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Foreign vs. domestic listing: An entrepreneurial decision☆

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ABSTRACT

In this paper, we use a unique hand-collected dataset to analyze stock listing as an entrepreneurial decision. By comparing mainland Chinese entrepreneurial firms listed in Hong Kong with the same type of firms opting for a domestic listing on the Shenzhen second board market, we argue that the decision to list on a particular stock exchange is a question of *entrepreneurial signaling*, and often a trade-off between short-term financial considerations and the entrepreneur's pursuit of long-term benefits.

1. Executive summary

Undertaking an initial public offering (IPO) is a crucial decision for an entrepreneurial firm. Daily et al. (2005) describe "the process of taking a firm public" as enabling the entrepreneur to achieve both personal and business goals. The business goal of an IPO is to secure funding for the continued growth of the firm when the entrepreneur is not wealthy enough to provide such funds. The personal goal is to diversify the entrepreneur's wealth, to avoid total dependence on his/her investment in a single firm concentrated in a single industry. The "dark side" of this diversification is that once the entrepreneur has sold some shares and pocketed the cash, he/she may become less committed to the firm's long-term growth after the IPO. This implies that an entrepreneur's decisions regarding IPO-related issues can be viewed as his/her choice on whether to pursue long-term or short-term benefits.

In recent years, many entrepreneurial firms from mainland China have conducted IPOs on the Hong Kong (HK) second board market. Conventional wisdom views such foreign listing as motivated by financial benefits. However, in comparison with an IPO on the domestic second board market – the Shenzhen (SZ) second board – the price-earnings multiple (P/E ratio) in the HK market is generally lower (Tucker, 2007), the IPO costs are higher, and the accounting disclosure requirements and regulation environment are much more complex, so a HK market listing will bring less short-term financial benefits than a SZ market listing. A closer look at the HK-listed entrepreneurial firms suggests that those HK listings may be driven by strategic considerations to do with long-term growth, rather than a desire for short-term financial benefits.

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This paper focuses on the features of an entrepreneurial firm that lead it to choose a foreign listing or a domestic listing. Building on institutional economic theory, we show that a foreign listing in a developed economy with better institutional infrastructure enables firms from an emerging economy to enjoy a more efficient institutional environment, which is beneficial to their pursuit of long-term benefits. By examining a sample consisting of Chinese entrepreneurial firms that undertook an IPO on the Shenzhen second board or the Hong Kong second board during 2000–2006, we address the question of whether future benefits are the main determinant of a firm's decision to opt for a foreign listing.

In a nutshell, our results show that firms (1) in industries with high growth potential, (2) in which the entrepreneur has larger shareholdings before the IPO, (3) which float fewer shares to outside investors, and (4) which adopt high quality governance mechanisms, are *more likely* to undertake a HK listing. All these findings support the view that future long-term benefits drive the choice of a foreign listing.

2. Introduction

One of the most important decisions of the whole IPO process is the choice of where, i.e., on which stock exchange, to list the firm. This decision is especially significant for firms from less developed countries when they choose to list on a foreign stock market, which is generally in a more developed economy and larger and more liquid than the domestic exchange (Pagano et al., 2002; Coffee 1999, 2002).

As Daily et al. (2005) conclude, through an IPO, entrepreneurs are able "to pursue new projects and growth opportunities". If an entrepreneur's priority is long-term benefits, then his/her main concern should be the future growth of the firm. Listing on a foreign exchange in a more developed economy will bring the firm considerable benefits which are essential for its further growth. Theoretically, a more developed economy should have a better institutional environment, e.g. well-structured property rights, an effective court and judicial system, and the complementary development of voluntary standards (North, 1990, p. 64). By lowering transaction costs, efficient economic institutions facilitate the long-run growth of both the economy and firms. In a superior institutional environment, the firm will be provided with more business opportunities and will be better able to exploit them. For example, it will be easier for the firm to engage in long-term cooperation with significant business partners, large customers and suppliers. This will greatly enhance the firm's image and visibility, leading to marketing and public relations benefits (Saudagaran and Biddle, 1995). Fostered and supported by efficient economic institutions, a larger and more internationalized stock market will also provide better access to further capital, e.g. strategic investors or partners.

In addition to the above benefits, reducing the cost of capital is another consideration. Coffee (1999, 2002) argues that if a firm cross-lists part of its shares on a stock market with better regulation, its cost of capital in the domestic stock market will be lowered.[1] Therefore, it is an intuitively appealing idea that for entrepreneurial firms from developing countries, listing on a foreign exchange reflects a decision to pursue long-term benefits rather than short-term benefits, i.e. instant cash collected from floating shares at a low cost. However, there is still a lack of direct supportive evidence for this analysis.

From an empirical analysis perspective, since long-term future benefits are not observable at the time of the IPO decision itself, firms' characteristics and behaviors around their IPOs will be used as proxies. In particular, we will examine whether there are any firm characteristics associated with the likelihood of a foreign listing.

The choice of the Hong Kong (HK) second board market versus the Shenzhen (SZ) second board market in mainland China provides a unique natural experiment for understanding the choice of foreign stock listing as entrepreneurial signaling of long-term commitment.

Firstly, the listed firms on both markets are mainly what we call *entrepreneurial* firms. Most of them are *high-growth* and *owner-managed* firms, still run by their founders.

Secondly, HK has long been a very important interface between China and the international business community. One of the most vibrant and liberal economies in the world, HK ranks highly in terms of the friendliness of its business environment. In the World Bank's "Doing Business in 2006"[2] report, HK is placed seventh overall out of 155 economies. HK's role as an international window has strengthened even further since China's market-oriented economic reform. HK is the base for the international operations of many huge state-owned enterprises (SOEs). If a Chinese company intends to internationalize its business, HK is usually its first choice.

Thirdly, the HK-listed but mainland-based entrepreneurial firms have no shares listed on mainland exchanges, i.e. they are *not cross-listed*. As we shall see later, the IPO proceeds raised for HK-listed firms are lower than for SZ-listed firms. This feature will help to clearly isolate the aim behind a HK listing, e.g., long-term strategic benefits vs. short-term financial benefits. Given the context, we can assume that the main factor driving these firms to list abroad is to gain long-term benefits.

The HK and SZ second board-listed entrepreneurial firms thus provide us with an ideal setting to study the choice of listing location by entrepreneurial firms from developing countries like China.

This paper addresses the question of whether future benefits are the main determinant of an entrepreneurial firm's decision to opt for a foreign listing. The question is important from the macro-economic perspective. Small enterprises are of critical importance to the economy and long-run economic growth. In developed countries, about 60% of GDP is generated by small enterprises (OECD, 2002). In less developed countries, there are far fewer small enterprises and this is considered as the major

[1] However, if a firm lists on a foreign exchange only, rather than on a foreign and domestic exchange concurrently, there may be no such cost of capital effect. The opposite may happen: since it is from a less developed economy, the firm's shares may be sold at a discount compared with native firms.

[2] www.doingbusiness.org.

structural weakness of such countries (De Soto, 2000; World Bank, 2002). Our study will also yield important policy implications on the question of how to facilitate sustainable growth for entrepreneurial firms from developing countries.

3. Entrepreneurial signaling and literature review

In this section we aim to define our notion of *entrepreneurial signaling*. Daily et al. (2002) point out that "the definition of an entrepreneurial firm has been the subject of considerable debate" (Gartner, 1985; Low and MacMillan, 1988; Sharma and Chrisman, 1999). Their review of entrepreneurial studies illustrates the variety of ways in which researchers have conceptualized the entrepreneurial firm, ranging from a *high-growth* firm to an *owner-managed* firm to a *founder-run* business. They finally propose a definition of *independent entrepreneurship* following Sharma and Chrisman (1999), who define it as "the process whereby an individual or group of individuals, acting independently of any association with an existing organization, create a new organization". However, the search for a "distinctive theory of the entrepreneurial firm" is still ongoing (Phan, 2004b, p. 617). Shane and Venkataraman (2000, p. 218) define the question of "why, when, and how different modes of action are used to exploit entrepreneurial opportunities" as a fundamental research question about entrepreneurial firms.

