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Diversification of Chinese companies: an international comparison

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Abstract

Purpose – The purpose of this paper is to provide a systematic comparison of the level of business diversification in China and eight other large economies for the 2001-2005 period. The reasons why publicly listed Chinese firms are more diversified than companies elsewhere are investigated.

Design/methodology/approach – Data were collected on the number of business segments in which publicly traded companies operate from the Thomson One Banker database and analyzed using non-parametric tests and regression analysis.

Findings – The mean number of business segments per firm varies significantly by country. Notably, there is no evidence in the authors' sample that emerging-market companies are systematically more diversified than their developed-market counterparts. In most countries, firms have become less diversified over time. However, there is no such trend in China. The level of diversification of Chinese enterprises does not vary over the authors' study period (2001-2005), making Chinese firms the most diversified in the sample by 2005. China's growth rate does not seem to explain the higher level of firm diversification. However, the authors find that Chinese state-owned enterprises (SOEs) diversify their operations more aggressively than other Chinese firms.

Research limitations/implications – Ownership data and business group affiliations were not available for all firms in the sample, making it difficult to control for these effects across economies. The study's findings are limited to publicly traded firms.

Practical implications – Government involvement in SOEs may be contributing to a divergence in the pattern of business diversification between China and other economies.

Originality/value – This paper quantifies anecdotal evidence that Chinese firms are more diversified than similar firms in other countries.

Keywords Diversification, Nationalization, China, Business development

Paper type Research paper

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Introduction

It is difficult to overestimate the importance of choosing the scope of the firm (Montgomery, 1994). Diversification is not only closely related to the competitive advantage and financial performance of companies (Rajan *et al.*, 2000; Villalonga, 2004a), the ease with which firms can enter new industries is arguably the most important determinant of the structural attractiveness of those industries (Bain, 1956; Porter, 1985). Many observers have argued that Chinese managers are particularly quick to diversify their enterprises (Roberts *et al.*, 1999; Li and Wong, 2003). Fueled by robust economic growth and the scant enforcement of intellectual property rights that could serve as barriers to entry, some analysts argue, Chinese companies are aggressively expanding into new industries whenever economic opportunities appear to beckon.

There is much anecdotal evidence to support this view. Consider the motorcycle industry as a prominent example (Aparna, 2005). In 2000, China had 26 significant producers of domestic motorcycles, and gross margins for these businesses typically exceeded 15 per cent. By 2005, the number of producers had increased to 128. Most late entrants produced modestly differentiated motorcycles that were largely derived from Japanese models. As a result, the prices of motorbikes started to decline, typically by about 5 per cent per year. Gross margins now hover below 5 per cent, leading to financial losses at many firms (Oberholzer-Gee *et al.*, 2006). The motorcycle industry is not an exception. Consider a fairly similar trend in the much more capital-intensive automobile sector (Thun, 2006; Huang, 2003; KPMG, 2005). In 2006, there were more than 100 Chinese automobile producers. These firms introduced 104 new models in 2005 alone. Currently, only five of China's 31 provinces do not have their own assembly plant. Western automotive experts generally believe that the minimum efficient scale for a car assembly plant is about 250,000 vehicles per year. The average in China stands at less than 15,000 units. And while demand for cars is growing at a fast pace, the price of sedans has declined from year to year, by more than 20 per cent in the 2003-2005 period. Fully 60 per cent of domestic car producers are estimated to operate at a loss.

The car industry also illustrates the link between diversification decisions and industry entry. Many car companies are not new firms. For example, Geely, a prominent private producer of automobiles, manufactured refrigerators, then decoration materials, and later motorcycle parts before taking up the production of automobiles. Similarly, Lifan, a recent entrant into car assembly, started out as a motorcycle company. In many instances, firms enter what appear to be rather unrelated industries. For example, Hunan Jinjian Cereals Industry Co. Ltd, China's first cereal producer to list on the Shanghai Stock Exchange, entered seven additional lines of business after its initial public offering. These included businesses as varied as pharmaceutical products, real estate, dairy production, electric power generation, and sewage control.

Because the Chinese economy is extraordinarily large and dynamic, it is difficult to know whether anecdotes such as these do in fact reflect an underlying trend toward greater diversification. In this paper, we provide systematic evidence about the scope of Chinese companies, and we compare the Chinese data to the evolution of firm scope in other economies. The remainder of this note is organized as follows. We discuss our data sources in the first section. The second section contains the main empirical results. The third section explores two possible explanations for the degree of diversification in China: greater economic opportunities and state ownership. The final section concludes.

