"Market entry timing and company performance: a study of listed companies in the People's Republic of China"

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SECTION 1. Macroeconomic processes and regional economies management

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Market entry timing and company performance: a study of listed companies in the People's Republic of China

Abstract

Despite the extensive research on market entry timing in the Western literature, findings are rather mixed. China as one of the world's most dynamic economies provides an interesting context to test whether Chinese enterprises, with their unique ownership structure, have early or late market entry advantages. An empirical study of 1378 listed Chinese enterprises was undertaken to gain insights into this research question, using 2004 China Stock Market & Accounting Research Database (CSMAR). It employs correlation analysis between market entry time and other indexes of corporate performance such as market share, profit margin and their variations. The main finding is that Chinese enterprises enjoy late-mover advantage by and large, which presumably is contributed by China's relatively recent opening-up of its market and economic reform, technology development and the arrival of the information age.

After two factors are taken into consideration, namely industry and industry growth rate, in general it is discovered that Chinese enterprises in resource-reliant industries do not experience late-mover advantages while those in high-tech industries do. Enterprises in manufacturing industries also seem to experience late-mover advantage more than those in other industries. The findings point to the contributions of China's low-cost labor and its rapidly-developing new industries. However, the analysis shows no relationship between industry growth rate and company performance.

In addition to late-mover advantages, the analysis confirms the traditional view that enterprises with ample resources and assets can achieve better performance.

Keywords: first-mover advantage, late-mover advantage, corporate strategy, company performance, market-entry timing.
JEL Classification: M31.

Introduction

Does market entry timing impact negatively or positively company performance? Past research seems to provide contradictory findings (Min, Kalwani and Robinson, 2006; Boulding and Christen, 2003; Lopez and Roberts, 2000; Liberman and Montgomery, 1998; Golder and Tellis, 1993; Kalyanaram and Robinson, 1995; Robinson and Fornell, 1985; Lambkin, 1988; Liberman and Montgomery, 1988; Bond and Lean, 1977), and the academic debate is far from over. While some studies find first movers achieve superior performance than their late-mover counterparts (e.g., Luo, 1997), others draw the conclusion that late-movers can negate their disadvantages and surpass the performance of their counterparts if specific strategies are adopted (Lopez and Roberts, 2000). Thus far, research results in this area are based predominantly on North American and European experiences. With the spectacular economic development in China in recent years, attention has been turned to how timing of entering the Chinese market may impact company performance. There are some studies in China recently in this area, using foreign invested enterprises (FTEs) as samples (e.g., Luo, 1998 and Li, 2000). However, the study of market entry-timing concerning Chinese enterprises, regardless of their ownership struc-

ture, is still rare. Given that entry-timing decisions are associated with business performance (Cui and Lui, 2005), finding out how Chinese enterprises perform on their home turf in response to first- and late-mover advantages or disadvantages could contribute to the furtherance of academic knowledge and improvement on practice.

In this study, 1,378 Chinese enterprises listed on the Shenzhen and Shanghai Exchanges are used as samples for an empirical analysis of the impact of market entry timing on company performance. For the purposes of this study, Chinese enterprises refer to enterprises originated from and operating in China, regardless of ownership. Indeed, as samples are all listed companies from the two Chinese stock exchanges, it should be noted that 95% of these enterprises are controlled directly or indirectly by the State (Tenev and Zhang, 2002).

This study attempts to answer two research questions:

♦ Do Chinese enterprises experience first-mover advantages or late-mover advantages in the Mainland Chinese market in general?
♦ Do Chinese enterprises in different industries have experiences in terms of first-mover advantages?

This paper will first provide a review of the relevant literature and come up with research hypotheses and

measures of variables. It will then describe the data set, which covers 1,378 Chinese enterprises from 93 industries listed on the Shanghai and Shenzhen stock markets. Correlation analysis will be performed, and results presented, culminating in a discussion of findings and their practical implications, as well as directions for further research.

1. Literature review

1.1. First-mover advantages. Previous studies of entry-order effects in the strategic management and marketing literature have found support for first-mover advantages. Empirical research has provided strong evidence to suggest that first-mover advantage should be regarded as a strategic principle for achieving superior performance (Boulding and Christen, 2003), particularly in the marketing literature (Kalyanaram et al., 1995). Early entrants into new industries or product markets seem to enjoy long-lasting competitive advantage over late entrants (Lambkin, 1988; Urban et al., 1986), on the assumption that the former usually have better resources and experiences, enabling them to offer more differentiated products, better product quality and services, and hence stronger repeat purchases from buyers than followers and late entrants (Kalyanaram, Robinson and Urban, 1995; Lambkin, 1988).