The choice of market for a public listing (HK vs. SZ) is one of these *different modes of action*, a strategic decision by the entrepreneur, which we call *entrepreneurial signaling*. All entrepreneurial choices are institutionally constrained (Phan, 2004a). The institutional constraints in our study are such that there are no obvious short-term financial reasons for Chinese entrepreneurial firms to seek a stock listing on the HK second board market: the P/E ratio in the HK market is lower than that in the SZ market, the issuance costs are significantly higher and the accounting, disclosure, and regulation requirements are more demanding. Furthermore, since all observed companies are small companies, we cannot explain their listing choice by the constraints imposed by the relatively small Chinese domestic capital market (Saudagaran, 1988; Pagano et al., 2002). Our general hypothesis is thus that an entrepreneur will use a HK listing only if he/she wants to signal that his/her company will take a further step forward in a long-run growth strategy.

With a HK listing, a Chinese entrepreneurial firm is emitting two signals to its investors in particular and to its business partners in general: an *entrepreneurial* signal and an *internationalization* signal. As an IPO indicates that the founder is willing both to open his/her firm's capital and share the benefits of future performance with outsiders, it is very difficult to disentangle the effects of the two signals. Like an IPO, internationalization inevitably alters the focus of a firm's strategic attention (Ocasio, 1997). It is also legitimate to ask how this signaling differs from existing theories of bonding (Coffee, 2002).

We argue that the decision on where to go public can only be satisfactorily explained by individual differences in *perceptions of risk and opportunities* (Shane and Venkataraman, 2000). A HK listing is clearly the *riskier* choice, but genuine entrepreneurs will see the higher value of the *opportunities* it provides. Our institutional analysis will show that a HK listing is not only more costly than a SZ listing, but also that it brings the firm into a tougher and more unfamiliar regulatory context, which suggests that HK-listed firms are more willing to make an international learning effort and thus send a signal of a more proactive entrepreneurial orientation to the outside world (Clercq et al., 2006).

Alvarez (2007) shows that entrepreneurial rents are created when transaction-specific investments are made under uncertainty before their market value is known. Applying this framework to our context, uncertainty begins to resolve and entrepreneurial rents become known at the time of the IPO, when the firm is valued by the market, and the founding owners can be compensated immediately by selling secondary shares at the highest possible price. Given that a higher price per earnings will be achieved in SZ, only entrepreneurial founders who want to move their venture forward will choose a HK listing and retain higher ownership of control rights, even though this will involve higher uncertainty. Floating less equity in the IPO in order to retain larger equity holdings thus cannot be explained by an internationalization move, but only by entrepreneurial signaling to benefit from future (but uncertain) growth in high quality ventures (Prasad et al., 2000).

This signaling effect has already been studied in other areas of the empirical entrepreneurship literature. For example, Wu et al. (2007) study firm owners who use a personal credit line to help finance their business as a signal to other stakeholders of their financial and psychological attachment to the business. Quadrini (2001) also shows that an IPO has a signaling effect, since external financing is limited in entrepreneurial firms "due to conflicts of interest between the agent that controls the funds of the firm (the entrepreneur) and the agent that provides the funds (the investor)." Most recently, Junkunc (2007) has found that the (in)ability to include secondary shares – and hence to sell out immediately – in biotechnology IPOs relates to the importance of specialized knowledge in that industry.

4. SZ vs. HK second board listing as an entrepreneurial signal

In this section, we explain the development and institutional context of the second board markets in HK and SZ and their respective listing requirements, with an analysis of their implications for entrepreneurs seeking a stock market listing.

4.1. Second board markets in SZ vs. HK

The HK second board market opened in 1999 and its SZ counterpart officially opened in 2004. Regarding listing requirements, the only difference between the main board and the second board in China is the size of the offering. Firms which float equity in excess of RMB 50 million go to the main board, and all others go to the second board. There are virtually no other special requirements on total assets or profitability, but firms listed on the second board are certainly smaller.

Table 1
Listing requirements in SZ and HK second board markets.

Listing requirement	SZ	HK
Size	Equity>=RMB 50 million	Active business pursuits for the last 24 months or Active business pursuits for not less than 12 months & sales of not less than HK$50 million in the last 12 months & total assets of not less than HK$50 million
Free float	Minimum 25%	Minimum 25%
Independent directors	Minimum 33.3% of all members	Minimum 2 independent directors
Tutorship period	3 years	None

A firm wanting to go public on the SZ second board has to follow a process involving a *restructuring period* and a *tutorship period*. After these two stages, the firm will be examined by the *China Securities Regulatory Commission (CSRC) Public offering examination committee*. If it qualifies, the exchange will work with the firm to arrange the IPO. It thus takes a firm on average 3 years to prepare for an IPO — if everything goes smoothly; the maximum can be more than 4.5 years.[3] One third of the directors of the board must be classified as independent.

The HK stock market is regarded as one of the world's most important financial hubs, where international capital is attracted and liquidity is high. Many large Chinese SOEs such as China Life, China Telecom Corporation Ltd., China Construction Bank Corporation, PetroChina Co Ltd etc, are listed on the HK main board market.

A firm wanting to go public on the HK second board has to have been actively in business for at least two years, or must have both generated sales and reported total assets of at least HK$ 50 million over the past year. There must be at least two independent directors on the board. For registrants from mainland China, prior approval by the CSRC is necessary, and the whole process takes at least a year and a half.

A comparison of the major listing requirements on the SZ and HK second board markets is shown in Table 1.

4.2. Implications for the listing decision

For Chinese entrepreneurs, deciding on the location for their IPO (SZ vs. HK) requires an in-depth analysis of all the advantages and disadvantages. They need to examine at least the four following issues: the direct issuance costs, the IPO P/E ratio, the pre- and post-IPO monitoring pressures, and the future growth prospects.

From the perspective of a firm that chooses to list on the Hong Kong market, the main (opportunity) cost for a HK listing lies in the lower capital raised compared with a SZ listing, explained by lower IPO P/E and higher issuance costs. Tougher pre- and post-monitoring pressure in the Hong Kong stock market is another factor in the cost of a HK listing. Nevertheless, a HK listing may offer better future growth prospects.

Firstly, in comparison with firms listed on the Chinese mainland's capital market (SZ or Shanghai), mainland firms choosing the HK market are constantly priced lower – not only at the time of the IPO, but also afterwards. Since its re-establishment in the early 1990s, the Chinese equity market has been disconnected from international market fluctuations. As Chinese local investors cannot invest in foreign companies, the Chinese stock market is their only playground. Furthermore, domestic investors have few channels for investment (either the property or the A-share market, as the bond market is too small and the bank deposit interest rate is so low), and this generally leads to very high P/E ratios for Chinese listed firms. In HK, in contrast, the capital market is highly interconnected with international markets, investors come from all over the world and can easily come and go, with access to all the alternatives and options, and as a result P/E ratios are significantly lower. At the end of 2006, the average P/E ratio on the Chinese stock market is 33.40, compared to 17.37 for the HK main board.

The huge difference in the IPO prices of firms cross-listed on a mainland stock market and a HK stock market is another interesting aspect of going public in China. The IPO price of Petro China, the gigantic Chinese state-owned oil company, is HK$ 4.00[4] on the mainland stock market but HK$1.59 on the HK stock market. For China's biggest life insurance company, China Life, the IPO price on the mainland stock market and the HK stock market are HK$18.33[5] and HK$ 3.625 respectively. For our sample, we compare the IPO P/E ratios between the sub-sample of SZ and HK firms and find that the IPO P/E for SZ firms is significantly higher (see Table 2 for details), which is consistent with the difference in the average P/E ratio for the whole market.

It is also notable that in both the HK and the SZ sub-samples, the IPO P/E for high-growth firms is not significantly different from that for other firms.[6] This conflicts with the common thinking that high-growth firms tend to be valued higher by investors. One possible explanation is that greater uncertainty over high-growth firms' future performance adversely affects their market valuation. As Daily et al. (2003) conclude, "potential investors that face higher levels of uncertainty regarding the firm's performance potential will submit purchase orders only at a discount to the expected value of the share price". Furthermore, high-

[3] Since the Chinese stock market has not been doing well over the past four years, there are even some cases in our sample where the whole process lasted four or five years.
[4] Original price RMB 4.22, converted into HK dollars using the exchange rate at the time of the IPO.
[5] Original price RMB18.88, converted into HK dollars using the exchange rate at the time of IPO.
[6] The Mann–Whitney test cannot reject the null hypothesis of equality.