Significance of corporate diversification

Management scholars are principally interested in corporate diversification because the horizontal scope of companies influences firms' financial performance. Economies of scope can result from shared input factors (Panzar and Willig, 1981) and from stronger ties with buyers (Chatain and Zemsky, 2007). As a result, theory predicts that superior performance will mainly result from related diversification (Bettis, 1981; Rumelt, 1974, 1982). There is a large empirical literature testing this prediction (Montgomery (1994) and Martin and Sayrak (2003) provide broad reviews. While some studies document a diversification discount (Lang and Stulz, 1994; Berger and Ofek, 1995; Servaes, 1996), these results appear to be due to selection effects (Campa and Kedia, 2002; Villalonga, 2004b) and biases in the measurement of relatedness (Claessens *et al.*, 2003; Villalonga, 2004a). The empirical literature on the subject has also shown that the optimal scope of firms varies with the institutional context. Companies operating in emerging markets often have broader scope in response to inefficiencies in input and output markets (Khanna and Palepu, 2000; Khanna and Rivkin, 2001). For example, in business environments that lack a well-functioning capital market, internal capital markets gain in relative importance.

Data sources

We collected data on all publicly traded companies listed on major stock exchanges in nine countries: Brazil (Sao Paolo), China (Shanghai, Shenzhen), France (Paris), Germany (Frankfurt, Dusseldorf), India (Bombay), Italy (Milan), Japan (Nagoya, Osaka, Tokyo), UK (London), and the USA (American, NASDAQ, New York SE). The source of our data are the Thomson One Banker database, which records four-digit SIC codes of up to ten business segments for each firm. We have data for the 2001-2005 period. We excluded American Depositary Receipts, firms without ISIN numbers, companies that did not report business segment data, and financial services firms.

Results

Summary statistics for our sample are reported in Table I. We observe 10,767 companies in 2001 and 12,427 companies in 2005, reflecting the substantial growth in the number of listed companies. There is significant variation in the mean number of business segments in which our firms are active. The number of segments ranges from 1.38 (USA in 2005) to 2.81 (China, 2004). In Figure 1, we plot the mean number of segments by country and year. Not surprisingly, USA firms are most focused. Even comparing USA companies to firms in the UK, we reject the hypothesis that in 2005 the two populations have the same mean (Mann-Whitney *U*-test (MW), $p < 0.000$) or the same distribution (Kolmogorov-Smirnov test (KS), $p < 0.000$). At the same time, UK firms are more focused than their counterparts on the European continent, while there is no significant difference between French and German companies.

As we mentioned above, there is a substantial literature which argues that emerging-market companies might be justified in having wider scope because market failures are more prevalent in these economies (Khanna and Palepu, 2000; Khanna and Rivkin, 2001; Lins and Servaes, 2002). This prediction is not borne out in our data. For example, by 2005, Indian companies are less diversified than French enterprises (MW $p < 0.000$; KS $p < 0.000$). One explanation could be that emerging-market corporations are diversified via membership in business groups and not at the level of the individual

Year	Obs.	Mean (SD)
China		
2001	987	2.70 (1.56)
2002	1,071	2.75 (1.66)
2003	1,136	2.80 (1.68)
2004	1,245	2.81 (1.69)
2005	1,252	2.80 (1.69)
Brazil		
2001	46	2.13 (1.26)
2002	64	2.44 (1.55)
2003	77	2.29 (1.35)
2004	90	2.12 (1.27)
2005	92	2.07 (1.19)
France		
2001	503	2.46 (1.22)
2002	549	2.35 (1.20)
2003	583	2.22 (1.16)
2004	588	2.15 (1.15)
2005	587	1.94 (1.10)
Germany		
2001	521	2.38 (1.21)
2002	562	2.15 (1.15)
2003	581	1.99 (1.07)
2004	593	1.91 (1.03)
2005	600	1.84 (1.01)
India		
2001	328	2.51 (1.55)
2002	367	1.97 (1.17)
2003	453	1.77 (1.01)
2004	539	1.68 (0.95)
2005	572	1.62 (0.90)
Italy		
2001	177	2.73 (1.42)
2002	200	2.60 (1.38)
2003	205	2.59 (1.39)
2004	207	2.55 (1.39)
2005	221	2.27 (1.19)
Japan		
2001	2,321	2.45 (1.14)
2002	2,436	2.44 (1.14)
2003	2,542	2.37 (1.13)
2004	2,658	2.32 (1.12)
2005	2,739	2.29 (1.11)
UK		
2001	961	1.74 (1.06)
2002	1,042	1.69 (1.04)
2003	1,114	1.64 (1.01)
2004	1,193	1.60 (0.96)
2005	1,250	1.55 (0.92)
USA		
2001	4,923	1.57 (0.86)
2002	5,070	1.50 (0.82)
2003	5,204	1.44 (0.79)
2004	5,189	1.41 (0.77)
2005	5,114	1.38 (0.74)