In contrast, there seem to be limited studies on entry-order effects in China and existing work focuses mainly on foreign multinational enterprises operating in China. Nonetheless, these studies have also found that early entry can bring considerable competitive advantages and has a positive effect on international ventures (Mascarenhas, 1997). Again, researchers believe that first-mover advantages arise from the assumption that early movers often enjoy abundance of resources and opportunities, introduce better technologies, and have better scale-economies and more repeat purchases from customers in the new market (De Castro and Chrisman, 1995; Pan, Li and Tse, 1999)

Although the decision of entry time involves balancing the risks of premature entry against the missed opportunity of late entry (Lilien and Yoon, 1990), early entry and late entry strategies each have their own sets of costs and benefits. The differences may seem to be more obvious in emerging markets such as China, in which industry and market structure transformations result in greater preemptive opportunities and higher operational risks for the first movers (Luo, 1997). Several studies have observed that first movers achieve superior performance than their late-mover counterparts (Luo, 1997; Pan, Li, and Tse, 1999). Cui and Lui (2004) study the contingency effects of industry and company-level variables on first-mover advantages and effective follower strategies of China's foreign-invested enter-

prises (FIEs) and have found a trade-off between market share and profitability based on entry order, although in terms of market share the early movers do enjoy a slight advantage.

1.2. Late-mover advantages. In contrast to preceding discussions, researchers also have discovered that late-movers can mitigate their late-moving disadvantages and augment performance by adopting certain strategies. They can eventually prevail because the strategic windows of opportunity may open at later times that favor later entry (Robinson, Fornell, and Sullivan 1992). Lambkin (1988) notes early followers entering at the growth stage of the market can reach their asymptotic sales level faster than their pioneers, whereas those entering the market at the mature stage are not hurt by competitor diffusion and enjoy better perceived product quality. In addition, market share advantages have been found to decline slowly over time for market pioneers, and early movers may be less profitable in the long term because they often bear persistently high costs (Kalynaram, Robinson, and Urban, 1995). On the other hand, later entrants may enjoy a better infrastructure and operating environment, taking advantage as a free-rider by imitating the pioneers and capitalizing on their mistakes, thereafter adopting various strategies to surpass the pioneers (Bowman and Gatingnon, 1996; Mathews, 2002). Other possible causes leading to the follower's catch-up may be the launching of a product with enhanced features by the followers or imitation of the competitors' product/market moves (Schnaars, 1995).

Meanwhile, research on entry-order effects in foreign markets has mainly focused on first movers and does not explore the possibility of the latecomers catching up (Cui and Lui, 2005). China's opening-up and reform of its market have proceeded in a measured way, which presents Chinese enterprises, especially followers, with better opportunities and conditions to perform better (Luo, 1998). Several researchers have called for more attention to be paid to effective follower strategies, particularly for enterprises originated from and operating in emerging markets like China (Luo, 1998; Pan, Li and Tse, 1999).

Overall, empirical evidence in favor of first-mover or pioneering advantages has been mixed and inconclusive. There is certainly a lack of research data informing the scholarly community on how Chinese enterprises flare in the growing Chinese market, particularly in regard to market entry timing. With China poised to become the world's third biggest economy behind the U.S. and Japan before the end of 2007 (*Market Watch*, 15 July 2007), understanding the relationship of entry timing and performance of Chinese enterprises in such a bubbling market will benefit both researchers and practitioners. The

main objective of this paper is to address this gap in the literature and empirically examine the relationship between market entry timing and company performance as measured in terms of profit and market share. The contingent effect of industry growth rate on the relation and the scale economies of listed Chinese enterprises will also be investigated. We draw on a longitudinal sample of those companies to test the relevant hypotheses.