Table 2
Comparison of the IPO P/E ratio between SZ and HK firms.

Panel A: All firms with IPO P/E available			
Variable	Mean	p50	*P* value of Mann–Whitney test
SZ firms	19.19	19.20	<0.01***
HK firms	13.02	9.74	
Panel B: SZ and HK firms belonging to "high growth potential" industries			
Variable	Mean	p50	*P* value of Mann–Whitney test
SZ high-growth firms	18.49	19.23	<0.01***
HK high-growth firms	13.99	10.63	

growth companies are usually smaller,[7] which adds to their risk in the view of outside investors (Finkle, 1998; Daily et al., 2003). As a result, the negative effect of high-growth companies' risk factors may cancel out the positive market valuation effect of their better future prospects.

Secondly, issuance costs must be considered. These costs include commissions to underwriters, fees paid to the exchange, fees paid to auditing firms, law firms, and other expenses related to the placement. In comparison with an IPO on the SZ market, a listing on the HK market is significantly more costly to firms due to use of more expensive international auditing firms, the involvement of foreign investment banks, and higher marketing and communication costs. In our sample, this difference is highly significant: the average percentage of issuance costs over total funds raised represents only 6.7% for SZ-listed entrepreneurial firms, while HK-listed firms spent on average 26.1% of the total funds raised on issuance costs.

Thirdly, in contrast to their counterparts who opt for a SZ listing, entrepreneurs preferring to go public in HK also face tougher pre- and post-monitoring pressures. Following La Porta, Lopez-de-Silanes, Shleiffer, and Vishny (LLSV) (1998) and La Porta, Lopez-de-Silanes, and Shleifer (LLS) (2006), we analyze the legal investor protection framework in the HK stock market and mainland China's SZ stock market by comparing their company and security laws (see Appendix A). In particular, we examine whether the company law and securities law contain the rules and rights deemed by LLSV (1998) and LLS (2006) to be critical in protecting shareholders' rights. LLSV (1998) and LLS (2006)'s samples both include HK but exclude mainland China. We therefore use the HK data from LLSV (1998) and LLS (2006) and add scores for mainland China after hand-checking its company law and securities law.[8] This comparison, in a similar approach to LLSV, shows that the legal protection of shareholders' rights is more stringent in HK than in mainland China.

4.3. Long-term future growth vs. short-term benefits

In terms of future growth prospects, a HK listing offers advantages that cannot be matched by a SZ IPO. The transaction costs theory of institutional economics provides us with a detailed understanding of the advantages a HK listing will bring to a firm. Hong Kong has far more efficient economic institutions than mainland China. The World Bank's "Doing Business" report, which mainly captures the institutional environment of an economy by looking at topics such as the entry barrier, investor protection and contract enforcement, ranks Hong Kong seventh out of 155 economies worldwide in 2006, while mainland China is ranked 91.

As pointed out by North (1990), transaction costs are directly determined by the institutional constraints. Transaction costs, which mainly consist of the costs of measuring valuable attributes of what is being exchanged and the costs of policing and enforcing agreements, will be low in an efficient institutional environment. By comparing firms from advanced industrial economies with those from less developed economies, he argues that an efficient institutional structure provides a larger opportunity set for firms and facilitates the corporate pursuit of sustainable growth and long-term benefits; on the contrary, with inefficient economic institutions, firms will "*tend to have short time horizons*".

The advantage for the firm of a better institutional structure as provided by a HK listing takes various forms. On the one hand, as shown by LLSV (1998), legal institutions are the main determinant of a country or economy's financial market development. As one of the world's best financial markets for investor protection (LLSV, 1998), the size, liquidity, stability, and apolitical nature of the HK market give listed firms an excellent base for seasonal issuances, M&A activities and the introduction of strategic partnerships for future growth.

Additionally, a HK listing helps the firm build and strengthen a reliable and stable link with the international business community. High transaction costs resulting from inefficient institutional structures are the main obstacle faced by firms from less developed economies in establishing business relationships with partners, customers, and suppliers from advanced economies, and are thus detrimental to the firms' long-term growth. A HK listing will address this problem, as the efficient institutional environment in Hong Kong will help firms to "engage in contracting which 1) has reliability, 2) specifies the nature of the exchanges as precisely as possible, and 3) minimizes the potentiality of opportunism" and hence enables "continuous production and distribution and also enforcement of contracts" (North, 1987). One good illustration is that a HK listing induces a better internal corporate governance structure, which will help the firm gain more creditworthiness in the eyes of its investors, suppliers, customers and all other stakeholders.

[7] The Mann–Whitney test shows that high-growth firms are significantly smaller in terms of total assets.
[8] See Appendix A for details.

In summary, the choice of either a SZ or HK IPO is a deliberate entrepreneurial decision. While the SZ option offers short-term advantages (lower issuance costs, higher IPO P/E and a looser regulation environment), choosing HK means entering a better institutional environment with long-term advantages — entrepreneurial signaling.

Since the SZ second board was not opened until 2004, the question remains of how entrepreneurs could have anticipated these advantages. Firstly, the difference in issuance costs and regulation between the two markets could have been easily learned from consulting financial and legal experts. Secondly, entrepreneurs were also able to anticipate the P/E ratio difference. The differences between the SZ and HK second board markets described in this paper are consistent with the differences between the SZ and HK main board markets. Except for the size requirement, the SZ second board market follows the same pattern as its main board market. Since the SZ main board market was founded at the beginning of 1992, entrepreneurs interested in a SZ second board IPO could well anticipate the implications of a SZ vs. HK IPO on the IPO P/E ratio, even before the official opening of the SZ second board market. Thirdly, the difference in institutional structure between Hong Kong and mainland China was common knowledge for virtually all entrepreneurs from mainland China at the time of the listing decision.

5. Methodology, hypotheses and variables

We examine the features of an entrepreneurial firm choosing to be listed on a "foreign" stock market (HK Stock Exchange) rather than the domestic stock market (SZ Stock Exchange) by using univariate statistics and logistic regression analysis.

As we have argued, a HK IPO is not simply a signal for external financing, but also signals the entrepreneur's views on his/her firm's long-term development in its various aspects: financial, commercial and strategic. Browsing prospectuses of HK IPO firms provides us with supportive anecdotal evidence.

For example, CMA Logistics Co. Ltd. mentions that "we expect that as we become more well-known in the market following the listing of our H Shares on GEM, we will be able to expand our customer portfolio in the automobile sector in China, and *in the longer term*, globally." Shandong Weigao Group Medical Polymer Co. Ltd. expects that "in achieving its overall objectives and increasing its profitability and competitiveness, the directors may from time to time *pursue opportunities* such as acquisition, strategic alliances, joint ventures and/or co-operative agreements." Tianjin Teda Biomedical Engineering Co. Ltd. shares the same idea and wishes to use its HK listing as "*an opportunity* to look for appropriate partners to assist in the commercialisation of medical and health products using technology in the Biomedical Engineering discipline by making use of their existing distribution network and production facilities." For Jilin Province Huinan Changlong Bio-Pharmacy Co. Ltd., the objective is to "strengthen its sales and marketing network and establish a sales channel in Hong Kong."

As discussed in the previous section, the consideration of these long-term future benefits is not directly observable at the actual time of the IPO decision, and therefore firm characteristics and behaviors around the IPO will be used as proxies for future benefits. These proxies are the industry of the firm, owner shareholdings, managerial shareholdings, percentage of shares floated, and board independence. We present below our hypotheses on the associations between the company's features and its choice of listing location.

5.1. Growth potential

In general, firms with greater growth potential will be better able to exploit future opportunities and thus create more value for their owners. In the context of this study, owners of firms with greater growth potential will be more likely to pursue long-term benefits because of the firm's future prospects. On the contrary, owners of firms with less growth potential are more likely to focus on short-term benefits. In their study on European companies, Hursti and Maula (2007) find that high-tech firms are more likely to opt for a foreign IPO, and conclude that "seeking an investor base that 'understands' the business of the IPO candidate is often cited as the reason for listing overseas."

Generally speaking, firms belonging to high-tech industries, such as IT, bio-tech, and telecommunication, will have greater growth potential than those belonging to traditional industries. We therefore use the industry of the firm as a proxy for its growth potential.

