command the abilities to execute projects and ramp up to mass production to a certain extent themselves, we can argue that selection among locals in Stage I centers more on the actually scarce capability, i.e. contacts, rather than on the locals commanding such 'generic

skills' themselves. However, in Stage II, with an increasing number of locals competing for further business, the scarcity of contact capabilities will slowly diminish and efficiency concerns come to dominate. Thus, it is in this stage that a local firm with a mix of contact and superior 'generic capabilities' may outcompete others.

With ongoing development and growth in the number and size of local firms, we should further expect that the demand for services and infrastructure (labor, education, locations, roads, capital) increases from the very low pre-industrial levels. However, in many cases the infrastructure develops at a much slower pace than the demand for its services (e.g. Leff, 1978, 1979; Caves, 1989; Khanna and Palepu, 1997). Again, while in Stage I considerations of being able to start a business at all dominate, with increasing activities it becomes more and more important for success and survival for firms to develop capabilities that allow them to cope with such factor market limitations as discussed by Khanna and Palepu (1997) and Ghemawat and Khanna (1998). Creating internal labor or capital markets, for instance, may help firms to overcome such limitations (e.g. Khanna and Palepu, 1997). Further, with the generation of wealth and economic power, cultural variables, such as a tradition of strong interfamily ties, may become even more important in affecting the distribution of power within the society and thus shaping the structure of the economy (Orrù *et al.*, 1997). While such cultural effects may create yet more efficiency concerns regarding access to local resources, they also act to increase accessibility and informational asymmetries by keeping information and resources under tight control. Thus, contact capabilities may actually become slightly more important in Stage II. On average, however, we expect that efficiency concerns increasingly dominate the local selection environment. Thus:

Proposition 4: The selection environment in late-developing countries changes from emphasizing 'contacts' (Stage I) to organizational capabilities related to project execution and mass production, as well as capabilities to deal with cultural idiosyncrasies and market imperfections (Stage II).

Amsden and Hikino (1994) and Khanna and Palepu (1997) make the claim that the broad applicability of, respectively, generic skills and capabilities to bridge 'informational imperfections and entrepreneurial scarcity' (Ghemawat and Khanna, 1998) led to the unrelated diversification observed in BGs. However, compared with Stage I contact capabilities, some of these Stage II capabilities appear to be somewhat more specific. Project execution skills and the capabilities to deal with inefficient capital markets and cultural

idiosyncrasies, as well as state regulations and requirements, are likely to lead to as unrelated a diversification as contacts. Mass production skills, on the other hand, appear to be geared towards a narrower scope of more related activities (i.e. those requiring large-scale manufacturing in contrast to service businesses). Also, internal labor markets as efficiency-enhancing replacements for inefficient external labor markets at the country level serve as a rationale for BGs in that they allow for business in different areas to obtain scarce labor resources (Leff, 1978, 1979; Khanna and Palepu, 1997). However, the scarcity of labor on the country level is most likely a scarcity of skilled (i.e. specialized) labor. Internal labor markets should thus be more efficient the more they utilize the specific abilities of trained employees, and thus lead to more relatedness in the structure of a group than implied by other Stage II capabilities. Overall, this suggests:

Proposition 5: Stage II capabilities require a greater degree of relatedness for sustainable diversification than Stage I capabilities.

Furthermore, compared with contact capabilities, Stage II capabilities apparently reside at a deeper level in the firm or group. While contacts are essentially carried and used at the very top level, i.e. the entrepreneur or entrepreneurial group itself, project execution and mass production skills are rather a type of organizational knowledge residing at the level of team members, employees and shopfloor managers that actually execute the set-up of a new firm. Likewise, internal capital markets (see above) have to be managed throughout the individual organizations constituting a group. Thus, a more centralized control, similar to the centralized M-form suggested by Hill (1988), will enhance the efficiency of a diversified firm/group at this stage. Finally, the creation of internal capital markets as an organizational (efficiency) response to inefficient external capital markets also necessitates more control over the financial aspects of the firm, which may lead to the institution of a Williamson-style M-form (Williamson, 1975). Overall, we expect the need for control to increase (much) faster than the need for relatedness at this stage.

Proposition 6: Stage II capabilities lead to an increase in the need for central control compared with Stage I capabilities. This increase in the need for control is greater than the increase in the need for relatedness.

Together, propositions 5 and 6 suggest that in Stage II the need for relatedness and for central control diverge significantly (see Figure 1). Thus,

compared with Stage I, we expect that successful firms will show somewhat more relatedness, but much more central control in this stage.

