INSTITUTIONAL DEVELOPMENT AND HYPERCOMPETITION IN EMERGING ECONOMIES

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This study applies previous analysis on hypercompetition to emerging economies. We propose that development of the institutional context will contribute to generate conditions of hypercompetition in emerging economies. Empirical evidence from Latin America indicates that (1) persistent superior economic performance is possible; (2) the hazard rate for exiting the superior economic performance stratum has increased over time; (3) the development of the institutional context accelerates the rate of exiting the superior economic performance stratum; and (4) domestic firms find it more difficult to remain in the superior economic performance stratum than subsidiaries of multinational corporations and multicountry firms. These findings are consistent with the onset of an age of temporary advantage in emerging economies. Copyright © 2010 John Wiley & Sons, Ltd.

INTRODUCTION

Is the world entering an age of temporary advantage? The answer to this question is critical since it relates to the nature and sources of competitive advantages (McNamara, Vaaler, and Devers, 2003; Thomas and D'Aveni, 2004; Wiggins and Ruefli, 2005). Studies on hypercompetition have proposed that competitive advantages are becoming more temporary since disruptions in the environment and competitor moves are more frequent and intense (D'Aveni, 1994). This proposition indirectly assumes the existence of several institutional conditions. For example, the institutions that regulate competition are efficient, inhibiting collusion and other noncompetitive practices. Investors have protection in terms of property rights and adequate enforcement of these rules. Factor markets are complete and efficient, and relative prices between

input factors and final goods change in a rather smooth pace. However, most of these conditions do not hold in emerging economies. Since institutions structure human interactions in societies (North, 1990), a diverse institutional context will generate different competitive conditions and also create dissimilar pressures on firms' competitive advantages.

The purpose of this manuscript is to explore whether and why competitive advantages are becoming less sustainable in emerging economies. For that, we analyze the behavior of abnormal returns of firms competing in emerging economies and we examine how changes in the institutional context alter this behavior. First, we developed alternative hypotheses regarding the possibility of firms to attain persistent superior economic performance (PSEP). Since the institutional environment is not a parameter, but a rich constellation of interdependent structures and systems (Henisz and Swaminathan, 2008), the overall effect of the existence of a less-developed institutional context on PSEP is not univocally determined. On the one hand, PSEP is difficult for firms in emerging economies to achieve. This is due to their highly

unstable environments, where exogenous macroeconomic shocks and unexpected changes in the rules of the game are more frequent and unpredictable in terms of course and intensity than in developed economies (Calvo, Izquierdo, and Talvi, 2006; Calvo and Mendoza, 2000; Feinberg and Gupta, 2009; North, 1990; Roubini and Setser, 2004). These unexpected changes eventually erode the value of a successful strategy, preventing firms from achieving PSEP and reinforcing the predictions of hypercompetition (D'Aveni, 1994). On the other hand, achieving PSEP is eventually possible due to institutional particularities that inhibit competition, since the existence of less developed institutions reduces competitive and imitative pressures (Chacar and Vissa, 2005; Chan, Isobe, and Makino, 2008). Furthermore, less-developed institutional environments also favor property concentration in nontrivial ways (Morck, Wolfenzon, and Yeung, 2005), thus hindering industrial renewal and favoring PSEP.

We complemented our analysis by hypothesizing that improvements in the institutional context generate a hypercompetitive shift in emerging economies. As institutions develop, the importance of institution-based strategies decreases, eroding original sources of competitive advantage. We propose that this hypercompetitive shift is particularly harmful for the PSEP of domestic firms, since they rely heavily on institution-based strategies. Subsidiaries of multinational corporations (MNCs), which rely more on resource-based strategies, are better prepared to sustain their competitive position and achieve PSEP in the event of improvements in the institutional environment.

We tested our hypotheses using a sample of Latin American companies in operation during the 1990 to 2006 period. Empirical results support the hypothesis that PSEP is attainable. We found, on average, that 10.1 percent of companies achieved PSEP if industries are aggregated and if Latin America is considered as a single region; between 8.5 percent and 16.2 percent achieved PSEP within their sector if each country is considered individually. Similar studies conducted in the U.S. show that 5 percent of firms achieved PSEP (Wiggins and Ruefli 2002). We also found that the hazard rate for exiting the superior performance stratum increases over time, suggesting the existence of a hypercompetitive shift in Latin America. Also, institutional improvements significantly

account for the increasing difficulties that companies experience trying to sustain superior economic performance (SEP). Finally, domestic companies increasingly struggle to remain in the SEP stratum while the opposite is true for MNC subsidiaries.

This study contributes to the literature in significant ways. It extends previous theoretical considerations about hypercompetition into the business context of emerging economies, in particular by considering the institutional environment as an antecedent of hypercompetition. This study also provides empirical evidence on the dynamics of SEP for domestic and multinational firms when the institutional context changes. In addition, it presents new empirical evidence on PSEP from a previously unexplored sample of firms, thus complementing current evidence from the U.S. and Europe (e.g., Mueller, 1986; Geroski and Jacquemin, 1988; Schohl, 1990; Droucopoulos and Lianos, 1993; Bou and Satorra, 2007). Finally, this is the first attempt to apply the novel nonparametric technique developed by Ruefli and Wiggins (2000) to the study of PSEP in emerging economies.

Next, we explore alternative views on PSEP and propose the existence of a hypercompetitive shift in emerging economies. We then describe our empirical analysis and results, discuss limitations, and present our conclusion.

THE DYNAMICS OF ABNORMAL RETURNS IN THE CONTEXT OF EMERGING ECONOMIES

Analyzing the behavior of superior economic returns is a long-standing tradition in strategic management because of its implications for understanding the sources and sustainability of competitive advantage (Thomas and D'Aveni, 2004; Wiggins and Ruefli, 2002). Numerous theoretical perspectives claim it is possible for firms to achieve PSEP. Research on industrial organization supports the existence of abnormal returns as a consequence of industry structure (Bain, 1959; Mason, 1939; Porter, 1981). Since industry structure changes slowly, competitive advantages emerging from this source are fairly stable. The resource-based view analyzes particular resource and capability properties rendering PSEP feasible (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984). Companies able to develop unique, valuable, and difficult to replicate capabilities, at least

during a reasonable period of time, may achieve sustainable competitive advantage. Hypercompetition questions the long-term achievement of SEP, proposing that traditional and static sources of competitive advantage are replaced by a more dynamic perspective in which advantages are temporal (D'Aveni, 1994).