H1. Mainland Chinese entrepreneurial firms belonging to industries with high growth potential are more likely to list on the HK market, while their counterparts listed in SZ will belong to more traditional heavy or light industries.

Since it is common policy on organized stock exchanges to segment the markets between growing high-tech and traditional businesses, it could be argued that high-tech entrepreneurs have no choice but to go public in HK. The decision could also be explained by "industry trends" or certain placement issues. Conversely, there is no economic reason to believe that traditional industries should have an automatic preference for SZ second board IPOs. The Shenzhen Stock Exchange itself states that the purpose of creating the second board was to facilitate equity financing for "high-tech and high-growth small firms".[9]

Apart from an industry dummy (belonging to the high growth potential industries, or other industries), a firm's historical sales growth is also a commonly used proxy for future growth. Since some of the firms in our sample do not provide their historical sales growth rates, we use the industry dummy in our main regression and the historical sales growth rate as an additional robustness check.

[9] The statement can be found on the Shenzhen Stock Exchange website, http://www.szse.cn/main/sme/).

5.2. Owner shareholdings

The owner shareholdings represent his/her claim to the firm's future cash flows. Because of information asymmetry, owners know more about their firm than others.

The owner shareholdings can thus be seen as a proxy for the owner's confidence in the firm's growth potential: the more shares held by the owner, the higher the owner's expectations of the firm's future prospects. In addition, large owner shareholdings will better align the owner's interest with that of the firm's, and this is also favorable to the firm's future growth (Leland and Pyle, 1977). With a higher level of shareholding, "the entrepreneur keeps full control of the firm and has efficient incentives to exert effort" (de Bettignies and Brander, 2007).

Consistent with this argument, other researchers (Carter and Van Auken, 1990) have found that firms where entrepreneurs retain lower levels of equity at the time of the IPO tend to perform worse than firms where entrepreneurs retain higher levels of equity. IPO firms where CEOs retain relatively less equity post-IPO suggest a higher degree of uncertainty about the firm's long-term prospects (Daily et al., 2005). The same goes for venture capitalists or other pre-IPO investors in the firm, because by "retaining their share ownership, the venture capitalists can provide assurance of continued monitoring and can credibly signal their belief in the firm's prospects" (Barry et al., 1990).

Therefore, owner shareholdings is our second proxy for a firm's future long-term benefits.

H2. Entrepreneurial firms with higher owner shareholdings are more likely to choose to list in HK.

5.3. Shares floated

There are two reasons that the percentage of shares floated is a proxy for the firm's future prospects. The first reason is similar to the argument for owner shareholdings. The existing shareholders of entrepreneurial firms are usually insiders who have private information about the firm. The fact that they want to retain more shares reflects their anticipation of the firm's future growth. Secondly, the fewer shares floated, the less cash they can pocket from an IPO, which indicates that the insiders care more about long-term benefits. Therefore, we predict that:

H3. In comparison with firms choosing SZ listing, entrepreneurial firms listed in HK have a lower level of free-floating shares.

5.4. Managerial shareholdings

As pointed out by Jensen and Meckling (1976), offering shares to the management team can reduce a firm's agency costs. By aligning the interests of managers with the interests of the firm, managerial shareholding will facilitate long-run growth. This leads us to expect that if the owner prefers long-term benefits, more shares will be offered to the non-founding managers.

Therefore the fourth hypothesis is as follows:

H4. Entrepreneurial firms offering more shares to the management team are more likely to choose HK listing.

5.5. Board independence

Corporate governance is important for a firm's long-run growth. Consistent with Coffee's (1999) *bonding hypothesis*, if a firm voluntarily chooses to adopt a higher quality of governance, the immediate benefit is that the firm's credibility and trustworthiness will be improved, which is important for the firm's future growth. With better credibility and trustworthiness, it will be easier for the firm to cooperate with valuable business partners, strategic investors, important customers and suppliers, and hence better exploit business opportunities.

A board comprised predominantly of outside directors is assumed to operate as a signal that effective monitoring and control systems are in place (Daily et al., 2005). We therefore conjecture that if an entrepreneurial firm adopts higher quality governance mechanisms, such as a more independent board, this is an indication that the owner cares more about greater future benefits.

Almost all stock exchanges have certain board independence requirements applicable to all their firms, but firms committed to better corporate governance can still voluntarily adopt a higher level of board independence than those requirements. Therefore, we use the *excess* board independence, i.e. the percentage of independent directors *beyond* the exchange's requirement, as a measure of higher quality of corporate governance.

H5. In comparison with firms choosing a SZ listing, entrepreneurial firms listed in HK are more likely to have a board with more independent directors.

5.6. Board size

Relatively larger boards are associated with higher firm performance in some studies (Dalton et al., 1999) and with inferior performance in others (Yermack, 1996). The positive relationship is noticeably stronger for smaller or entrepreneurial firms. Consistent with these findings, researchers have also found that larger boards are particularly beneficial for IPO firms (Certo et al., 2001).

Table 3
Variable list and regression equation.

		Name of the variable	Proxies
Growth potential		new_indu	1, if the company belongs to Hi-tech, Biotech, Pharmaceutical or service; 0 if the company belongs to traditional heavy or light industry
Owner shareholdings		first_before	1st largest (owner) shareholding before IPO
Shares floated		share_float	Shareholding percentage floated
Managerial shareholdings		managerial	Managerial shareholdings after IPO
Board independence		independent	(Number of independent board members − minimum required by the regulation)/ total number of board members
Board size		board_size	Total number of board members
Founder-Manager		ceo_founder	Whether the CEO is the founder at time of IPO (0,1)
Control variables	Size	ln_asset	Ln total assets
	Leverage	lev_asset	Total liabilities/total assets
	Age of the firm	Age_firm	Age of the firm in number of years before IPO

Logistic regression:

$$\text{ForeignListing} = \alpha_0 + \alpha_1 \text{new\_indu} + \alpha_2 \text{first\_before} + \alpha_3 \text{share\_float} + \alpha_4 \text{managerial} + \alpha_5 \text{independent} + \alpha_6 \text{board\_size} + \alpha_7 \text{ceo\_founder} + \alpha_8 \text{Control\_Variables} + \varepsilon$$

The dependent variable *ForeignListing* is a dummy variable, equal to 1 if the firm is listed in HK and 0 if it is listed in SZ.

Thus, we predict that an entrepreneurial firm focusing on future benefits will set up a larger board, and hence HK-listed entrepreneurial firms will tend to have larger boards than SZ firms.

H6. In comparison with firms choosing a SZ listing, entrepreneurial firms listed in HK are more likely to have a larger board.

5.7. Founder-manager

The founders of entrepreneurial firms are usually also the managers of the firm. However, as the firm grows, the owner's human capital may no longer be appropriate for the firm's further development. Introduction of a professional manager becomes necessary, particularly for entrepreneurial firms moving to a new stage of development through an IPO. Daily et al. (2005) find that investment bankers may assess founder-managed firms as having a higher level of uncertainty than IPO firms run by non-founder CEOs, since founder CEOs in IPO firms are relatively untested managers (Tashakori, 1980; Wat, 1983). Also, founders often tend to be over-optimistic (Cooper et al., 1988) and may apply this optimism to their own managerial capabilities and their firm's prospects for success. As a result, founder-run firms may be perceived as having greater uncertainty (Certo et al., 2001), but this is of course a typical characteristic of being an entrepreneurial firm.

Thus, although bringing in a professional manager is usually necessary to upgrade a firm's organizational structure and succeed in its post-IPO development, over-confident entrepreneurial founders will be less willing to hire a professional manager, preferring to manage the firm themselves. Therefore, our hypothesis is as follows:

H7. Entrepreneurial firms run by a professional manager are more likely to choose a HK listing.

5.8. Control variables

In this study, we also apply three commonly used control variables: *size, leverage*, and *age* of the firm.

Although our study concerns only small entrepreneurial firms, we still control for *size*, since the existing literature finds larger companies are more likely to be listed in a foreign country when their domestic markets are limited (Saudagaran, 1988; Pagano et al., 2002).