1.3. Hypotheses development. The post-reform Chinese economy has been one of the fastest-growing economies in the world. The economy grew at 7.5% per annum between 1978 and 1995 (Maddison, 1998). Due to the abundance of cheap labor and its ability to absorb new technology, China has become the world's biggest manufacturing hub (Wu, 2001). Based on this historical context, it appears that most of the Chinese enterprises would have experienced late-mover advantages for a number of assumptions. First, China's opening-up and reform, especially under Deng's agenda, have brought about unprecedented opportunities to the Chinese enterprises. Late-movers are more likely to take advantages of the latest technology development, which has been aided by diffusion of the Internet, particularly in the case of China. Indeed, China's software industry grows rapidly in recent years and is playing an increasingly important role in the country's economic development (Deli, Ghauri and Sonmez, 2005). The increasing utilization of software applications in business and industries enables late movers to develop appropriate strategies to catch up with the pioneers. Secondly, the establishment of capital market in China has made easy the availability of capital for business start-up and expansion. With more and more multinational enterprises (MNEs) entering into the Chinese market, local personnel have acquired relevant management skills from them and taken their experiences with them to the local or indigenous enterprises. Thirdly, as noted in preceding literature review, followers may also have the opportunity to free-ride the pioneers. They imitate and capitalize on the pioneers' mistakes, enjoying better infrastructure and operating environment as the economy continues to grow, and finally adopting appropriate strategies to overtake their pioneers (Bowman and Gatignon, 1996; Mathews, 2002).

Based on the assumptions discussed above, it is hereby proposed that:

H1: Generally speaking, among Chinese enterprises, late-movers achieve better performance than their pioneer counterparts.

Industry factors such as growth prospects do influence company performance and can enhance or undermine the advantages of late-entry firms. According to conventional industry growth theory, importance of the agricultural sector decreases over time and that of industrial sector increases (Hu and McAleer, 2004). With China's opening up and reform, its industrial sector, manufacturing in particular, has become the main driver of the country's economic development. Coupled with ample supply of low-cost labor, China's accession into the World Trade Organization has reshaped the manufacturing industry worldwide (Martinez, 2004). Porter and McGahan (2004) have found industry factors impact on profit rates far more evident than that of other factors such as company resources. Given the size of the manufacturing sector in China, and the late opening up of its market, it is postulated that

H2a: The late-mover advantages are more evident in the manufacturing industry than those of other industries.

On the other hand, given the "bandwagon" effect of the rush into the Chinese market, both by local and foreign investors, fierce competition is expected in the manufacturing sector. This may offset the impact of industry factors, leading to the development of

H2b: The later-mover advantages in the manufacturing industry are not different from those in other industries.

Resource-dependent industries are those operating on natural resources, including agriculture, forestry, mining and others (Zhang, 2000). On the other hand, hi-tech industries are based more on intellectual capital. Companies in these industries use new and advanced technologies in production. According to the classification of China's State Statistics Bureau, resource-dependent industries cover coal mining, oil and natural gas exploration, black metal mining, color metal mining, steel and iron industries, oil refinement and other industries dealing with all kinds of natural resources (Zhao, 2005; Du et al., 1999). They were regarded as priority industries during the formative years of the People's Republic of China. Under a highly centralized, planned economy, these industries received numerous policy and financial support, growing rapidly in terms of scale. Thus, comparative advantages have been created as a result of economy of scale (Wu, 2001). Based on the above theoretical deduction, it seems appropriate to hypothesize that enterprises in resource-dependent industries would have first-mover advantages as late movers require substantial input of resources to compete on the basis of scale.

In contrast, high-tech industries are more likely to embrace late-mover advantages. Followers have less baggage of history than pioneers, so they have more

flexibility in taking advantages of the latest innovation. As several semiconductor companies from Japan, Korea, and Taiwan have done, late entrants can adopt appropriate strategies to overcome the late-entry disadvantages, sometimes catching up with incumbent industry leaders in a global industry or even leapfrogging the early movers (Cho, Kim, and Rhee, 1998; Han, Kim, and Kim, 2001). In most emerging economies, hi-tech industries always receive favorable government support due to the perceived important role they play in industrialization. For example, in the late 1980s, the Chinese State Government opened up 52 high-tech economic development zones all over China. The aim was to encourage development of high-tech products with Chinese proprietary rights for commercialization. As a result, high-tech industries are gaining more and more support from the Chinese Government, as they are regarded as of strategic importance in the future of the country (Hoogewerf, 2003).

Summarizing the preceding discussions, it is hereby proposed that:

H3: (a) over time, early entrants in resource-dependent industries have better performance, and; (b) late-entrants in high-tech industries have better performance than their respective counterparts.