Table I.
Summary statistics

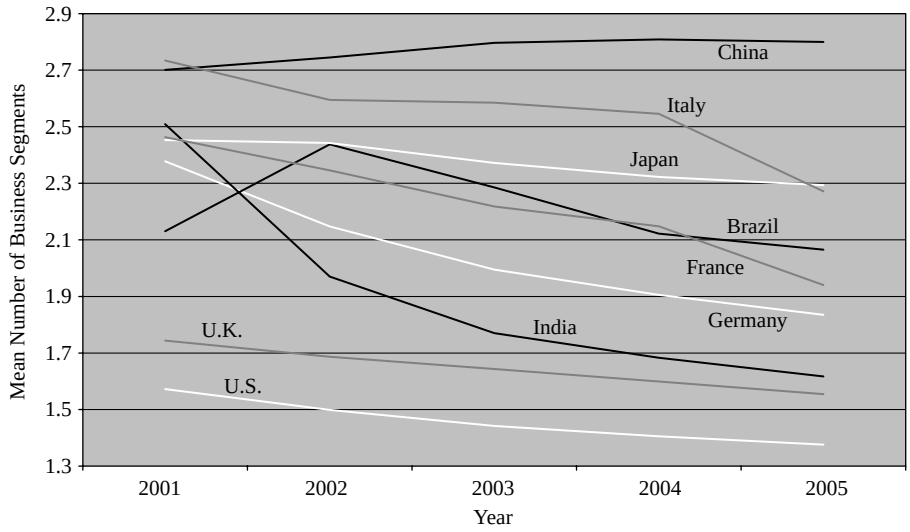

Figure 1.
Mean number of business segments by country, 2001-2005

business, which we observe in our data. A second possibility is that the patterns of diversification that we observe in our data are specific to publicly traded companies. For most countries in our sample, there is a discernible downward trend in diversification. An exception is Brazil whose distribution remains unchanged over time (KS $p = 0.999$).

As Figure 1 shows, China is an extraordinary case in this sample. Both the mean level of diversification and its distribution remain robust over time (MW $p = 0.305$; KS $p = 0.783$), leading to a situation at the end of our study period in which Chinese companies are significantly more diversified than all other firms in our sample.

Determinants of diversification

While a detailed examination of the determinants of diversification is outside the scope of this note, we can briefly address two possible causes. One argument is that Chinese firms face richer business opportunities than companies elsewhere because the Chinese economy has been growing at double-digit rates. Splendid opportunities might explain the greater inclination of managers to enter new industries. We test this hypothesis in a simple regression model that relates the number of business segments in which a company is active to country fixed effects. We also include a time trend which we implement as year dummies. Column 1 in Table II confirms that Chinese companies are more extensively diversified than any other group of companies in our sample. In model 2, we add country-specific industry growth rates as a covariate. The coefficient on the growth rate is statistically insignificant, and the country coefficients remain largely unchanged. Judged by this, admittedly rough, estimate of growth opportunities, it is not China's superior growth prospects that explain the divergence in levels of diversification.

A second explanation is institutional. A significant number of Chinese companies remains state-owned, and the country is well-known for having chosen a set of industries in which it plans to play a major role. For instance, the central government has declared car production a "pillar industry". If central and provincial governments

	(1) Number of business segments	(2) Number of business segments	(3) Chinese companies – number of business segments
China	1.321	1.295	
(USA is omitted)	(0.023)**	(0.067)**	
Brazil	0.757	0.755	
	(0.069)**	(0.069)**	
France	0.759	0.763	
	(0.023)**	(0.024)**	
Germany	0.587	0.594	
	(0.021)**	(0.027)**	
India	0.407	0.389	
	(0.024)**	(0.051)**	
Italy	1.083	1.090	
	(0.043)**	(0.046)**	
Japan	0.919	0.923	
	(0.011)**	(0.015)**	
UK	0.188	0.188	
	(0.014)**	(0.014)**	
Industry-specific real growth rate		0.012	
		(0.009)	
State-owned enterprises			0.116
			(0.054)*
Log assets			0.171
			(0.024)**
Year fixed effects	Yes	Yes	Yes
Constant	1.455	1.446	− 0.441
	(0.005)**	(0.022)**	(0.499)
Observations	58,752	58,752	5,724
R^2	0.17	0.17	0.01

Note: *Significant at 5 percent; **significant at 1 percent; robust standard errors in parentheses

Table II.
Determinant of diversification

encourage their own firms to enter strategically important industries, the prevalence of state-owned enterprises (SOEs) in the Chinese economy might explain the high degree of diversification. Unfortunately, we do not have ownership data for all companies in our sample. However, we do know which Chinese firms are government-owned. In model 3, we relate this ownership status to the number of business segments. The results show that SOEs are significantly more likely to diversify. Note, however, that the economic size of the estimated effect is rather modest. Overall, model 3 explains only a small fraction of the variation in our data.