Researchers have tried to shed light on these theoretical positions by examining the sustainability of abnormal returns. In general, initial studies, which focused on performance decay using autoregressive models (Jacobsen, 1988; Jenny and Weber, 1990; Khemani and Shapiro, 1990; Kessides, 1990; McGahan and Porter, 1999; McNamara *et al.*, 2003; Mueller, 1986, 1990; Odagiri and Yamawaki, 1990a, 1990b; Schwalbach and Mahmood, 1990; Waring, 1996) found that convergence to the industry mean was not complete. This parametric stream was complemented by studies that followed a nonparametric approach, which supported the presence of PSEP (Wiggins and Ruefli, 2002). The conclusion is that for firms competing in the U.S., sustainability of abnormal returns, although possible, is hard to achieve. In addition, nonparametric results indirectly support the hypothesis that unique resources and capabilities are the ultimate source of competitive advantage (Wiggins and Ruefli, 2002).

Even though the vast majority of studies in developed countries found evidence in favor of the existence of PSEP, recent studies advise caution when drawing conclusions about the behavior of abnormal returns. Thomas and D'Aveni (2004) report a shift toward more temporary advantages, while Wiggins and Ruefli (2005) claim that the hazard rate for exiting the SEP stratum has increased over time. In addition, Devan, Klusas, and Ruefli (2007) found that, in a sample of large global companies during the period 1994 to 2004, only 1 percent outperformed their competitors on both revenue growth and profitability. This recent empirical evidence is consistent with the existence of a hypercompetitive context in developed countries.

The literature lacks specific studies on hypercompetition in emerging economies. Empirical works on performance in emerging economies follow a parametric approach and support the existence of PSEP (Chacar and Vissa, 2005; Droucopoulos and Lianos, 1993; Glen, Lee, and Singh, 2001; Kambhampati, 1995). For example, Kambhampati analyzed profit differentials in 42 industries during the period 1970 to 1985 and found considerable persistence over time. Previous studies contain restrictions: they include only the manufacturing sector, and sample periods end in 1999. The latter is particularly important when examining emerging economies, since the shift toward hypercompetition seems to be a recent phenomenon (Thomas and D'Aveni, 2004). Based on these antecedents, we theoretically examine the existence of hypercompetition in emerging economies, focusing the analysis on the effect of the institutional context on the duration of firms' competitive advantages.

THE RELATIONSHIP BETWEEN THE INSTITUTIONAL CONTEXT AND COMPETITIVE ADVANTAGE

D'Aveni (1994) suggests that profits from sustainable competitive advantage follow three stages: launch, exploitation, and counterattack. A company *launches* an initiative that generates a competitive advantage and allows for abnormal profits; it then enters an *exploitation* phase and milks the advantage. The competition *counterattacks*, eroding the advantage and forcing the company to launch new initiatives to sustain these abnormal profits. This dynamic strategic interaction takes place in four dimensions or arenas (D'Aveni, 1994): (1) cost and quality competition; (2) timing and know-how competition; (3) competition for the creation and destruction of strongholds; and (4) competition based on deep pockets. Hypercompetition is the phenomenon that increases the speed and aggressiveness of competition in the four arenas reducing the duration of the launch, exploitation, and counterattack cycles.

We propose that theoretical conceptualizations of hypercompetition implicitly assume the existence of a developed institutional context, which is difficult to find in emerging economies. Since institutions provide the rules of the game that structure human interactions in societies and organizations (North, 1990), it is reasonable to expect a different competitive behavior and, as a consequence, a different pattern of abnormal returns in dissimilar institutional contexts. The mechanisms connecting institutions with competitive advantages will vary depending on the arena under consideration. In some cases, institutional mechanisms typical of emerging economies will favor hypercompetition.

In other cases, they will inhibit hypercompetition. In order to clarify these complex causal relationships between the institutional context and competitive advantages, we first analyze those emerging economies' institutional mechanisms that may favor hypercompetition and then those mechanisms that inhibit competition.

The hypercompetitive context

Companies in emerging economies face multiple institutional weaknesses that increase the probability of exogenous shocks that jeopardize economic rent and consequently compromising the sustainability of competitive advantages. According to Feinberg and Gupta (2009), there are three types of institutional risk: (1) asset investment expropriation at less than full market value; (2) liquidity constraints due to weak enforcement of contracts that allow unreasonable delays in payment by local customers; and (3) accelerated asset investment depreciation as a result of government-imposed impediments to a firm's ability to access complementary assets. Unexpected expropriation negatively affects a stronghold strategy, eliminating the advantages that companies might obtain through barriers to entry.

Another characteristic of emerging economies is the macroeconomic environment, which is more volatile compared to that of developed countries. Whereas economic cycles in developed countries are generally smooth and predictable, those in emerging markets are more intense, more frequent, and usually followed by severe crisis.[1] For example, in a study of 33 contraction episodes in 31 emerging economies during the period 1980 to 2004, Calvo *et al.* (2006) found that one-third of the episodes corresponded to mild recessions, while two-thirds qualified as genuine collapses (10% decline in GDP per country in a year, followed by a quick recovery). In addition, these crises represented important changes in relative prices of production factors and products: external and domestic credit is absent while real wages

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[1] The global crisis that affected developed countries in 2008 also generated severe GDP contractions, causing the developed world to experience conditions very similar to what we define as *sudden stop*. However, there is still an important difference in frequency. For example, the last sudden-stop situation in the U.S. occurred in 1929, whereas countries such as Argentina or Brazil have faced at least three sudden-stop crises in the period from 1990 to 2006.

and consumption remain depressed as the economy bounces back to full recovery. These changes in relative prices may have substantial effects on a firm's original sources of competitive advantage, affecting cost and quality competition.