According to Grant (2004), firms entering a growth industry usually attain higher profit. Industry characteristics do influence business performance (Porter, 1980). In general, enterprises in high-growth industries, such as telecommunications and biotechnology in recent years, achieve higher profits than those in low-growth industries, such as textiles and apparel manufacturing (Cui and Lui, 2004). Therefore, it can be argued that late-entrants into high-growth industries can achieve superior performance. In contrast, late-entrants in slow-growth industries may not be able to generate significant advantages as reflected in performance. Thus, industry growth moderates the effect of late-mover advantages on company performance.

Consumer demand is usually high in high-growth industries, and rapid expansion is experienced (Cui and Lui, 2004). In order to compete with early movers, late entrants usually resort to innovative processes or products. It is therefore proposed that:

H4: The late-mover advantages are more likely to be found in high-growth industries than in slow-growth ones.

The theory of scale economy suggests that mass production leads to lower cost per unit of production (Smith, 1791). Manufacturing industries, such as the automobile sectors, need economy of scale due to the huge capital investments involved. In China,

large foreign-invested companies often receive preferential treatment from the government (Luo, 1998), so do Chinese enterprises, as reflected in the government policy "(to) take priority on the big enterprises while ease control over small ones". Though small enterprises may have many advantages, such as flexibility, larger ones are more likely to reap the benefits of size, hence leading to better market and financial performance (Cui and Lui 2004). It is hereby postulated that:

H5: In general, large companies achieve better performance than the small ones.

2. Research method

2.1. Samples and data. To test the hypotheses advanced, data from CSMAR (China Stock Market & Accounting Research Database) are used. CSMAR provides all financial (balance sheets, income statements and cash flow statements) and marketing (price of open and closing quotation, and transaction volume) information of 1,378 A-share companies listed on the Shanghai Stock Exchange and the Shenzhen Stock Exchange as from 1990. 835 companies are listed on the Shanghai Stock Exchange, and 543, on the Shenzhen Stock Exchange. While the CSMAR data span from 1991 to 2004, information on some of the companies is not complete (i.e., not for the full period of 1991-2004) as they do not necessarily all get listed from 1991. The data used in this study are longitudinal, and thus represent a panel dataset. Panel data follow a given set of companies over time, and thus provide multiple observations on each company. Panel data are considered a superior alternative due to distinct advantages over cross-sectional data (Hsiao, 2003). It also enables the researchers to draw on a larger sample, thereby increasing reliability and validity (Boyd, Gove, and Hitt, 2005).

2.2. Variables and measures. *2.2.1. Entry order.* In this study, entry order is based on the company's year of entry into the respective industry. For studies of a single industry, one of the ways entry order can be measured is to treat it as a continuous variable, such as age of the company. When studying companies in multiple industries, there comes the problem that industry variations are not considered. The previous definition can not enable an examination of different groups of entrants. One way to solve the problem is to measure entry order as a categorical variable with a dummy variable for each group of entrants (Mascarenhas, 1992). However, in this study, the authors first divide the samples into different groups, followed by correlation analysis on an industry-by-industry basis. Thus, the measure of entry order such as age of the company is adopted, which is the time span between the date of establishment and the year 2004. The average age of

these companies is 8.74 years, and the maximum age is 46.47 years (i.e., dating back to 1950s).

2.2.2. Industry growth. On the basis of the economic development priorities and industry history, companies in various industries may face different growth prospects and levels of competition. An industry's growth rate is determined by the ratio of its total output to that of the previous year.

2.2.3. Company size. The size of a company is measured by the total assets of that company in the most recent year, i.e. 2004, but due to the incompleteness of data, as noted above, assets of some companies used in the calculation date back to pre-2004 years. All such information comes from the CSMAR data base.

2.2.4. Company performance. Previous studies have used different measures for company performance, such as market share, return on investment, satisfaction, exit, and survival, to examine entry-order effects. In this study, effects of entry order are measured in terms of financial performance and market performance. Market share is used as an indicator of market performance, measured as the ratio of a company's sales to the total industry sales, which is the sum of the sales of all companies in that industry among the listed companies in the most recent year. Net profit, return on asset and sales are taken as measures of financial performance.

Besides directly comparing the size of performance indexes, the variation of the company performance from year to year is also an indication of whether the company operates well or not. Longitudinal data will provide the convenience of calculating the standard deviation of the measures above.

2.2.5. Industry. Industries are grouped into two classification systems. The A classification system divides all companies into six categories: finance, industry, public undertaking, commerce, real estate and comprehensive business. The B classification system is based on the standard provided by China's Securities Regulatory Commission (CSRC). It categorizes companies into 93 industries such as textile and communication service. Results in this study are mainly drawn from the latter (B) classification system, while the former (A classification system) provides some reference.