A final, third stage may occur when the increasing exposure of these diversifying BGs to a variety of markets and a large number of foreign (standardized) technologies raises the overall skill level of the entrepreneur or firm. Benefiting from the shelter of protectionism and other asymmetries, firms have time to accumulate knowledge about markets (customers and competitors), and about the relative profitability and prospects of different lines of business, as well as gain a deeper understanding of the organizational and technological capabilities that underlie their acquired production technologies. This improved capability base implies that the individual firm may now be better able to cope with more advanced innovative challenges. As a consequence, some firms may be able to utilize their emergent operational and technological capabilities to create their first rudimentary product or process innovations. As the operational and technological capabilities resulted from using basically mature foreign technologies, we cannot expect that such innovations result in world-standard new goods or processes. Rather, under the assumption of path dependence, we should expect these firms to create products or processes that simply constitute significant improvements over the mature technologies used before. These inventions may allow the firm to move away from completely mature and standardized technologies and products towards technologies that incorporate more idiosyncratic know-how. For example, a car manufacturer that produced a basic standard car under license from a foreign firm may improve upon this standard design to make it more comparable with newer designs marketed by more advanced foreign rivals. This would shift the firm's product from a market for low-level standard design cars to a new segment of the market, which is characterized by larger design differences and more advanced technological capabilities. While the new product may still be a long way from introducing a revolutionary new car concept into the market, it will create pressures on other firms in the same country to likewise offer better products or find better processes to compete with such increasingly more capable competitors. Altogether, we suggest

Proposition 7: The selection environment in late-developing countries may change from emphasizing Stage I and II capabilities to organizational and technological capabilities related to advanced product and process innovation (Stage III).

The shift towards organizational and technological capabilities may or may

not be accompanied by a reduction in the inefficiencies of the local factor markets. Our point here is that the importance of Stage III capabilities increases relative to that of Stage I and II capabilities.

As the product and industry matures, we expect the firm to focus its activities, since the emergence of organizational and technological capabilities (that are augmented by additional innovations) suggests that economies of scope are now to be found in related lines of business, rather than in the unrelated portfolio the firm was pursuing before. Further, the development of innovative skills requires a very high effort from the local firm, compelling it to focus on those areas of business that promise the highest returns. Also, as the level and difficulty of innovations rises, the amounts to be spent on R&D to remain internationally competitive rise dramatically, urging the firm towards greater and greater international integration in order to enlarge its market size to accommodate these outlays (Kobrin, 1991). Altogether, these arguments suggest:

Proposition 8: In Stage III the need for relatedness increases strongly.

How does this evolutionary process influence the appropriate structure for the diversified firm? As pointed out above, one would expect (i) that the mix of critical capabilities changes over time in favor of organizational and technological capabilities; and (ii) that groups become more conscious about the management of their dispersed holdings than about further acts of diversification. The second point in isolation would imply that a loosely organized, widely diversified BG (essentially a holding) converts itself into a conglomerate M-form firm in order to make more efficient use of the possibilities of internal financial management as described by Williamson (1975). The first point, the orientation towards organizational and technological capabilities, would imply a focus on creating more relatedness within the businesses operated by a BG, compelling the firm to implement a centralized M-form-style organization to capitalize on economies of scope (Hill, 1988). This could either take the form of trimming the existing units to create a business core, i.e. create one large, centralized M-form structure by divesting the most unrelated units, or individual firms within a group or cluster of already related firms could create their own related diversified subfirm within the umbrella of a large BG. The resulting structure could then look like a number of centralized M-form firms held together by an M-form or holding company, similar to the pattern of Japanese *keiretsu* (Cable and Yasuki, 1985). The rationale for the continued existence of such an umbrella-superstructure could be found in (i) the prevailing importance of contact

capabilities and (ii) inefficient capital markets, allowing the overall group to economize on these underdeveloped markets. This suggests:

Proposition 9: In Stage III the need for centralized or financial control increases strongly.

The enhanced organizational and technological capabilities of individual firms at Stage III, together with the improvement of the country's infrastructure that can be expected to occur concurrently, imply that established firms, BGs and other local entrepreneurs are now in a better position to withstand the previously overpowering level of capabilities found in more advanced countries. Thus, to the extent that the existing protectionist barriers were erected to protect locals from the pre-emptive effects of free competition with vastly superior competitors, they now can (and should) be lifted to some extent (Porter, 1990). If protectionism remains strong and corruption rampant, the competitive pressure for the local industry stays tamed, and firms may not perceive the need to actively create advanced technological innovations (by the standards of the advanced countries). In such a case, the selection environment stagnates at emphasizing early-stage capabilities, with the consequence that inefficient forms of businesses, in terms of world-market standards, may survive without the need to increase their capabilities (on 'weak' selection see Nelson and Winter, 1982).