Summarizing, the existence of institutional risks and sharp macroeconomic volatility can create external shocks and a chaotic environment that will shorten the exploitation period or create new conditions favoring counterattacks. The difficulties firms face in achieving PSEP may not solely be the consequence of a hypercompetitive industry, but also of a hypercompetitive context. Therefore:

> *Hypothesis 1a (H1a): When considering an emerging economy context, no firm will achieve PSEP in an industry.*

Competition inhibitors in emerging economies

The effect of the institutional context on PSEP in emerging economies is not clear, since firms simultaneously face the risk of expropriation and the opportunity to pursue unconventional nonmarket strategies. In such a context, the ability to manage institutional idiosyncrasies prevails over other advantages, such as technology or marketing (Cuervo-Cazurra and Genc, 2008; Henisz, 2003; Vernon, 1971), which may then lead to higher persistence in performance.

In fact, several authors have described emerging economies as environments where institutional weaknesses diminish imitative and competitive pressures. Chacar and Vissa (2005) consider the fact that collusion is easier in emerging economies because of less well-developed antitrust regulation and greater industry concentration. Also, the paucity of *de novo* imitators makes entry for new firms difficult because of inefficient information markets, flawed contract enforcement laws, and incumbents' use of political power or market control. Tybout (2000) argues that in emerging economies, certain firms are able to raise barriers through both collusive behavior and failure of institutional actions to prevent such behavior. When the institutional environment dampens competitive and imitative pressures, competition based on barriers to protect strongholds is easer and superior performance will persist longer.

Entrenchment is one of the most salient practices local firms apply to deal with adverse institutional

environments. The literature on entrenchment indicates that in most emerging countries large corporations tend to be controlled by very wealthy, local families (La Porta, Lopez-de-Silanes, and Shleifer, 1999; Morck, *et al.*, 2005), known as *chaebols* in Korea or *grupos* in Latin America. This group structure represents several advantages for firms acting in economies with poorly functioning markets and weak institutions (Khanna and Palepu, 2000; Khanna and Rivkin, 2001). Group structure allows owners to control critical factors and mitigate factors' market friction; hence, well-established families become especially desirable as business partners. In addition, institutional weakness creates frictions in factor markets, increasing transaction costs for firms with single business structures (Hoskisson *et al.*, 2000: Khanna and Palepu 1997; 2000). This situation makes market entry more difficult and slows down competition dynamics in the four arenas that would otherwise erode abnormal economic returns over time. Therefore:

> *Hypothesis 1b (H1b): When considering an emerging economy context, at least a few firms will achieve PSEP in an industry.*

Moving toward hypercompetition

Hypercompetition is a relatively new phenomenon, having emerged during the late 1980s and early 1990s (Thomas, 1996; Thomas and D'Aveni, 2004). Hypercompetition refers not only to the existence of hypercompetitive industries, but also to the presence of a hypercompetitive shift, which makes it more difficult for firms to sustain their strategic advantage over their competitors (Thomas, 1996; Wiggins and Ruefli, 2005). Particularly important for emerging economies is the claim that hypercompetition represents both the consequence of the speed of technological change and the result of changes in the institutional context, such as government deregulation that enhances competition or lower tariffs and transaction costs that enable the entry of foreign competitors (Thomas and D'Aveni, 2004). These changes, coupled with an increase in globalization, will increase competitive intensity in terms of new players, faster investment, and launch of initiatives. Consequently, firms will find it increasingly difficult to sustain SEP, with advantage duration progressively retracting. Therefore:

> *Hypothesis 2 (H2): When considering an emerging economy context, periods of SEP will decrease in duration over time.*

Institutions can experience important changes over time (Xia, Boal, and Delios, 2009). This development favors higher levels of rivalry, opening the path to hypercompetition in various ways through the four arenas of competition.

1) Price-quality competition: institutional development favors the entrance of new players with new value propositions, enhancing competitive interactions and rivalry. In less-developed institutional contexts, bureaucracy inhibits the creation of new businesses and makes it difficult to obtain licenses and authorize changes to products and services (Djankov *et al.*, 2002). As market institutions develop, contract enforcement improves and transaction costs and information asymmetries diminish (Khanna and Palepu, 1997), facilitating more entrepreneurial strategies that erode incumbents' price- or quality-based competitive advantages.

2) Know-how and timing competition: the consolidation of an independent central bank and improvements in legal protection to investors are crucial to develop a long-term venture capital market, which is necessary to finance private technology and knowledge generation. Enhanced intellectual property rights not only encourage local investment in technology and knowledge, but also favor technology transfers from foreign firms to local subsidiaries. Therefore, as institutions develop, it becomes easier for competitors to replicate an opponent's asset or knowledge advantage, enhancing competition in the know-how arena.

3) Strongholds competition: institutional development also erodes the advantages of strongholds competition. Improvements in factor markets and reduction of transaction costs will decrease advantages from vertical integration and group formation and, consequently, reduce barriers created by capital requirements and scale economies. Larger and more sophisticated capital markets curtail advantages of an entrenchment strategy, since capital markets are usually more efficient than economic groups in assigning resources (Khanna and Palepu, 2000). The creation of independent regulatory agencies reduces opportunities for collusion and unfair

competitive practices, encouraging more investment and more entries into a national market (Peng, 2003). As more stable and democratic political institutions attract high levels of foreign direct investments (Ahlquist, 2006; Globerman and Shapiro, 2003; Bénassy-Quéré, Coupet, and Mayer, 2007), strongholds through barriers are difficult to maintain.

4) Deep pockets competition: institutional development will play a fundamental role in developing rules and agencies that prevent large and powerful firms from abusing their deep pocket advantages. The creation of independent and efficient regulatory agencies together with the development of an independent judiciary system is essential to apply anticompetitive controls. Since corruption and inefficiency of the judicial system is stronger for smaller firms (Gledson de Carvalho, 2008), the development of the institutional context will erode advantages obtained from deep pockets competition.

Overall, institutional development produces a shift in sources of competitive advantage: the importance of institution-based strategies decreases and the importance of resource-based strategies increases (Hoskisson *et al.*, 2000). These changes increase rivalry and the speed of competitive interactions. Therefore:

Hypothesis 3 (H3): When considering an emerging economy context, the development of the institutional context causes periods of SEP to decrease in duration.