2.2.6. Variables calculation. Firstly, nine variables are selected from the CSMAR database. They are, respectively, assets of the most recent year, net profit of the most recent year, sales of the most recent year, net profits through all years, sales through all years, debt amount through all years (normally the most recent year is 2004, but there are some exceptions as noted above). All years include all available data from the CSMAR – market entry time

(date of company establishment), industry association based on the A classification system, and industry association based on the B classification system.

After appropriate calculation, eight variables are added to the nine directly adopted variables. They are, respectively, mean of the company's sales, mean of the company's net profit, mean of the company's ROA, mean of the company's net return on assets (NROA), standard deviation of sales, standard deviation of net profit, standard deviation of ROA, standard deviation of NROA. (Here again, calculation is based on all the available data.)

Finally, fifteen variables are selected to test the hypotheses. They are ten performance measures including net profit of the most recent year, sales of the most recent year, mean of the company's sales, mean of the company's net return on assets (NROA), mean of the company's net profit, mean of the company's ROA, standard deviation of sales, standard deviation of net profit, standard deviation of ROA, and standard deviation of NROA. The other five variables are assets of the most recent year, age of the company (time span from entry to the year 2004), industry based on the A classification system, industry based on the B classification system and industry growth rate, which is defined as the ratio of its total output increase to total output of the previous year.

2.2.7. Estimation and results. Bivariate correlation analysis is run between company age and all indexes of company performance on an industry-by-industry basis according to B classification. The qualified industries are those consisting of at least 10 companies (see Table 1). As can be seen from Table 1, 36 industries have more than 10 companies. Among the qualified industries, companies in 13 industries have neither first-mover advantages nor late-mover advantages (see Table 2). Pioneers in 3 out of the qualified industries perform better, and those companies are all resource-reliant to certain extent. Late-movers in the other industries experience late-mover advantages.

In analyzing the results, performance indexes are divided into two categories. One is sales-related (see Table 3) and the other is profitability-related (see Table 4). As shown in Table 3, the effect of entry order is significant in 8 industries, among which the first three (3) are based on Classification A and the latter five (5) are based on Classification B. It should be noted that the coefficient between company age and the market share equals the coefficient between company age and sales in the latest year, because market share is calculated as the ratio of a company's sales to the total industry sales, and because the correlation is run on an industry-by-industry basis.

As shown in Table 3, in real estate and commerce industries, the more aged a company is, the less market share it gains. From the standard deviation of the sales, it can be seen that they are all positive, which indicates the longer a company exists, the more it unstable in terms of its market performance, thus providing support for Hypothesis 1.

In contrast, industries like electrical equipment & machine manufacturing, metal-ware manufacturing and ordinary machine manufacturing experience first-mover advantages in terms of market share. Among the three industries, metal-ware manufacturing is a typical resource-dependent industry with high correlation coefficient reaching 0.779. This shows support for Hypothesis 3: companies in resource-dependent industry tend to have first-mover advantages. However, the relation between market entry time and market share is not significant, given only a few industries show significant coefficients. Thus, Hypothesis 1 and Hypothesis 3 are partly supported.

All significant correlations between company age and profitability-related variables are presented in Table 4. The first row is the correlations between company age and performance of all 1,378 companies. Second to the fifth rows are correlations of industries based on Classification A, and the rest are correlations of industries based on Classification B, which amount to 23 industries.

As seen from the first row, overall, late entrants perform better than early ones. Those who enter into market later tend to have higher profitability because the variations of ROA are smaller, although late-mover advantage is not very significant, which is reflected in the relatively low coefficient. However, Hypothesis 1 is still supported in terms of financial performance.

When checking against the asset column, only 4 industries have significant correlations with it, which suggests weak correlation between assets and market entry time. The correlations are all positive. The four industries are electrical equipment & machine manufacturing industry, metal-ware manufacturing industry, ordinary machine manufacturing industry and other ware manufacturing industry. As noted above, the four industries, metal-ware manufacturing in particular, are resource-dependent. As pioneers tend to have larger assets, Hypothesis 3 is supported to some extent. Hypothesis 2a states that late-mover advantages of the manufacturing industry are more evident than those of other industries. But the result shows that in terms of asset, early-movers tend to have advantages. However, asset is not commonly used as a performance measure, so it can only point to some implications.