We also control for pre-IPO *leverage*, because Pagano et al. (2002) argue that the salient reason why a company may need equity funding is to carry out new investment programs, and the required funding is likely to be specially large for companies that have already exhausted their debt capacity. In their empirical study, they find that companies that cross-list to raise capital already have high leverage before the cross-listing, other things being equal.

Finally, we control for the pre-IPO *age* of the firm, because of the regulatory difference: a minimum period of 24 months in business is required for HK, but not in SZ (see Table 1). The features and their proxies, as well as the regression equation, are listed in Table 3.

6. Sample selection

We select all entrepreneurial firms in China that went public in HK and SZ between 2000 and 2006. These IPOs are guided by their founding entrepreneurs or entrepreneurial teams (Certo et al., 2001). 73 entrepreneurial firms are currently listed on the SZ

Table 4
Summary statistics of explanatory variables and control variables

	SZ		HK		Mann–Whitney test
	Mean	Median	Mean	Median	*P* value
New_indu	0.192	0.000	0.688	1.000	<0.01****
first_before	0.551	0.530	0.555	0.528	0.989
share_float	0.310	0.290	0.288	0.280	0.042**
Managerial	0.177	0.087	0.185	0.033	0.834
Independence [a]	0.021	0.000	0.080	0.091	0.004****
board_size	9.417	9.000	9.083	9.000	0.306
ceo_founder	0.384	0.000	0.354	0.000	0.745
Total_assets (in RMB million) [b]	485	351	213	160	<0.01***
Total leverage	0.534	0.542	0.484	0.498	0.073*
Age_firm	5.068	4.000	3.354	3.000	<0.01***

[a] We adjust the percentage of independence using the following method. For SZ-listed companies, the minimum requirement on board independence is one third, and for our adjustment we subtract 33.33% from each firm's percentage of board independence. For HK-listed companies, the minimum requirement is 2 independent directors. The adjusted independence is calculated as (Number of independent directors − 2) / total number of directors.
[b] This variable is in RMB. For Hong Kong-listed companies, the prospectus data are in HK$. We apply the official exchange rate between HK$ and RMB, which is 1:1.07.

second board market, and 50 mainland Chinese entrepreneurial firms are listed on the HK second board market. These firms constitute our sample. We do not include Chinese firms listed on the NASDAQ, because their IPOs are mostly driven by their US private equity investors, so cannot be considered to result from an independent entrepreneurial decision.[10] All the necessary data are hand-collected from the IPO prospectus of each firm. Two HK-listed firms and one SZ-listed firm are eliminated because of a lack of required data. The final sample includes 72 SZ-listed and 48 HK-listed entrepreneurial firms.[11]

Although the HK second board market opened in 1999 and its SZ counterpart only officially opened in 2004, presumably the sample of Chinese entrepreneurial firms included in our study were already faced with the choice of either HK or SZ as their IPO market from as early as 2000. The Chinese entrepreneurial firms in our sample were listed in HK from 2000.[12] At that time, the future establishment of a second board market in SZ was already a certainty: Gao Xiqing, deputy chairman of the China Securities Regulatory Commission, declared on May 18, 2000 that the CSRC planned to establish a second board Market, that would function and be managed according to international practice, by the end of the year.[13] This market would lower the size-based listing requirement and operate on a total floating share basis. IPO permission would be granted after a thorough, independent review by a commission composed of market professionals, and its decisions would be based on the position of the applicant and the market circumstances. So although the SZ second board market was only opened in 2004, given that it takes a firm three years on average to prepare for an IPO, these IPO entrepreneurial firms had already been engaged in the process for a while prior to the market opening. This is consistent with the observation that there was a disproportionate number of SZ IPOs immediately after the opening of the SZ second board (the data show 38 companies going public on the SZ market during the first four months after its opening), along with a greater average age for SZ IPO firms.

Nonetheless, to counter any remaining charge of selection bias, in our final robustness checks, we show that our results remain stable if we exclude the firms listed in HK before 2004.

7. Results

7.1. Univariate analysis

We first present summary statistics of our explanatory variables and control variables for HK-listed companies and SZ-listed companies. Next, we compare those variables between the two groups, using simple *t*-tests of means or non-parametric tests to detect any significant difference.

Summary statistics are reported in Table 4. Normality is rejected for all variables by skewness and kurtosis tests. Therefore, we only conduct the Mann–Whitney test to examine equality between the variables of the two sample groups. There are some significant differences between the companies listed in SZ and HK. The results on industry show that the majority of the companies listed on the HK second board market are high-tech and service companies, while most SZ-listed companies are in traditional light or heavy industries. The second difference concerns the percentage of shares floated. The rank sum test confirms that SZ-listed companies free float more shares than HK-listed companies. Furthermore, HK-listed companies' board independence above the minimum requirement is significantly higher than that of SZ-listed companies.

[10] Of the total 120 sample firms, only 24 have venture capital investors (VCs) as their shareholder. The mean VC shareholding is 2.6%. In the robustness check section, we find the presence of a VC shareholder has no impact on the firm's choice of IPO market (HK vs. SZ) in our sample.
[11] The list of sample firms is available from the authors upon request.
[12] The first Chinese mainland entrepreneurial firm listed on the Hong Kong second board was Beijing Beida Jade Bird Universal Sci-Tech Co Ltd on July 27, 2000. Only three of the 48 HK-listed firms were listed before the end of 2000.
[13] People's Daily, May 20, 2000.

The average value of SZ-listed companies' total assets is RMB 485 million, compared with an average of RMB 213 million for HK-listed companies. However, in terms of financial leverage, there is no significant difference between the two sub-samples.

With regard to other variables, we see that more SZ-listed companies have their founders as CEO and HK-listed companies are significantly younger than SZ-listed companies.

7.2. Logistic regressions

We now conduct a logistic regression on the whole sample. The dependent variable is a one-zero variable indicating whether the firm is listed on the HK stock market (1) or not (0). The independent variables are the explanatory variables and control variables discussed above. By observing the directions and significance of the explanatory variables, we are able to examine which features are associated with a company's choice to list on the 'foreign' HK stock market.

Table 5 shows some quite significant results. Firstly, HK-listed entrepreneurial firms are more likely to come from industries with high growth potential, while firms undertaking a SZ IPO are mainly from traditional heavy or light industries, (supporting H1), showing that owners of companies with better future prospects are more likely to choose a foreign listing in order to better pursue future benefits.

As far as ownership structure is concerned, HK-listed entrepreneurial firms have significantly higher pre-IPO ownership concentration and offer less free-floated shares to the market than their SZ-listed counterparts (supporting Hypotheses H2 and H3). This is consistent with our argument that retaining greater levels of ownership in the companies indicates that the companies' owners and insiders have more confidence in the companies' future growth, and care more about long-run benefits; and therefore are more likely to choose a foreign listing instead of a domestic listing.

Last but not least, regarding corporate governance aspects, the importance of independent board members is highly significant: there are more independent board members in HK-listed entrepreneurial firms (supporting H5). This result shows that companies choosing a HK listing will also adopt a higher quality of governance to improve their credibility and trustworthiness, which is important in enabling the firm to exploit business opportunities to the full.

For other explanatory variables, the coefficients are insignificant, but their directions are consistent with our hypotheses. We see that companies which offer more shares to management, have larger boards, and have professional managers, are more likely to choose a HK listing.

The significant control variables are size and leverage: HK-listed firms are smaller and more leveraged than firms choosing a SZ listing.

8. Robustness checks

Before confirming the findings of this study, we need to conduct several robustness checks: the time lag between the opening of the HK and SZ second board markets, the size effect, controls for financial performance, alternative proxies for growth potential and ownership concentration, and backing, if any, by venture capital investors (VCs).

Table 5
Logit regression results.