The observed increase in globalization (Ghemawat, 2003; Knetter and Slaughter, 1998) reinforces this process, altering the analysis of PSEP depending on the type of company: domestic companies, companies from an emerging region with a presence in other emerging countries (multicountry firms), and MNC subsidiaries.

MNC subsidiaries enjoy several advantages over domestic companies. They can access global financial markets, granting them better liquidity positions and providing a clear advantage during crises, since sudden stops represent severe liquidity constraints within a country. As industries become more global, MNCs can attain competitive advantages by developing a unique set of resources and capabilities in one country and exploiting this advantage in other countries (Anand and Delios,

2002; Caves, 1996; Morck and Yeung, 1991). However, local competitors have institutionally based strategy advantages. They are better able to lobby local political and legal officials as well as maneuver around legal loopholes than are MNCs from developed countries. In addition, local companies face fewer internal restrictions when dealing with local governments. Entrenchment, for example, is possible only for domestic and multicountry companies, not for MNC subsidiaries.

In general, MNCs have advantages in resource-based strategies, while local companies have advantages in institution-based strategies (Guillén and García-Canal 2009). Multicountry firms fall somewhere in between MNC subsidiaries and domestic companies. MNC subsidiaries and multicountry firms are better prepared to resist the hypercompetitive shift generated by institutional development and globalization where resource-based strategies are more important. Therefore,

Hypothesis 4 (H4): When considering an emerging economy context under a hypercompetitive shift, the hazard of exiting SEP is higher for domestic companies than for multicountry firms and MNC subsidiaries.

METHODS

We selected Latin America because all countries represent emerging economies (Hoskisson, *et al.*, 2000) and have faced multiple macroeconomic crises in recent decades (Calvo *et al.*, 2006). In addition, it is a region generally unexplored in the strategic management literature, thus creating an opportunity to present evidence from a relatively new sample. This shortage of studies on Latin America, however, is not in keeping with the relative importance of the region. It is the second most important emerging region in the world after Southeast Asia, with an aggregated GDP about the same size as China's, and three times larger than India's. Brazil represents the second largest capital market among emerging economies after China (The World Bank, 2008). We include information from the seven largest Latin American countries: Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela. Together, they represent approximately 80 percent of total economic activity in the region.

Data and sample

We gathered accounting information (i.e., Return on Assets [ROA]) from *Economatica*, the most complete database that includes information on Latin American companies that publicly trade stocks or bonds and contains historical financial data, such as quarterly and annual statements and daily stock prices, dividends, and splits. We defined industries using the North America Industrial Classification System (NAICS), which is similar to, but more recent and accurate than, the SIC (McGahan and Victer, 2010). We used a level of aggregation varying between the equivalent of a two-digit SIC code (seven industries), a three-digit SIC code (nine industries), and a four-digit SIC code (four industries).[2] Each firm was categorized as a MNC subsidiary, regional multicountry, or domestic, principally using information reported by the United Nations Conference on Trade and Development (UNCTAD) and the Economic Commission for Latin America and the Caribbean. We complemented our analysis from other sources: América Economía Intelligence (2008), Forbes 2,000 (2003, 2004, 2005, 2006, 2007), and BCG (2007).

Emerging economies represent an important empirical challenge in relation to sample size, since capital markets are recent creations and are less developed. Furthermore, because emerging economies are smaller, the number of firms in each industry is significantly lower than in developed economies. To address this limitation, we first consolidated similar industries from different countries into one homogeneous group and established PSEP by comparing a single firm's ROA at the country level to the ROA at the country level for all the companies in the same industry throughout the region. We unified industries based on the degree of similarity existing between Latin American countries (Hoskisson *et al.*, 2000) and on the fact that global institutional investors usually consider the region as a single unit (Roubini and Setser, 2004). Second, we analyzed countries separately in those cases where sufficient degrees of freedom were available by following the traditional method of comparing ROA at the country level to ROAs from other firms in the same industry in the same country. Results were similar in both cases.

We selected the period 1990 to 2006 because it was not possible to obtain a large enough sample for years preceding 1990. The privatization wave and the foreign capital flow deregulation initiated at the beginning of the 1990s increased the number of public firms, critically enhancing sample size. The original data set included 13,144 observations for 21 industries in seven countries. However, we were compelled to reduce sample size in order to satisfy several requirements. Firms that did not provide four out of five years of information for any five-year period were excluded. One industry was eliminated for lack of adequate specification ('Others' in *Economatica*). Additionally, analysis was restricted to industries fulfilling two conditions: a minimum of at least 10 companies representing the sector per year and at least 10 companies with 10 consecutive years of information at the regional level. After these adjustments, the sample size dropped to 8,161 observations in 1,084 firms, corresponding to 20 industries in seven countries (see Table 1).[3] Most companies in the final sample were domestic (91%), followed by multicountry companies (5%) and MNC subsidiaries (4%).

Additional sample controls

Since the variance of return is affected by company diversification (Milgrom and Roberts, 1992), the presence of diversified firms in two or more industries could eventually generate biased results. Thus, we compared results from the full sample analysis to those obtained from a restricted sample excluding diversified firms. Results from both were statistically equivalent, indicating that diversified firm presence in the sample did not introduce a bias.

The sample is unbalanced because some companies entered or quit within the period under analysis. Firms that quit the sample could have been bad performers who retired from the market or went bankrupt, a situation that could generate a potential attrition bias in the results. We analyzed the sample and found that 22 percent of the companies that quit had performed poorly the

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[2] For ease of exposition, we use the concepts *industry* and *economic sector* interchangeably.

[3] At the country level of analysis, we obtained 572 observations from 21 industries: nine belonging to Brazil, seven to Chile, two to Mexico, and three to Peru; none from Argentina, Colombia, or Venezuela remained in the analysis.