In general, the results find strong support for Hypothesis 1 which states that, late-movers of Chinese enterprises achieve better performance than pioneers overall because the correlations between company age and profitability measures are all negative while correlations between company age and standard deviation of those measures are positive. In other words, the late entrants earn more profit, enjoy higher profitability while at the same time their performance on profit is more stable. It is also noted that early entrants in metal-ware manufacturing industry are far more advantageous than late entrants in financial performance terms.

From the indexes of average ROA (return on asset) and average NROA (net return on asset), it can be seen that almost all correlations are negative, which means late entrants are more advantageous as they enjoy more return on assets. There are 14 industries showing significant coefficients. Among the 11 industries based on Classification B, 8 are related to manufacturing (food processing, agriculture and retailing are three exceptions). These results show support for Hypothesis 2a that late-mover advantages of the manufacturing industry are more evident than those of other industries.

From the index of standard deviations, all the correlations are positive. That indicates later entrants perform more consistently than early ones because of the latter's larger variations on profit, ROA and NROA. Thus, Hypothesis 1 is supported. By the same argument, it is found that among the 11 statistically significant industries, 8 are manufacturing industries. So the results show support for Hypothesis 2a.

As regards Hypothesis 3, 8 industries are high-tech industries according to B classification, including electronic-components manufacturing, applied computer service, chemical products manufacturing, bio-medicine manufacturing, medicine manufacturing, special equipment manufacturing, computer-related equipment manufacturing and communication-related equipment manufacturing. Except for the last two industries, it seems that companies in the other industries all enjoy late-mover advantages. Contrary to high-tech industries, resource-dependent industries such as oil refinement industry, black metal processing industry, colored metal processing industry neither enjoy first-mover advantages nor enjoy late-mover advantages, since there's no correlation between company performance and company age. Thus, late entrants in high-tech industries are more advantageous. However, early entrants in resource-dependent industries do not seem to have advantages over late movers. So Hypothsis 3 is supported in respect of high-tech industries, but not supported when it comes to resource-dependent industries.

To test Hypothesis 4, industry growth rate of all industries is calculated from which companies enjoy significant late-mover advantages (see Table 5). The average industry growth rate is 24.3%. As for industries where there's no significant correlation between companies' entry time and their performance, the average growth rate is 30.5%. Average growth rate of all the companies reaches 30.5%. There are only two industries enjoying first-mover advantages in market share with the average growth rate 52.2%. It's easy to see that the growth rate of those enjoying late-mover advantages is below that of advantageous first movers, even below average industry level. Thus Hypothesis 4 is not supported.

Because of the economy of scale and other advantages large-sized companies tend to embrace: Hypothesis 5 suggests that they achieve better performance than the small ones. The results in Table 6 show sufficient support for this hypothesis.

Conclusion

Hypotheses testing. This study attempts to answer two important questions: First, do Chinese enterprises experience first-mover advantages or late-mover advantages? Second, what are the differences between different industries in terms of first-mover advantages? In several ways, the current study improves the understanding of the benefits and potential pitfalls for late-movers and early entrants of different industries in China. It also sheds light on the entry order effects of the Chinese enterprises, which have been long neglected in the past (For the review of the hypotheses and their verification, please see Table 6). There is support for Hypothesis 1 that Chinese enterprises enjoy late-mover advantage by and large, as a result of China's opening-up and reform, technology development and the arrival of the information age. The results show partial support for Hypothesis 2a and Hypothesis 2b as they point to the fact that enterprises in manufacturing industries are more advantaged in profitability-related performance measures, but they are not different from other industries in terms of market share. Perhaps due to fierce competition, no companies can enjoy a consistent and large market share in all the manufacturing industries while the late-entrants' financial performance is better since they have taken the advantage of the extreme high growth rate. From the results, resource-dependent industries are not significantly different from others, to the contrary of our hypothesized first-mover advantages. Notwithstanding, Chinese enterprises in high-tech industries are more prone to enjoy late-mover advantages since they can override pioneers and quickly adapt to the ever changing external environment and adopt the latest technology. So, Hypothesis 3 is supported. Aligning with previous

logic (see Hypothesis 5), Chinese enterprises enjoy economy of scale, which means large-sized enterprises earn more profits and have more sales. On the other hand, from the variations of the indexes it can be seen that larger companies tend to be more inconsistent than smaller ones. This supports Hypothesis 4, that late-movers tend to fare better in high-growth industries than in low-growth industries. It is believed that the higher the growth-rate, the more attractive the industry, thus leading to more fierce competition. Such a competitive environment may offset the anticipated late-mover advantages.