Number of observations	=	120				
Pseudo R2	=	0.533				
Variables	Coef.	Std. Err.	*z*	*P*>*z*	[95% Conf.	Interval]
new_indu	1.99	0.72	2.78	0.01	0.59	3.39
first_before	4.54	1.81	2.51	0.01	0.99	8.10
share_float	−13.98	6.50	−2.15	0.03	−26.72	−1.23
managerial	0.68	1.58	0.43	0.67	−2.42	3.79
independent	18.32	5.67	3.23	0.00	7.21	29.43
board_size	0.04	0.17	0.21	0.84	−0.30	0.37
ceo_founder	−1.14	0.77	−1.48	0.14	−2.65	0.37
ln_asset	−2.99	0.81	−3.68	0.00	−4.58	−1.40
lev_asset	6.14	3.03	2.03	0.04	0.20	12.08
age_firm	−0.07	0.15	−0.49	0.63	−0.37	0.22
_cons	54.78	14.98	3.66	0.00	25.41	84.15

new_indu	1 if the company belongs to Hi-tech, Biotech, Pharmaceutical or service; 0 if the company belongs to traditional heavy or light industry
first_before	1st largest shareholding before the IPO
share_float	Shareholding percentage floated
managerial	Managerial shareholdings after the IPO
independent	(Number of independent board members − minimum required by the regulation)/total number of board members
board_size	Total number of board members
ceo_founder	Whether the CEO is the founder at time of the IPO (0,1)
ln_asset	Ln total assets
lev_asset	Total liabilities/total assets
Age_firm	vsAge of the firm in number of years before the IPO

Table 6
Logit regression on sub-sample including firms that undertook their IPO during 2004–2006.

Number of obs	=	92				
Pseudo R2	=	0.69				
Variables	Coef.	Std. Err.	*z*	*P*>*z*	[95% Conf.	Interval]
new_indu	2.70	1.58	1.71	0.09	−0.39	5.79
first_before	8.07	3.84	2.10	0.04	0.54	15.61
share_float	−7.14	11.69	−0.61	0.54	−30.04	15.76
managerial	4.07	2.85	1.43	0.15	−1.51	9.65
independent	27.03	9.36	2.89	0.00	8.69	45.38
board_size	0.12	0.34	0.34	0.73	−0.55	0.79
ceo_founder	−1.80	1.55	−1.16	0.25	−4.84	1.24
ln_asset	−3.19	1.52	−2.10	0.04	−6.17	−0.21
lev_asset	6.48	4.80	1.35	0.18	−2.92	15.88
age_firm	−0.36	0.55	−0.66	0.51	−1.43	0.71
_cons	52.30	27.17	1.92	0.05	−0.97	105.56

new_indu	1 if the company belongs to Hi-tech, Biotech, Pharmaceutical or service; 0 if the company belongs to traditional heavy or light industry
first_before	1st largest shareholding before the IPO
share_float	Shareholding percentage floated
managerial	Managerial shareholdings after the IPO
independent	(Number of independent board members − minimum required by the regulation) / total number of board members
board_size	Total number of board members
ceo_founder	Whether the CEO is the founder at time of the IPO (0,1)
ln_asset	Ln total assets
lev_asset	Total liabilities / total assets
Age_firm	Age of the firm in number of years before the IPO

8.1. Time lag between the opening of the HK and SZ second board markets

One fact suspected of causing bias in our results is that the SZ second board market opened in 2004, but the HK second board market opened in 1999. This raises the question of whether HK-listed firms had any real choice before 2004 of where to carry out their IPO. As we argued before, investors as well as entrepreneurs could reasonably have anticipated all the relevant costs and benefits of a SZ listing. In addition, SZ-listed companies have all undergone an average three years' pre-IPO tutorship period, which means that the SZ market was in preparation from 2001, and from that time all our sample firms faced a *de facto* choice between the two markets. This position is supported by the fact that there was a disproportionate number of SZ IPOs immediately after the opening of the SZ market (38 companies went public on the SZ market during its first 4 months of operation), but although this may reduce the bias, a final robustness check is still necessary. We thus exclude any firms that went public on the HK market "too early" for a real choice between HK and SZ to have been available to them.

Elimination of firms which carried out an IPO in the HK market before 2004 (28 firms in all) brings the sample size down to 92 firms. The result of the logit regression is reported in Table 6. Visibly, the results remain largely unchanged, i.e., firms choosing the HK second board market for their IPO are more likely to be in a high-growth industry, with higher ownership concentration, intending to float fewer shares, and with higher board independence.

8.2. Size effect

Another fact that may bias our previous findings is that HK-listed firms are smaller than SZ-listed firms, as shown in Table 4 of summary statistics. This is caused by the difference in the two markets' listing requirements. The SZ market requires intended firms to have Equity of no less than RMB 50 million, while the HK market requires that Total Assets should be no less than HK$ 50 million. The requirements of the two markets are not comparable. Furthermore, as shown in summary statistics, HK firms are smaller than SZ firms, so it is very likely that some HK companies may be too small to meet the requirements of the SZ market, while some SZ firms are too large for the HK exchange. We therefore consider it necessary to perform a robustness check on the sub-sample of companies meeting the requirements of both exchanges. This sub-sample is formed in the following way. We first select the SZ-listed companies with the smallest equity value and HK-listed companies with the largest equity value. Then we drop those HK firms whose equity value is smaller than the smallest SZ firm, and SZ firms whose equity value is larger than the largest HK firm. We are left with 98 companies acceptable to both exchanges in terms of equity. Logit regressions on these two sub-samples give results similar to those for the entire sample. The results are reported in Table 7.

In the same way, we form another sub-sample containing 95 firms whose total assets are acceptable to both exchanges. Logit regressions on that sample again yield similar results. To save space, the results are not reported in this paper, but are available from the authors on request.

8.3. Control for financial performance

Financial performance may also matter when firms choose which stock market to use for an IPO. The intuition is that firms with better financial performance may choose a foreign listing. To test this intuition, a financial performance variable is added in the

Table 7
Logit regression on a reduced sample of firms whose equity size is accepted by IPO requirements in both HK and SZ.

Number of obs	=	98				
Pseudo R2	=	0.42				
Variables	Coef.	Std. Error	*z*	*P*>|*z*|	[95% Conf.	Interval]
new_indu	2.04	0.72	2.83	0.01	0.63	3.45
first_before	3.84	1.86	2.06	0.04	0.18	7.49
share_float	−12.90	6.52	−1.98	0.05	−25.68	−0.13
managerial	−0.08	1.63	−0.05	0.96	−3.26	3.11
independent	18.14	5.81	3.12	0.00	6.76	29.52
board_size	0.07	0.18	0.37	0.71	−0.28	0.41
ceo_founder	−1.14	0.77	−1.48	0.14	−2.66	0.37
ln_asset	−2.37	0.86	−2.74	0.01	−4.06	−0.67
lev_asset	4.95	3.14	1.58	0.12	−1.21	11.11
age_firm	−0.04	0.15	−0.29	0.77	−0.33	0.25
_cons	42.93	15.85	2.71	0.01	11.87	73.99

new_indu	1 if the company belongs to Hi-tech, Biotech, Pharmaceutical or service; 0 if the company belongs to traditional heavy or light industry
first_before	1st largest shareholding before the IPO
share_float	Shareholding percentage floated
managerial	Managerial shareholdings after the IPO
independent	(Number of independent board members − minimum required by the regulation)/total number of board members
board_size	Total number of board members
ceo_founder	Whether the CEO is the founder at time of the IPO (0,1)
ln_asset	Ln total assets
lev_asset	Total liabilities/total assets
Age_firm	Age of the firm in number of years before the IPO

logit regression model. However, mainland China's listing companies are well-known for their financial *packaging* before an IPO, and the reported profit may be higher than the actual level (Aharony et al., 2000). In our sample, the mean ROA of SZ-listed firms is 9.8%, while it is 9.6% for HK-listed firms.

Although we are aware that the inclusion of a financial performance variable may be misleading, we nevertheless add it as a robustness check to control for the influence of financial performance. Table 8 reports the results of the logit regression when ROA is added. The ROA coefficient is insignificant, indicating that there is no significant difference in performance between the two sub-samples. We also see that the main results are still unchanged after controlling for the influence of financial performance. When ROA is substituted by ROE, we obtain similar results (not reported here).

Table 8
Logit regression including financial performance (measured by ROA).