Table 1.   Sample size by region and country

Sector	Latin America	Argentina	Brazil	Chile	Colombia	Mexico	Peru	Venezuela
1 Agriculture & fishing	48	5	4	21	3	4	11	0
2 Food & beverages	104	7	34	16	3	23	19	2
3 Retail trade	78	2	20	17	3	34	2	0
4 Construction	37	3	18	2	0	11	3	0
5 Electrical & electronic	25	1	17	2	0	2	3	0
6 Electric energy	84	7	43	23	1	0	8	2
7 Finance & insurance	147	9	52	19	17	16	18	16
8 Investment funds	43	0	0	37	1	0	5	0
9 Real estate	25	0	2	21	0	0	0	2
10 Industrial machinery	20	1	10	0	0	4	5	0
11 Nonmetallic minerals	37	4	8	6	2	8	6	3
12 Mining	38	0	5	8	2	4	18	1
13 Paper & cellulose	22	3	12	2	1	3	0	1
14 Petroleum & gas	30	13	9	2	2	2	1	1
15 Chemical	70	6	37	9	0	8	8	2
16 Iron, steel, & metallurgic	79	5	47	7	2	9	7	2
17 Telecommunications	68	5	44	9	0	6	3	1
18 Textile	62	4	33	5	2	6	10	2
19 Transportation service	33	4	15	8	1	5	0	0
20 Vehicles & parts	34	4	25	0	0	4	1	0
Total	1,084	83	435	214	40	149	128	35

year before quitting.[4] This percentage of bad performers was almost identical across the sample, initially indicating the absence of an attrition problem. It has been argued that a better predictor of bankruptcy in emerging economies is liquidity (Love, Preve, and Sarria-Allende, 2007). We found that only 3 percent of the companies that quit the sample experienced liquidity problems the year before, confirming that no significant attrition problem exists.

Analysis of levels of PSEP (H1a and H1b)

We defined economic performance as ROA and tested for the existence of PSEP following a nonparametric approach (H1a and H1b). SEP was operationalized as statistically significant above average ROA (relative to other firms in the same industry) over a five-year period, using the iterative Kolmogorov-Smirnov (IKS) approach. A rolling five-year window allowed us to create 13 consecutive five-year periods in every industry and 13 distributions of returns for each firm for 17 years of data.

The IKS approach is a nonparametric technique that compares two accumulated distributions to determine if they are statistically different (see Ruefli and Wiggins, 2000, for a detailed explanation). Through this procedure, we obtained performance strata that were naturally ordered from high to poor. In each period, the number of performance strata was compressed to three for each industry: (1) one with superior performance firms, (2) a modal stratum, and (3) one with inferior performance firms. Even though strata varied in size with time, variations remained stable, with the modal stratum representing approximately 60 percent of the total sample and the above modal stratum ranging from 20 percent to 24 percent. Similar to Wiggins and Ruefli (2002), we considered that a firm had PSEP if it presented six consecutive windows (10 years) or more of superior performance.

Analysis of the rate of change in PSEP (H2, H3, and H4)

Dependent variable

Following Wiggins and Ruefli (2005), we defined exit SEP as equal to 1 when a firm exited the superior stratum and 0 otherwise.

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[4] A firm is considered to be a bad performer when it belongs to the below modal stratum, which is defined later.

Main covariates

We examined changes in the rate at which firms exited the SEP stratum over time with the independent variable, period.

We created an institutional development index to evaluate the effect of the institutional context on the probability of exiting the superior performance stratum. Following Chan *et al.* (2008), we derived the index from 11 variables chosen to reflect different aspects of economic, political, and social institutional development.[5] Three variables address economic institutions: (1) per capita gross domestic product, (2) distribution infrastructure, and (3) financial resources. The existence of higher income levels and good access to credit and infrastructure increases innovation and consumer bargaining power and sophistication, favoring higher levels of rivalry in the economy. Four variables address political institutions: (4) intellectual property rights, (5) legal and regulatory framework, (6) bureaucracy quality, and (7) adaptability of government policies to changes in the context. We expect the rise of hypercompetition in contexts in which intellectual property rights are adequately enforced, the legal system encourages enterprise competitiveness, bureaucracy does not hinder business activity, and policies are efficiently adapted to the new business realities. Finally, four variables address social institutions: (8) justice, (9) personal security, (10) bribing and corruption, and (11) civil liberties. We expect that in societies in which justice is fairly administered, people and properties are protected, bribing and corruption are rare, and civil liberties are guaranteed, companies will increment their investment levels and commitments, favoring a context for the rise of hypercompetition.

The first variable was measured in constant dollars, base year 2000, and obtained from *Cepalstat*. Variables 2 to 10 were measured following a Likert-scale from 0 to 10 and information was gathered from the *World Competitiveness Yearbook* 1995–2006. The civil liberties variable was measured using a Likert-scale from 1 to 7 and the information was obtained from *Freedom House*. We combined the 11 variables using principal component analysis. The items loaded significantly on one factor that explained around 80 percent of

the variance. Assuming this component to be representative of institutional development, we used its scores as our index. Information was available from 1995 to 2006 only.[6]

We addressed the impact of type of company on SEP by introducing two dummy variables that indicate whether companies are multicountry or MNC subsidiaries. We defined the latter as firms with headquarters outside the region; multicountry firms were defined as those with headquarters in the region and a presence in two or more countries, regardless of the legal form or field of activities (UNCTAD, 1999).

Control variables

We used a dummy variable to control for industry effect (Wiggins and Ruefli, 2005). This is an extremely important control since different industries possess various characteristics, including level of globalization. We controlled for country effect using two variables: a dummy variable for each country and GDP growth. This second variable is significant, since the presence of a local economic growth cycle might favor sustainability for firms in a given country. The source of information was the International Monetary Fund. Because company size may favor nonmarket strategies and bias sustainability results (Morck, *et al.*, 2005), we controlled for this potential effect by *including the natural logarithm of sales*. In a region where financial institutions are underdeveloped, solvency problems might explain sustainability (Love *et al.*, 2007). To control for this effect, we included the variables liabilities to assets and bank debt to equity. For all the continuous variables, we computed the value for each period by taking the average of the five-year window.

Econometric analysis

We selected event history analysis, since the hazard function $\lambda(t)$ provides a convenient definition of duration dependence (Kiefer, 1988). We

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[5] Chan *et al.* (2008) used 12 variables. We could not include the variable *economic conditions* due to missing information for several countries.