Limitations and suggestions. There are several limitations in this study. First, as this study only includes companies listed in Shanghai Stock Exchange and Shenzhen Stock Exchange, the results may not be readily generalizable to other Chinese enterprises, especially to small and medium sized ones. Second, the statistic method used in this study is correlation analysis, thus limiting further discussion on the causality of the results. Third, the CSMAR data have no information on the failed ventures and do not provide any suitable information that can be used as instrumental variables of entry order. Thus, this study can not correct the potential survivor or endogeneity bias in the data. Finally, potential confounding effect due to company background variables, such as ownership structure, and multi-collinearity among variables, remain a challenge and should be the subject of a separate study.

Except for the industries in which enterprises enjoy late-mover advantages, attention should also be paid to industries which enterprises enjoy neither first-mover nor late-mover advantages. Why late entrants choose not to take advantage of opening-up and reform policy or free-ridden the pioneers? What are the common features among those industries? In this study, only entry-order effect of listed companies is considered, but the majority of Chinese enterprises that contribute to the country's economic development are not included. Neither the contingent effects of industry and company-level variables on the first-mover advantages, such as industry competition, entry mode and marketing intensity (Cui and Lui, 2004), are examined. So it's important to take these effects into consideration in the future research.

Implications. Market entry timing has always been of interest to marketing practitioners, and most of the studies by scholars outside China are supportive for first-mover advantages. In this study, after investigating listed Chinese enterprises, it is found that in a lot of industries later movers perform better than the earlier ones, providing support for late-mover advantages. This study discovers that late-entrants' performance, especially financial performance is

higher and more consistent. So early-movers have to be aware of this effect. These enterprises have to adapt to the dynamic changes in the Chinese market. China is still going through economic reforms. If early entrants fail to meet the challenges and can not update their technologies in time, they are likely to lag behind further and further. The good news is in terms of market share, neither the early entrants nor the late ones have significant advantages, providing all enterprises with the opportunities to excel.

Attention should also be paid to manufacturing industries, the growth rates of which are very high and late-movers can better take advantages of them than the pioneers. Based on this logic, it's possible that the service industry will be the focus of China's next round of economic development, thus service companies are likely to experience great late-mover advantages. Managers in those industries should be prepared for the new opportunity to arrive. Another finding in this study is that high-tech companies also have greater late-mover advantages than resource-dependent ones. Companies in high-tech industries should follow the latest technology development and pay close attention to their rivals' moves, or their current position is likely to be taken over by the late entrants.

In an emerging market like China, one clear implication is that consideration of market-entry timing should be aided by an understanding of China's economic, technological, socio-cultural, industry competition, industry growth and other conditions. Different industries present different strategic windows for different companies. In some industries being a pioneer may be an optimal choice while in other industries a follower strategy or being a later mover may prove to be more advantageous. By weighing the industry influences and with an understanding of Chinese enterprises' overall late-mover advantage, companies can better evaluate the viability of different early entry timings. Given the risks and advantages associated with entry order, investors should examine the industry and market environment and its own strengths and choose an appropriate entry timing strategy that is consistent with

their industry characteristics. Market entry is an important and very complex marketing decision. Only when a company considers the full consequences of its decisions it can hope to avoid premature or belated entry.

Table 1. Correlation between market entry timing and company performance based on B classification system

(Industries with sample size smaller than 10 are not taken into consideration)

Production and supply of power, steam and hot water	
Electrical machinery and equipment manufacturing	Coal industry
Electronic components manufacturing	Agriculture
Real estate development	General machinery manufacturing
Real estate development	Other manufacturing industries
Clothing and other fiber products manufacturing	Textile
Chemicals and chemical products	Commodity brokers and agents
Biopharmaceutical manufacturing	Computer application service
Transportation equipment manufacturing	Food processing
Civil engineering construction	Pharmaceutical manufacturing
Metal products	Paper and paper products
Special equipment manufacturing	Comprehensive industries
Retailing	

Source: China Stock Market & Accounting Research Database (CSMAR).