Over time, the firm further augments its stock of organizational and technological capabilities by further innovations, the more so, the more the removal of (industry-specific) trade barriers follows (and in turn enables) the development of the firm's capability to meet the international challenge. The ideal end-result of this development is the ability of local firms to produce world-class innovations in select areas that allow them to compete globally on the base of idiosyncratic technological skills and first-mover advantage, enabling them to earn Schumpeterian innovation rents (Winter, 1995). Thus, these firms join the international markets on equal terms with firms from early-industrialized countries (Roepke, 1978). They possess similar skill levels, and are able to learn and challenge each other without the need to resort to home-country protectionism. Such a leap into the ranks of 'first movers', however, seems to be most likely if techno-economic paradigm shifts (Perez and Soete, 1988) open up new industries. If firms in the late-developing country have accumulated a certain stock of capabilities as described before, they may now be ready to seize such a new market. The recent Internet and biotechnology ventures of several of the South Korean and Latin American BGs are good illustrations of this argument.

Moreover, firms' exposure to idiosyncratic local conditions and demand situations may also stimulate the occurrence of such a paradigm shift. Firms may not simply follow their existing capabilities in a pure path-dependent way by, for example, improving only on existing products; rather, an increased capability base may enable them to create product innovations that satisfy unique local demands (Vernon, 1966, 1979). This introduces variation in the otherwise path-dependent application of organizational and technological capabilities, and may allow firms from late-developing countries to introduce disruptive change into mature industries. The ability of Japanese car manufacturers in the 1970s to establish large market shares in the US market based on introducing small, fuel-efficient cars that had been developed given the particular customer demands in Japan illustrates that this is not just a conjecture. Overall, we suggest that the changes in the selection environment from Stage I to Stage III are partially based on a reduction in the protectionist and corruption-based property rights asymmetries and partially a cause of these developments.

5. Illustrations

The three-stage evolution of BGs' capabilities from being contact-based to project execution and product innovation may be illustrated with the cases of South Korea's Hyundai and Argentina's Techint. In 1947 entrepreneur Chung Ju Yung founded an engineering and construction company that started to grow quickly after its contacts within the authoritarian regime of General Park (1961–1979) awarded it three key civil engineering projects, namely, the first bridge over the Han river, the Seoul–Pusan highway and Kimp'o international airport. The first unrelated diversifications took place in the mid-1960s, when Hyundai entered steel manufacturing and oil refining. Since the late 1960s Hyundai has been among the fastest-growing *chaebol* thanks to its prominent place in the government's plans for heavy industrialization. During the 1970s Hyundai's assets grew by a cumulative 38% annual rate. The group entered a number of industries that were mature by international standards—automobiles, aluminum, cement, pipes, shipbuilding, heavy engineering and wood. Hyundai was one of a handful of *chaebol* allowed to create a trading company and a merchant marine business in the mid-1970s. All of these projects were undertaken with subsidized credit, government protection from foreign trade and investment, and foreign technology. Hyundai, however, started to develop project-execution capabilities by the late 1970s that enabled the group to diversify into new manufacturing and service industries even after the government discontinued

direct subsidies and even attempted to curtail the power of the *chaebol* (Fields, 1995). In all of the industries entered by the group during the 1980s and 1990s (aerospace, electronics, elevators, robotics, petrochemicals, game machines, information services, broadcasting, publishing), the group benefited from foreign trade and investment protectionism. Thus, Hyundai could use profits from domestic sales to subsidize an increasingly important export effort while obtaining capital, market access and technology from foreign sources (Amsden, 1989; E. M. Kim, 1997).