[6] Unfortunately, information on distribution infrastructure and legal and regulatory framework was unavailable for 1995 and 1995–1996, respectively. In those cases the index is derived from 10 (1996) and nine (1995) variables. Also, we excluded Peru from analysis since information was not available.

Table 2.   Percentage of firms with PSEP—Latin America

Sector	N	Mean ROA %	Std ROA %	Total number of PSEP firms	% of PSEP firms
1 Agriculture & fishing	48	1.5	10.0	1	2.1
2 Food & beverages	104	2.5	9.5	11	10.6
3 Retail trade	78	4.1	9.6	13	16.7
4 Construction	37	1.0	9.6	1	2.7
5 Electronic	25	−0.2	12.1	1	4.0
6 Electric energy	84	4.0	8.9	12	14.3
7 Finance & insurance	147	2.2	7.3	19	12.9
8 Investment funds	43	9.6	13.6	8	18.6
9 Real estate	25	1.2	11.9	2	8.0
10 Industrial machinery	20	0.4	12.5	2	10.0
11 Nonmetallic minerals	37	5.8	7.8	5	13.5
12 Mining	38	3.6	13.6	1	2.6
13 Paper & cellulose	22	1.1	8.9	2	9.1
14 Petroleum & gas	30	3.5	9.7	6	20.0
15 Chemical	70	1.9	10.2	6	8.6
16 Steel & metallurgic	79	−0.2	12.4	5	6.3
17 Telecommunications	68	3.4	10.0	4	5.9
18 Textile	62	−2.2	12.6	4	6.5
19 Transportation service	33	0.8	12.2	3	9.1
20 Vehicles & parts	34	−3.7	15.4	3	8.8
Total/average[1]	1,084	2.2	10.9	109	10.1

[1] Columns with absolute values report totals and columns with percentages report averages.

estimated the hazard function using a fully parametric model and selected the log-normal distribution based on the Akaike Information Criterion (Akaike, 1974).

EMPIRICAL RESULTS

To test H1a and H1b, we examined whether any firm remained in the superior performance stratum for at least 10 years. In Table 2, the first four columns indicate industries, number of firms, ROA means, and standard deviations, respectively; the last two columns report the number and percentage of firms attaining PSEP. Averages for Latin America show that 10.1 percent of companies achieved sustainability of abnormal returns; for all 20 industries analyzed, at least one firm achieved PSEP. Based on these findings, *we reject H1a and support H1b.*

When possible, we carried out the same analysis at the country level (tables not reported here) and found that, on average, 8.5 percent of companies achieved PSEP within their industries in Brazil, 16.2 percent in Chile, 15.8 percent in Mexico, and 10.9 percent in Peru. Overall, 19 out of 21 sectors contain companies that achieved PSEP.

Therefore, we feel confident rejecting H1a and supporting H1b.

We further explored the levels of PSEP in three populations: domestic, multicountry, and MNC subsidiaries. Table 3 reports results at the regional level. The last row indicates that local companies represent 91 percent of the total, but 87 percent of the PSEP population; multicountry firms 5 percent of the total, but 8 percent of the PSEP population; and MNC subsidiaries 4 percent of the total, but 5 percent of the PSEP population. To determine whether these differences were statistically significant, we applied a z-test of proportions and found that the proportion of multicountry firms achieving PSEP was significantly greater than that of domestic firms ($p < 0.10$); we did not find significant differences between multicountry firms and MNC subsidiaries. Therefore, evidence indicates that PSEP depends on the type of company.

Next, we explored whether the pattern of persistence has changed in recent years. Table 4 reports Pearson correlation coefficients. Because the information described is complex given the large number of variables, we report the coefficients for all variables except industry and

Table 3. Percentage of firms with PSEP—Latin America by type of firms

Sector	Domestic firms				Multicountry Firms				MNC subsidiaries			
	N	Mean ROA %	Std ROA %	N of PSEP firms	N	Mean ROA %	Std ROA %	N of PSEP firms	N	Mean ROA %	Std ROA %	N of PSEP firms
1 Agriculture & fishing	48	1.5	10.0	1	0				0			
2 Food & beverages	84	2.0	10.1	8	18	4.6	6.1	3	2	−0.3	8.9	0
3 Retail trade	74	4.0	9.8	12	1	7.8	2.1	0	3	6.1	5.7	1
4 Construction	36	1.0	9.7	1	1	1.4	2.4	0	0			
5 Electronic	20	−1.3	12.5	0	0				5	4.7	8.8	1
6 Electric energy	83	4.0	8.9	12	1	2.4	1.2	0	0			
7 Finance & insurance	132	2.3	7.6	17	2	4.2	2.5	1	13	1.0	3.9	1
8 Investment funds	43	9.6	13.6	8	0				0			
9 Real estate	25	1.2	11.9	2	0				0			
10 Industrial machinery	19	−0.3	12.5	1	1	9.5	5.9	1	0			
11 Nonmetallic minerals	32	5.7	8.0	4	4	4.7	5.4	0	1	13.4	6.9	1
12 Mining	36	3.4	14.0	1	2	6.0	5.9	0	0			
13 Paper & cellulose	19	−0.1	8.9	1	2	4.2	5.8	0	1	12.3	2.3	1
14 Petroleum & gas	25	3.2	10.2	5	5	4.7	6.2	1	0			
15 Chemical	67	1.8	10.4	6	2	0.7	5.2	0	1	5.7	4.3	0
16 Steel & metallurgic	71	−0.6	12.8	4	6	3.8	6.2	1	2	−3.8	6.5	0
17 Telecommunications	57	3.6	9.9	3	2	11.1	5.0	1	9	0.6	10.3	0
18 Textile	60	−2.5	12.7	4	2	4.4	4.0	0	0			
19 Transportation service	31	0.6	12.6	3	2	3.4	3.9	0	0			
20 Vehicles & parts	27	−4.9	15.7	2	5	1.9	13.4	1	2	1.5	2.1	0
Total/Average[1]	989	2.0	11.2	95	56	4.4	6.8	9	39	2.7	7.8	5
% of total Latin America	91%			87%	5%			8%	4%			5%

[1] Columns with absolute values report totals and columns with percentages report averages.

country dummies. Correlation coefficients were either insignificant or low.[7]

Table 5 shows the estimation of the hazard of exiting the persistent superior performance stratum. Model 1 represents a regression analysis including only the control variables and Model 2 includes the covariate, period. The coefficient of period is positive ($\beta = 0.063$) and significant ($p < 0.01$). The log-likelihood ratio test comparing Model 2 to Model 1 indicates that the addition of this variable provides significant explanatory power ($p < 0.05$). Therefore, we *support H2,* which proposes that periods of SEP decrease in duration over time.