Table 2. Overview of the samples

	Industries based on A classification system	Industries based on B classification system
Number of industries	6	93
Number of industries entering the statistic phase (sample size m>10)	6	36
Industries in which correlation is significant	6	23
Industries having later-mover advantage	6	20

Source: China Stock Market & Accounting Research Database (CSMAR).

Table 3. Correlation between the age of the company and its sales revenue

Industry	Sample size	Revenue of the latest year (Market share)	Average of sales through years	Standard deviation of the sales
Real estate	42	-.403**	-.402**	
Public utilities	96			.239*
Commerce	109	-.204*	-.235*	
Electronic components manufacturing	52	.406**	.426**	.440**
Textile	35			.409*
Metal products	15	.779**	.735**	.805***
Retailing	55		-.315*	
General machinery manufacturing	34	.440**		.468**

Note: Significance level * – p<0.05 , ** – p<0.01, *** – p<0.001.

Table 4. Correlation between the age of the company and its profit related performance indexes

Industry	Sample size	Asset	Net profit of the latest year	Average profit through all the years	Average of the return on asset through all the years	Average of the return on equity through all the years	Standard deviation of the net profits	Standard deviation of return on assets (ROA)	Standard deviation of return on equity (ROE)
All industries included	1378		-.057*	-.059*	-.178***			.113**	
Industrial related industry	874		-.067*	-.068*	-.185***			.113*	
Real estate	42						.386*		
Commerce	109		-.312**	-.372***	-.360***			.259**	.210*
Comprehensive industries	247				-.212**		.263***	.158*	.126*
Production and supply of power, steam and hot water	52							.365**	
Electrical machinery and equipment manufacturing	52	443**	-.295* .295*				.336**		
Electronic components manufacturing	25				-.578**	-.801***		.656***	.819***
Real estate development	56						.325*		
Clothing and other fiber products	20							.529*	
Chemicals and chemical products	87				-.262*				
Computer application service	34		-.519**				.500**		
Metal products	15	.773**	.773**	.569*			.835***		
Retailing	55		-.282*	-.281*	-.315*				
Coal industry	13							.711**	
Agriculture	22				-.521*		.561**	.520*	
Communication service	8								.844**
General machinery manufacturing	34	.435*			-.452**	-0.498**	.429*		.453**
Other manufacturing industries	10	.669*							
Commodity brokers and agents	17		-.518*						
Biopharmaceutical manufacturing	10			-.805**	-.803**	-.820**	.725*	.849**	.709*
Food processing	24			-.500*	-.408*				
Civil engineering construction	24								.406*
Pharmaceutical manufacturing	76			-.257*	-.417***	-.249*			
Paper and paper products	24				-.424*			.411*	
Special equipment manufacturing	54				-.457**		.287*		.348**
Comprehensive industries	110						.247**		

Note: Significance level * – p<0.05 , ** – p<0.01, *** – p<0.001.

Table 5. Industry growth rate

Industry	Industry growth rate
Production and supply of power, steam and hot water	0.344
Electronic components manufacturing	0.177
Real estate development	0.206
Textile	0.096
Clothing and other fiber products manufacturing	0.213
Chemicals and chemical products	0.351
Computer application service	0.180
Transportation equipment manufacturing	0.132
Retailing	0.145
Coal industry	0.523
Agriculture	0.529
General machinery manufacturing	0.414
Other manufacturing industries	0.209
Commodity brokers and agent	0.249
Biopharmaceutical manufacturing	-0.080
Food processing	0.233
Civil engineering construction	0.244
Pharmaceutical manufacturing	0.159
Paper and paper products	0.228
Special equipment manufacturing	0.443
Comprehensive industries	0.109

Table 6. Overview of the hypotheses assessment

H1: Generally speaking, late-movers of Chinese local companies achieve better performance than pioneers.	Hypothesis is accepted.
H2a: Late-mover advantages of the manufacturing industry are more evident than those of other industries.	H2a is accepted if company performance is measured by the profit related indexes. H2a is rejected if company performance is measured by market share.
H2b: Later-mover advantages of the manufacturing industry are not different from those of other industries	H2b is rejected if company performance is measured by the profit related indexes. H2b is accepted if company performance is measured by market share.
H3: Early entrants in resource-reliant industries performed better while the late-entrants in high-tech industries performed better.	Hypothesis is partially accepted.
H4: Late-mover advantages are more prone to appear in high-growth industries than in slow-growth industries.	Hypothesis is rejected.
H5: Large companies achieve better performance than the small ones.	Hypothesis is accepted.

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