In some industries Hyundai started to innovate on its own, thus making the transition to Stage III. For instance, Hyundai's automobile business began by assembling Ford Escorts on contract. During the 1970s the company obtained technology from Japanese, British, Italian and American companies. Because of its frustrating experience assembling Ford knocked-down kits, Hyundai decided to go it alone in 1970 and develop its own car, the Pony, which was first assembled in 1976 after having reverse-engineered the Ford Marina. Export markets were pursued aggressively. Exports to developing Latin American and South Asian countries during the late 1970s, however, never exceeded 20 000 annual units. In 1984 Hyundai Motor targeted the Canadian market. The Pony became the largest foreign import within months. In 1986 Hyundai stunned the industry by grabbing a 7.1% market share of the American subcompact segment with the Excel (260 000 units), aided by a strong yen. Sales stagnated in 1988, however, dropping to levels below 110 000 annual units by the early 1990s as widespread quality problems turned customers away from Hyundai dealerships. More advanced models like the Accent, Sonata, Elantra and Scoupe fared better in customer ratings, but failed to allow Hyundai to gain more than 1.5% of total auto sales in the US market during the 1990s. Still, Hyundai Motor has accumulated valuable capabilities, managed to develop somewhat of a proprietary technology base (its R&D over sales was already 3.5% in 1975, reaching 4.4% by 1994) and is a well-known brand throughout the world (Amsden, 1989; L. Kim, 1997).

Although the founder-chairman of Hyundai makes many important decisions within the group, its organizational structure is far from being multidivisional, and companies enjoy a considerable degree of autonomy. The group's central planning office included only fifty-two employees as of 1994 (Kang, 1996). In addition, the Hyundai *chaebol* has spun off several clusters of firms headed by the chairman's brothers (Halla, Sungwoo, Keumkang). Still, a *chaebol* such as Hyundai is characterized by entrepreneurial and managerial coordination.

A Latin American example similar to Hyundai is Argentina's Techint,

whose DST firm (Dalmine-Siderca-Tamsa) is the world's largest manufacturer of seamless steel pipe (2.4 million tons), accounting for over 18% of total world production and 26% of world exports. In 1999, Techint's Tamsa subsidiary tied up for first place with Steel Dynamics of the USA and POSCO of South Korea in Morgan Stanley's ranking of the most competitive makers of steel products worldwide (*Korea Times*, May 4, 1999).

Techint has gone through several growth spurts. During the late 1970s and early 1980s the group diversified into oil, non-electrical machinery, mining, shipping and engineering. By the mid-1990s the Techint group comprised over 100 firms in steel, machinery, engineering, construction, turnkey plant design and construction, oil and gas exploration and production, flat and pressed glass, paper, cement and ceramic tiles, and a bewildering assortment of privatized firms, namely, sanitary services, railways, toll highways, telecommunications, gas transportation and distribution, power generation, and even correctional facilities. Group sales totaled \$5.6 billion in 1997, making it the largest in Argentina, with 40% of them in foreign markets. Sixty percent of its 50 000 employees are located in the rest of Latin America, Europe and Asia.

The historical origins of Techint go back to fascist Italy. During the Great Depression, bankrupt steel company Dalmine was taken over by the state. Mussolini appointed engineer Agostino Rocca as its chairman. At the end of the war, Rocca exiled himself first in Mexico and then in Argentina, where he opened a branch of Dalmine. In 1954 he built the first South American seamless pipe facility some 50 miles outside Buenos Aires. In 1962 he spun off Propulsora Siderúrgica, a firm making flat steel. Rocca organized his businesses under the Techint holding company, which was also the group's engineering and construction arm. He was well-connected both internationally and in Argentina. In fact, most of Techint's early contracts came from the state-owned oil, gas, water and sanitation companies, and the technology from foreign sources. By 1973 Techint included thirty different companies, which had risen to forty-six by the end of the period of military juntas in 1983, benefiting from protectionism to diversify into textiles, cellulose fibers, paper, nuclear power equipment, insurance and banking, as well as steel, engineering and construction (Acevedo *et al.*, 1990; Lewis, 1992; Toulan, 1997). By the mid-1980s Techint had perfected the project-execution capabilities characterizing BGs at Stage II. After the difficult period of decline and hyperinflation during the late 1980s, Techint resumed its growth as a result of liberalization and privatization during the 1990s.

Techint made the transition to Stage III by the early 1990s, especially in steel. The group has turned around one of the Argentine state's worst-run

companies—flat steel maker SOMISA, now called Siderar. It also controls steel companies in Bolivia, Brazil and Venezuela. Most famously, Techint commands the world's largest market share in seamless pipes, used for drilling and transporting oil and gas. Its competitors in international markets include such powerhouses as Sumitomo Heavy Industries, USX and Mannesmann-Vallourec. In addition to Siderca, whose main plant is located near Buenos Aires, Techint controls two other large pipe manufacturers: Tamsa in Mexico (since, 1993), which Agostino Rocca helped found; and Dalmine in Italy, which it acquired in 1996 after the Italian state decided to privatize the company Rocca once managed for Mussolini. These two companies offer Techint a foothold in the NAFTA and the European Union, respectively. Techint group companies make flat steel, pipes, rolling mills, heavy steel structures, offshore modules and electric furnaces. Techint's seamless tubing facilities are considered to be the best in the world (Toulan, 1997).