Model 3 includes the variable institutional developments. The coefficient is positive ($\beta = 0.421$) and significant ($p < 0.001$). The log-likelihood ratio test comparing Model 3 to Model 1 indicates

that the addition of this variable provides significant explanatory power ($p < 0.001$). Therefore, we *support H3,* which proposes that the development of the institutional context leads to periods of SEP that decrease in duration.

We found the existence of a hypercompetitive shift in Latin America and a positive relationship between this phenomenon and improvements in the institutional context. Given this evidence, we can test Hypothesis 4, which proposes that remaining in the SEP stratum is more difficult for domestic than for multicountry firms and MNC subsidiaries. To do so, we included the dummy variables multicountry and MNC subsidiary (Model 4). The multicountry coefficient was nonsignificant, which indicates that there are no differences between domestic and multicountry firms. Instead, the coefficient of MNC subsidiary was negative and significant ($p < 0.05$). Therefore, we *partially support H4.*

Model 5, which incorporates all the main covariates and control variables, confirms previous findings.

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[7] The only exception was a significant and negative correlation between period and GDP growth ($−0.47$). To address potential multicollinearity problems, we ran different models excluding the GDP growth variable; results indicate no significant changes.

Table 4. Pair-wise correlation coefficients

Variable	1	2	3	4	5	6	7	8	Mean	Std	Min	Max
1 Exit SEP	1.00								0.03	0.18	0	1
2 Period	0.01	1.00							6.89	3.12	1	12
	0.37											
3 Institutional Development	0.02†	0.18***	1.00						0.26	0.64	−1.04	2.01
	0.10	0.00										
4 Multicountry	0.00	0.00	0.00*	1.00					0.03	0.13	0	1
	0.96	0.87	0.79									
5 MNC subsidiary	0.01	−0.02†	−0.03	−0.03**	1.00				0.03	0.16	0	1
	0.35	0.09	0.01	0.01								
6 Log assets*	0.02	0.01	−0.17***	0.04**	−0.00	1.00						
	0.12	0.64	0.00	0.00	0.79							
7 Liabilities/assets	−0.01	0.05***	−0.01	−0.00	−0.01	−0.05***	1.00		0.71	6.16	−0.08	313.12
	0.41	0.00	0.59	0.74	0.45	0.00						
8 Bank debt/equity	−0.00	0.01	−0.00	0.01	0.00	0.05***	−0.00	1.00	1.22	17.90	−1070.8	568.73
	0.94	0.61	0.83	0.46	0.77	0.00	0.76					
9 GDP growth	0.04**	−0.47***	0.13***	−0.01	0.03*	−0.19***	−0.03*	−0.00	3.26	2.19	−12.2	17.83
	0.00	0.00	0.00	0.56	0.02	0.00	0.01	0.83				

Standard errors appear beneath coefficient estimates.
† $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$
* Descriptive values of log assets are not reported due to currency differences among countries.

DISCUSSION AND CONCLUSION

We theoretically explore whether and why competitive advantages are becoming less sustainable in emerging economies. The focus of the analysis was the institutional context, and we examined the mechanisms by which institutions affect competitive behavior in four different strategic arenas. The relationship between the institutional context and competitive advantages is complex; while some mechanisms favor sustainability of competitive advantages, others inhibit or severely condition such sustainability. We disentangle these mechanisms and establish alternative competitive

Table 5. Maximum likelihood estimates of superior performance exit

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Period		0.063**			0.046†
		0.024			0.026
Institutional development			0.421***		0.268†
			0.086		0.144
Multicountry				−0.139	−0.158
				0.259	0.254
MNC subsidiary				−0.508*	−0.531†
				0.292	0.301
Log assets	−0.041	−0.021	−0.047	−0.007	−0.002
	0.081	0.082	0.075	0.080	0.081
Liabilities/assets	−0.672**	−0.642**	−0.667	−0.605*	−0.645*
	0.262	0.269	0.244	0.263	0.268
Bank debt/equity	−0.002	−0.002	−0.002	−0.002	−0.002
	0.004	0.004	0.004	0.003	0.004
GDP growth	−0.098***	−0.044	−0.008	−0.043	−0.013
	0.030	0.034	0.019	0.033	0.033
Agriculture & fishing	−0.817***	−0.838***	−0.780***	−0.868***	−0.894***
	0.223	0.224	0.220	0.224	0.223
Food & beverages	−0.383*	−0.403*	−0.306†	−0.397*	−0.382*
	0.195	0.192	0.188	0.192	0.190
Retail trade	0.152	0.088	0.198	0.094	0.095
	0.267	0.267	0.265	0.266	0.261
Construction	0.075	0.019	−0.155	−0.003	−0.214
	0.265	0.263	0.262	0.263	0.248
Electrical & electronic	−0.209	−0.234	−0.237	−0.253	−0.234
	0.297	0.278	0.320	0.274	0.273
Electric energy	−0.172	−0.277	−0.052	−0.301	−0.209
	0.225	0.226	0.228	0.224	0.233
Finance & insurance	0.425†	0.361	0.375	0.347	0.389
	0.249	0.256	0.232	0.252	0.254
Investment funds	−0.326	−0.406	−0.271	−0.405	−0.387
	0.285	0.283	0.283	0.272	0.270
Real estate	−0.076	−0.114	0.275	−0.135	0.208
	0.319	0.314	0.220	0.314	0.236
Nonmetallic minerals	0.211	0.136	−0.434	0.152	−0.519
	0.235	0.232	0.300	0.234	0.326
Mining	−0.417	−0.532†	0.091	−0.523	−0.036
	0.313	0.321	0.372	0.329	0.365
Paper & cellulose	0.042	−0.008	−0.050	−0.049	−0.108
	0.319	0.328	0.379	0.330	0.379
Petroleum & gas	−0.014	−0.135	−0.133	−0.164	−0.144
	0.371	0.384	0.375	0.382	0.322
Chemical	−0.500*	−0.510*	−0.505*	−0.532**	−0.518**
	0.209	0.209	0.204	0.210	0.201
Iron, steel, & metallurgic	0.125	0.124	0.109	0.101	0.103
	0.240	0.230	0.232	0.230	0.223