Number of obs	=	120				
Pseudo R2	=	0.54				
Variables	Coef.	Std. Error	*z*	*P*>|*z*|	[95% Conf.	Interval]
new_indu	1.99	0.73	2.71	0.01	0.55	3.42
first_before	4.04	1.89	2.13	0.03	0.33	7.75
share_float	−15.17	6.77	−2.24	0.03	−28.44	−1.91
managerial	1.25	1.65	0.76	0.45	−1.98	4.49
independent	19.69	5.94	3.31	0.00	8.04	31.33
board_size	0.06	0.18	0.31	0.75	−0.29	0.40
ceo_founder	−1.23	0.78	−1.58	0.11	−2.75	0.30
ln_asset	−3.11	0.82	−3.77	0.00	−4.72	−1.49
lev_asset	4.60	3.17	1.45	0.15	−1.61	10.81
age_firm	0.00	0.16	−0.02	0.99	−0.31	0.31
ROA	−10.10	7.54	−1.34	0.18	−24.89	4.68
_cons	58.93	15.46	3.81	0.00	28.63	89.22

new_indu	1 if the company belongs to Hi-tech, Biotech, Pharmaceutical or service; 0 if the company belongs to traditional heavy or light industry
first_before	1st largest shareholding before the IPO
share_float	Shareholding percentage floated
managerial	Managerial shareholdings after the IPO
independent	(Number of independent board members − minimum required by the regulation)/total number of board members
board_size	Total number of board members
ceo_founder	Whether the CEO is the founder at time of IPO (0,1)
ln_asset	Ln total assets
lev_asset	Total liabilities/total assets
Age_firm	Age of the firm in number of years before the IPO
ROA	Net income/total assets

Table 9
Logit regression with sale growth as measure of growth potential.

Number of obs	=	93				
Pseudo R2	=	0.49				
Variables	Coef.	Std. Error	*z*	*P*>|*z*|	[95% Conf.	Interval]
Sales_growth	1.23	0.63	1.95	0.05	−0.01	2.46
first_before	3.34	2.13	1.57	0.12	−0.83	7.52
share_float	−16.05	8.86	−1.81	0.07	−33.41	1.31
managerial	0.85	1.94	0.44	0.66	−2.95	4.65
independent	15.15	6.21	2.44	0.02	2.98	27.32
board_size	−0.34	0.25	−1.37	0.17	−0.83	0.15
ceo_founder	−0.22	0.88	−0.25	0.80	−1.94	1.50
ln_asset	−2.74	1.02	−2.69	0.01	−4.73	−0.74
lev_asset	2.18	3.35	0.65	0.52	−4.39	8.75
age_firm	−0.11	0.17	−0.67	0.50	−0.44	0.22
_cons	55.53	19.27	2.88	0.00	17.77	93.30

Sales_growth	growth rate of annual sales from three years prior to IPO to the last year prior to IPO
first_before	1st largest shareholding before the IPO
share_float	Shareholding percentage floated
managerial	Managerial shareholdings after the IPO
independent	(Number of independent board members − minimum required by the regulation)/total number of board members
board_size	Total number of board members
ceo_founder	Whether the CEO is the founder at time of the IPO (0,1)
ln_asset	Ln total assets
lev_asset	Total liabilities/total assets
Age_firm	Age of the firm in number of years

8.4. Alternative proxy for growth potential

In our study, we argue that entrepreneurial firms with greater growth potential tend to carry out their IPOs in the HK market. We thus use industry classification as a proxy for growth potential. The logit regression shows that firms belonging to high-tech industries, such as IT, biotech and modern services, are more likely to choose a HK second board listing. However, industry classification is a relatively rough proxy for growth potential. In the extant literature, historical sales growth, R&D expenditure, and capital investment are used as direct measures of growth potential, but R&D expenditure and capital investment are not available

Table 10
Logit regression including the presence of VC shareholders.

Number of obs	=	120				
Pseudo R2	=	0.53				
Variables	Coef.	Std. Error	*z*	*P*>|*z*|	[95% Conf.	Interval]
new_indu	1.99	0.72	2.77	0.01	0.58	3.40
first_before	4.46	1.86	2.39	0.02	0.81	8.11
share_float	−13.90	6.53	−2.13	0.03	−26.70	−1.09
managerial	0.66	1.59	0.42	0.68	−2.45	3.77
independent	18.40	5.69	3.23	0.00	7.24	29.56
board_size	0.04	0.17	0.23	0.82	−0.30	0.38
ceo_founder	−1.14	0.77	−1.48	0.14	−2.65	0.37
ln_asset	−3.01	0.82	−3.67	0.00	−4.62	−1.40
lev_asset	6.15	3.03	2.03	0.04	0.20	12.10
age_firm	−0.07	0.15	−0.49	0.63	−0.37	0.22
VC	−0.15	0.78	−0.19	0.85	−1.68	1.37
_cons	55.16	15.18	3.63	0.00	25.41	84.91

new_indu	1 if the company belongs to Hi-tech, Biotech, Pharmaceutical or service; 0 if the company belongs to traditional heavy or light industry
first_before	1st largest shareholding before the IPO
share_float	Shareholding percentage floated
managerial	Managerial shareholdings after the IPO
independent	(Number of independent board members − minimum required by the regulation)/total number of board members
board_size	Total number of board members
ceo_founder	Whether the CEO is the founder at time of the IPO (0,1)
ln_asset	Ln total assets
lev_asset	Total liabilities/total assets
Age_firm	Age of the firm in number of years before the IPO
VC	Dummy variable equal to one if there is one or more VC shareholders.

Table 11
Robustness check for alternative measures of ownership concentration.

Panel A: Ownership concentration measured by the sum of top five largest shareholdings

Number of obs	=	120				
Pseudo R2	=	0.52				
v1	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
new_indu	1.86	0.68	2.76	0.01	0.54	3.19
Topfive_before	8.12	3.76	2.16	0.03	0.74	15.49
share_float	−12.10	6.24	−1.94	0.05	−24.33	0.12
managerial	1.08	1.59	0.68	0.50	−2.03	4.19
independent	19.97	5.79	3.45	0.00	8.62	31.32
board_size	0.11	0.18	0.62	0.54	−0.24	0.46
ceo_founder	−1.11	0.74	−1.49	0.14	−2.57	0.35
ln_asset	−2.61	0.77	−3.38	0.00	−4.12	−1.09
lev_asset	4.71	2.84	1.66	0.10	−0.86	10.28
age_firm	−0.10	0.14	−0.70	0.49	−0.37	0.18
_cons	41.80	14.26	2.93	0.00	13.85	69.75

new_indu	1 if the company belongs to Hi-tech, Biotech, Pharmaceutical or service; 0 if the company belongs to traditional heavy or light industry
Topfive_before	Sum of top five largest shareholdings before the IPO
share_float	Shareholding percentage floated
managerial	Managerial shareholdings after the IPO
independent	(Number of independent board members − minimum required by the regulation)/total number of board members
board_size	Total number of board members
ceo_founder	Whether the CEO is the founder at time of the IPO (0,1)
ln_asset	Ln total assets
lev_asset	Total liabilities/total assets
Age_firm	Age of the firm in number of years before the IPO

Panel B: Ownership concentration measured by the Herfindahl index of top five largest shareholdings

Number of obs	=	120				
Pseudo R2	=	0.55				
v1	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
new_indu	2.00	0.72	2.76	0.01	0.58	3.42
Hirfindahl_topfive	5.03	1.77	2.84	0.01	1.56	8.50
share_float	−14.16	6.57	−2.16	0.03	−27.03	−1.29
managerial	1.19	1.65	0.72	0.47	−2.05	4.42
independent	18.80	5.84	3.22	0.00	7.36	30.23
board_size	0.04	0.17	0.23	0.82	−0.30	0.38
ceo_founder	−1.30	0.81	−1.60	0.11	−2.88	0.29
ln_asset	−3.18	0.85	−3.74	0.00	−4.84	−1.51
lev_asset	6.23	3.07	2.03	0.04	0.21	12.26
age_firm	−0.04	0.15	−0.26	0.79	−0.34	0.26
_cons	58.60	15.68	3.74	0.00	27.87	89.33

new_indu	1 if the company belongs to Hi-tech, Biotech, Pharmaceutical or service; 0 if the company belongs to traditional heavy or light industry
Herfindahl_topfive	The Herfindahl index of top five largest shareholdings before IPO (sum of square of top five largest shareholdings)
share_float	Shareholding percentage floated
managerial	Managerial shareholdings after the IPO
independent	(Number of independent board members − minimum required by the regulation)/total number of board members
board_size	Total number of board members
ceo_founder	Whether the CEO is the founder at time of the IPO (0,1)
ln_asset	Ln total assets
lev_asset	Total liabilities/total assets
Age_firm	Age of the firm in number of years before the IPO

from the prospectuses of our sample firms, and historical sales data are only available for 93 firms. Therefore, we only use the sales growth rate from three years prior to the IPO to the last year prior to the IPO to measure growth potential as a robustness check. Table 9 reports the logit regression results in which industry classification is substituted by the historical sales growth rate. As we see, the results are largely the same. The historical sales growth rate coefficient is positive and significant, indicating that firms with greater growth potential choose to undertake an IPO in HK.