As in the case of Hyundai, Techint has grown to prominence thanks to its country's protectionist stance and evolved through the three capability stages identified in this paper. These illustrative examples, however, should not be taken as demonstration that any BG in a late-developing country can manage to make the transition from contact-based expansion to project-execution capability and finally to self-standing product innovation. They do indicate, however, that contacts, project-execution capability and innovation play key roles in the various stages of BG evolution under protectionism. Moreover, both BGs have fallen short of creating tightly integrated organizational structures, although their structures have evolved over time as the groups moved from Stage I to Stage II and to Stage III capabilities.

These illustrations are no substitute for carefully designed empirical tests of our main argument that contact capabilities play a key role in the diversification of BGs in late-developing countries under conditions of protectionism. While case studies can help refine theory, we see the need for measuring both the characteristics of BGs (including their contact capabilities) and the conditions existing in late-developing economies in order to be able to test the empirical validity of our propositions. Some preliminary cross-national evidence has been reported by Guillén (2000), indicating that BGs are more likely to grow in size relative to the economy when there is trade and foreign investment protection.

6. Discussion and Conclusion

We began this paper with a discussion of the RBV and evolutionary economics, and of their implications for firm growth, diversification and

structure. This analysis allowed us to identify a tendency of these approaches for left-censoring, i.e. these theories seem to ignore the critical phase of the initial generation of capabilities on the individual, firm and country levels, as well as the relevant environment for the creation and application of capabilities. We then utilized Schumpeter's notion of innovation and entrepreneurship to make a first attempt at closing this gap. In particular, we identified an important difference between early- and late-developing countries in terms of the environmental conditions that lead to the creation of capabilities. We suggested that entrepreneurs in late development, at least in a free-trade environment, are not able to create the organizational and technological capabilities that are central in early-developed countries, precisely because these early developers have built up an enormous lead in these capabilities. Therefore, there appears to be a rationale for such late-developing countries to engage in protectionism.

Under protectionism, we suggested, contacts become the critical capability, which leads to unrelated diversification and to an adoption of a loose group structure as an efficient organizing solution—BGs are thus born early on in the development of a country. As the country and the local firms develop over time, the selection environment will progress from emphasizing contact capabilities, to generic capabilities at setting up production and capabilities to overcome market failures, to a final stage where firms need organizational and technological capabilities in order to succeed. Accompanying this progression, we expect an increase in the level of organizational relatedness and centralization of organizational control that is required for success in the evolving selection environment.

We reviewed the entrepreneurial and organizational histories of two BGs—Hyundai and Techint—to illustrate the three stages of capability evolution. In both cases, initial group diversification and growth was based purely on contacts. The second stage, however, entailed very rapid diversification thanks to project-execution capabilities, and took place during the 1970s and early 1980s. Finally, both groups reached the third stage of innovative capabilities during the late 1980s and 1990s. Although based in two different countries, with different policy traditions, both groups benefited from foreign trade and investment protectionism. Although they received direct subsidies from the state during the early stages, both groups continued to diversify and grow after subsidies were eliminated.

The primary contribution of this paper is to develop an evolutionary and resource-based explanation of the phenomenon of BGs. We believe that this adds to the literature an understanding of the systematic changes to local selection environments in late-developing countries, the capabilities that are

critical at each point in time, and thus the main drivers of organizational decisions on how to diversify and control at each development stage.

This paper also addresses key issues in other areas of research. Our conceptualization of development paths and the resulting evolutionary model of economic development may be of interest to international management scholars as well as to researchers in the field of economic development theory/international trade theory. Likewise, the explicit treatment of the environment in determining the value of resources and the nature of 'relatedness' should be of interest to researchers in organizational science as well as in the resource-based and evolutionary traditions.

The analysis in this paper suggests that diversified BGs in developing countries are not an anomaly. Available theories can explain the appearance of BGs under conditions of late development, late entry into mature industries, and limits to foreign trade and investment. Our approach, as summarized in Figure 1, yields testable propositions that speak to the conditions for both the rise and the decline of the BGs, and to the alternative organizational structures that they may adopt. Ultimately, the phenomenon of diversified BGs in late-developing countries can be traced back to the development and leverage of a Schumpeterian capability to access, mobilize, and combine foreign and domestic resources under conditions of restricted foreign trade and investment.

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