Table 5.   (*Continued*)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Telecommunications	0.556	0.456	0.575	0.406	0.398
	0.403	0.396	0.414	0.394	0.396
Textile	0.126	0.024	−0.080	0.031	−0.012
	0.296	0.290	0.261	0.296	0.287
Transportation service	−0.837***	−0.939***	−0.816***	−0.971***	−0.932***
	0.235	0.251	0.234	0.247	0.248
Vehicles & parts	0.540	0.500	0.419	0.483	0.504
	0.356	0.349	0.344	0.348	0.342
Argentina	0.102	0.143		0.050	0.175
	0.345	0.297		0.321	0.355
Brazil	0.464	0.457†		0.366	0.141
	0.319	0.261		0.287	0.257
Chile	1.200***	1.104***		1.044***	0.542†
	0.347	0.269		0.283	0.321
Colombia	0.155	0.145		0.040	−0.001
	0.376	0.334		0.354	0.316
Mexico	0.688*	0.589*		0.513†	0.387
	0.339	0.282		0.301	0.261
Peru	0.647†	0.560*			
	0.339	0.280			
Constant	1.859***	1.205*	2.166***	1.218*	1.411*
	0.531	0.561	0.429	0.572	0.561
Wald chi-square	118.49***	137.83***	110.14***	142.98***	138.27***
Log pseudolikelihood	−544.20	−542.10	−531.22	−541.081	−527.62
Log-likelihood ratio test		4.17*	42.00***	2.05	33.19***
No. of failures	252	252	244	252	244

Standard errors appear beneath parameter estimates.
† $p < 0.1$; * $p < 0.05$; ** *** $p < 0.01$; *** $p < 0.001$.

hypotheses regarding the effect of the institutional context on competitive advantages. We suggest that, as the institutional context develops, competitive dynamics increase and firms migrate from institutional-based to resource-based strategies, favoring the emergence of a hypercompetitive environment.

Our observations of higher levels of PSEP in Latin America, when compared to similar studies carried out in the U.S. (Wiggins and Ruefli, 2002), provide evidence that competition is less intense in emerging economies. However, empirical analysis also indicates the existence of a hypercompetitive shift in the last decades. Particularly significant is the result indicating that the development of the institutional context accelerates firms' rate of exit from the SEP stratum. Because these findings are consistent with the existence of a hypercompetitive shift in emerging economies triggered by changes in the institutional context, our manuscript is an important factor in explaining whether and why

competitive advantages are becoming less sustainable in emerging economies.

These empirical findings support the proposition that institutional development increases firms' dependency on transitory advantages in two ways: (1) eliminating institutional advantages that are a stable source of competitive advantages and (2) favoring an acceleration and intensification of competitive interactions among firms. The institutional development process creates a shifting environment, which introduces discontinuities and renders obsolete specific knowledge and capabilities to deal with a poor institutional environment. Firms become more dependent on other sources of competitive advantages, such as technology or market positioning, that may be subject to more dynamic interactions and erosion.

Several caveats apply to the interpretation of our findings. Since geographic diversification was not adequately captured, measuring performance at the country level might have produced biased results

(a limitation in previous studies addressing PSEP). Although we partially solved the problem by analyzing PSEP according to type of company, we acknowledge this as a crude measure of diversification. In addition, companies included in this sample were all large corporations. Since small and medium enterprises (SMEs) do not usually trade stocks and bonds publicly in Latin America, caution is advised when extrapolating these results to SMEs. Also, our results are deeply embedded in the Latin American context and do not necessarily apply to other emerging regions.

We proposed the existence of PSEP in emerging economies based on factors that inhibit competition. However, there is an alternative explanation for the existence of PSEP in emerging economies: the presence of a dynamic capability to adapt to rapidly changing, adverse environments that would prove valuable under particular conditions of radical change caused by institutional or macroeconomic shocks. Therefore, it is the task of future research to verify the existence of this capability and its impact on PSEP.

The empirical findings highlight important differences on PSEP levels in the different counties. For example, Chile is the country with the highest level of PSEP. This seems to indicate lower levels of rivalry and hypercompetition. However, Chile also shows a significant fall of PSEP, having the strongest move toward hypercompetition in the sample. This dynamism is consistent with the fact that Chile is the country that implemented the most important institutional reforms from 1990 to 2006. That is, it is not surprising to find a more accelerated rate of shift toward hypercompetition in Chile than in the rest of the region. However, there is a need to further disentangle the specific mechanisms connecting different aspects of the institutional context with hypercompetition. For example, which elements of institutional context are more significant in favoring the existence of temporary advantages? Additionally, is institutional development mainly eroding nonmarket advantages of privilege groups or is it creating business opportunities for new entrants that allow them to catch up with leaders through market mechanisms that compensate nonmarket advantages? Answering these questions requires precise theoretical articulations and presents important empirical challenges. An important challenge is the fact that institutional variables are highly correlated among them, making it difficult to empirically isolate the different effects.

In this vein, we observe that the same institutional and macroeconomic conditions have different effects on temporality of advantages depending on the industries under analysis. This phenomenon might reflect different industrial conditions, such as requirements for specific assets and capital investment or time to maturity of investments project (i.e., time exposure to the environment and flexibility of the business model). Future research should explore the mediating or moderating effect of industry characteristics in the relationship between institutional context and competitive advantages.

Finally, future empirical research should explore the relationship between institutions and hypercompetition in developed and emerging economies simultaneously. Therefore, our article is but one step in a larger agenda for understanding the competitive context not only in emerging economies, but also in developed ones.

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