Conclusions

There is much anecdotal evidence that points to a rapid diversification of Chinese enterprises. Using data on publicly listed firms, we provide systematic evidence on scope choices for companies in nine countries. Contrary to some claims, we show that the level of diversification of Chinese companies has remained stable over the past five years. However, in all other countries in our sample, firms have become more focused. China is unusual in that its companies did not follow this trend. We investigate two

reasons for this divergence. While we find no evidence that the country's rapid growth influenced the diversification decisions of Chinese managers, we document that SOEs are significantly more likely to diversify than their private counterparts.

References

Aparna, K.Y. (2005), "Modularization in the Chinese motorcycles industry", *ICMR Case Collection (BSTR 165)*, ICFAI Center for Management Research, Hyderabad.

Bain, J.S. (1956), *Barriers to New Competition*, Harvard University Press, Cambridge, MA.

Berger, P.G. and Ofek, E. (1995), "Diversification's effect on firm value", *Journal of Financial Economics*, Vol. 37, pp. 39-65.

Bettis, R.A. (1981), "Performance differences in related and unrelated diversified firms", *Strategic Management Journal*, Vol. 2 No. 4, pp. 379-93.

Campa, J.M. and Kedia, S. (2002), "Explaining the diversification discount", *Journal of Finance*, Vol. 57, pp. 1731-62.

Chatain, O. and Zemsky, P. (2007), "The horizontal scope of the firm: organizational tradeoffs vs. buyer-supplier relationships", *Management Science*, Vol. 53 No. 4, pp. 550-65.

Claessens, S., Djankov, S., Fan, J.P.H. and Lang, L.H.P. (2003), "When does corporate diversification matter to productivity and performance? Evidence from East Asia", *Pacific-Basin Finance Journal*, Vol. 11 No. 3, pp. 365-92.

Huang, Y. (2003), *Selling China: Foreign Direct Investment during the Reform Era*, Cambridge University Press, New York, NY.

Khanna, T. and Palepu, K. (2000), "Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups", *Journal of Finance*, Vol. 55, pp. 867-92.

Khanna, T. and Rivkin, J.W. (2001), "Estimating the performance effects of business groups in emerging markets", *Strategic Management Journal*, Vol. 22, pp. 45-74.

KPMG (2005), *China Automotive and Components Market*, KPMG International, Hong Kong.

Lang, L.H.P. and Stulz, R.M. (1994), "Tobin's q, corporate diversification, and firm performance", *Journal of Political Economy*, Vol. 102, pp. 1248-80.

Li, M. and Wong, Y. (2003), "Diversification and economic performance: an empirical assessment of Chinese firms", *Asia Pacific Journal of Management*, Vol. 20 No. 2, pp. 243-65.

Lins, K.V. and Servaes, H. (2002), "Is corporate diversification beneficial in emerging markets?", *Financial Management*, Vol. 31 No. 2, pp. 5-31.

Martin, J.D. and Sayrak, A. (2003), "Corporate diversification and shareholder value", *Journal of Corporate Finance*, Vol. 9, pp. 37-57.

Montgomery, C.A. (1994), "Corporate diversification", *Journal of Economic Perspectives*, Vol. 8 No. 3, pp. 163-78.

Oberholzer-Gee, F., Khanna, T. and Raabe, E.A. (2006), *Lifan Group – Automobile Production in China*, Harvard Business School Case 707-443, Harvard Business School Publishing, Boston, MA.

Panzar, J.C. and Willig, R.D. (1981), "Economies of scope", *American Economic Review*, Vol. 71 No. 2, pp. 268-72.

Porter, M.E. (1985), *The Competitive Advantage: Creating and Sustaining Superior Performance*, The Free Press, New York, NY.

Rajan, R., Servaes, H. and Zingales, L. (2000), "The cost of diversity: the diversification discount and inefficient investment", *Journal of Finance*, Vol. 55, pp. 35-80.

Roberts, D., Prasso, S. and Clifford, M.L. (1999), "China's new capitalism: as the state sector crumbles, dynamic private companies are taking up some of the slack", *Business Week*, September 27.

Rumelt, R. (1974), *Strategy Structure and Economic Performance*, Division of Research, Harvard Business School, Boston, MA.

Rumelt, R. (1982), "Diversification strategy and profitability", *Strategic Management Journal*, Vol. 3 No. 4, pp. 359-69.

Servaes, H. (1996), "The value of diversification during the conglomerate merger wave", *Journal of Finance*, Vol. 51, pp. 1201-25.

Thun, E. (2006), *Changing Lanes in China*, Cambridge University Press, New York, NY.

Villalonga, B. (2004a), "Diversification discount or premium? New evidence from the business information tracking series", *Journal of Finance*, Vol. 59 No. 2, pp. 475-502.

Villalonga, B. (2004b), "Does diversification cause the 'diversification discount'?", *Financial Management*, Vol. 33 No. 2, pp. 5-27.

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