8.5. Control for VC-backing

To finance their growth, entrepreneurial firms have frequently turned to venture capital investors (VCs), who have been shown to provide not only money, but also often valuable hands-on help and expertise in turning new ventures into successes (Maula et al., 2006). The presence of a VC may be also an important factor influencing entrepreneurial firms' decisions over whether and where to

proceed with an IPO. For the HK firms, 13 out of 48 have VCs as shareholders and the average percentage of VCs' shareholdings is 3.9%. Of the 72 SZ firms, 11 firms have shares held by VCs, with a 1.7% average percentage shareholding. This difference may be taken to suggest our previous results are distorted by omitted variables. Therefore, we control for the presence of a VC as a robustness check.

We do this by adding a dummy variable equal to one if there is a VC as a shareholder for a sample firm. We do not distinguish whether or not the VC is foreign, because only one firm in the sample (listed in HK) has a foreign VC as a shareholder. The regression results are presented in Table 10. We see that the coefficient of the dummy VC is negative and insignificant while the direction, magnitude and significance of the coefficients for all other variables remain largely unchanged. We substitute the dummy with the VC's percentage shareholding and obtain similar results (not reported here).

8.6. Alternative measures of ownership concentration

We also examine whether the main results are robust to different operationalizations of ownership concentration. We use two different measures: (1) the sum of the top five largest shareholdings; and (2) the Herfindahl index of the top five largest shareholdings. Panels A and B of Table 11 report the results. We see that ownership concentration is still significantly positively associated with the likelihood of HK listing. For other variables, the results are largely unchanged.

9. Discussion and summary

In this paper, we analyze a stock listing as an entrepreneurial decision, and interpret the choice of IPO location as entrepreneurial signaling. We take a strategic perspective, focusing on ex ante features of firms (Hursti and Maula, 2007) choosing a HK second board listing. We find that the IPO location decision is driven not only by short-term financial considerations (low issuance costs, high issuing P/E ratio, etc.), but also by the entrepreneur's pursuit of long-term benefits. Listing in an economy with better institutional structure involves lower transaction cost and more business opportunities for the firm (North, 1990) and hence is beneficial for the firm's long-term growth. By comparing the mainland Chinese entrepreneurial firms listed in HK with those choosing a domestic listing (SZ second board market), we provide empirical evidence supporting our claims.

We show that firms opting for a foreign listing on the HK second board market have higher growth potential, higher founder ownership, sell less equity to outside shareholders, and have relatively more independent directors than their SZ-listed counterparts. Our results remain stable throughout several robustness checks focusing on the time lag between the openings of the HK and SZ markets, size differences, controls for financial performance and venture-capital backing, and using alternative measures of growth potential and ownership concentration. Based on our results, we interpret the decision to list in HK as an entrepreneurial signal that management is committed to pursue further growth rather than a quick sell-out after the IPO. In the same vein as Hursti and Maula (2007), our study is one of the few to take "the perspective of entrepreneurial ventures […] in addition to some of the finance-related determinants examined by earlier studies".

Although our study covers only China, we believe it is also of relevance to entrepreneurial firms in other emerging markets. First of all, the situation described (young entrepreneurial firms in an illiquid market) is quite common in other emerging markets, which means that entrepreneurs in other emerging countries are facing the same dilemma in their IPO decision as their Chinese counterparts: whether to stay at home or venture further abroad. Second, because of the unusually high P/E ratios in China, we have a unique dataset to test long-term vs. short-term considerations, since we are able to isolate the long-term benefits inherent to a HK-listing decision.

We extend the extant IPO literature in two ways. Firstly, whereas previous studies mainly look at the financial aspects of foreign listing, our paper takes both financial and strategic aspects into consideration. We show that in certain circumstances, for firms from an emerging market, the decision of whether to opt for a domestic listing or a foreign listing is a trade-off between short-term financial benefits and long-term strategic benefits. Our paper thus enriches the literature on the choice of foreign listing. Secondly, to the best of the authors' knowledge, this is the first paper to examine IPO location decisions made by entrepreneurial firms from emerging markets. We show that although the lack of an efficient institutional environment is a major obstacle to the long-run development of young entrepreneurial firms from emerging economies, those entrepreneurial firms can circumvent this problem by opting for a foreign listing. Our study thus enhances understanding of the mechanisms supporting the long-run growth of entrepreneurial firms from emerging economies.

This study shows that the main motivation driving young entrepreneurial firms from emerging economies to choose a foreign listing is the search for an efficient institutional environment which will be beneficial for the firms' long-run growth. The sustainable growth of young entrepreneurial firms is specially important for emerging economies, and our results yield important policy implications for the governments of such economies. An effective way to facilitate the growth of small firms is to enhance the domestic institutional infrastructure in terms of property rights and contract enforcement, which eventually lowers transaction costs and enables firms to operate in the perspective of a long time-horizon. Furthermore, as foreign listing may not be suitable for most entrepreneurial firms and entails considerable costs (e.g. less capital raised and high issuance costs), an efficient domestic institutional infrastructure can benefit more firms at lower cost.

We acknowledge that the current study has several limitations, which also open up directions for future research. Firstly, this paper uses a sample to separate the financial benefits and strategic benefits in order to test the entrepreneurial signaling hypothesis. To preserve the objectivity of a quantitative analysis, we use information from the prospectus only, and therefore only take into account indirect measures of entrepreneurs' preferences for short-term and long-term benefits. Further studies could directly examine entrepreneurs' motivation and intentions through face-to-face interviews or a questionnaire survey approach.

Secondly, given our limited sample period, we are unable to observe the post-IPO performance of the sample firms, and it would be interesting to test the subsequent effect of a foreign listing on firm performance in comparison with a domestic listing. Third, this study focuses on entrepreneurial firms from a single emerging economy, China. Future research could extend the approach to other emerging economies.

Appendix A. [14]

Table A compares company law between Hong Kong and mainland China. As suggested by LLSV (1998), we focus on seven rules and rights of company law.

Table A
Comparison of company law.

	Shareholder rights	Mainland China	Hong Kong
1	One-share-one-vote	1	0
2	Proxy-by-mail allowed	0	1
3	Shares not blocked before meeting	0	1
4	Cumulative voting	0	0
5	Oppressed minority	0	1
6	Preemptive right to new issues	1	1
7	Percentage of share capital to call an extraordinary shareholder meeting	1	1
Total		3	5

LLS (2006) use several categories, each comprising several variables, to capture the effectiveness of the securities law.

Table B
Comparison of securities law

	Shareholder rights	Mainland China	Hong Kong
1	Prospectus	0	1
2	Compensation	1	0.5
3	Shareholders	1	1
4	Inside ownership	1	1
5	Irregular contracts	0	1
6	Transactions	1	1
Subtotal	Disclosure requirements	4	5.5
7	Liability standard for issuer and its directors	2/3	2/3
8	Liability standard for distributor	2/3	2/3
9	Liability standard for accountants	2/3	2/3
Subtotal	Liability standard	2	2
10	Appointment	0	0
11	Tenure	0	0
12	Focus	1	1
Subtotal	Supervisor's characteristics	2	2
13	Rule-making power	1	1
Subtotal	Rule-making power	1	1
14	Document	1	1
15	Witness	1	1
Subtotal	Investigative powers	2	2
16	Orders Issuers	1	1
17	Orders Distributor	1	1
18	Orders Accountant	1	1
Subtotal	Orders	3	3
19	Criminal Director/officer	0.5	1
20	Criminal Distributor	0.5	1
21	Criminal Accountant	0.5	1
Subtotal	Criminal	1.5	3
Total		14.5	17.5

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[14] Please refer to LLSV (1998) and LLS (2006) for details.

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