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Choice between backdoor listing and regular initial public offering in China

by

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Abstract

The essay examines the factors that affect the private firms' choice to go public by backdoor listing (BDL) or regular initial public offering (IPO) in China. The relevant ex-ante factors are tested by 104 BDL firms and 449 IPO firms. The results indicate significant regulation impact to the firm's decision. In the meantime, it is unclear that the review standard of firm's profit affects the firm's choice. The BDL is more prevalent at a hotter market, while IPO firms have less time flexibility because of the regulation. Due to the unclean shells and the intention of taking over the reorganized companies, the sizes of BDL firms are significantly larger than those of IPO firms. With a higher debt ratio and higher ratio of research and development expenditure, the firms are likely to choose BDL. In addition, the asset liquidity and intangible asset ratio have less influence on the choice, although the firms with higher profitability tend to choose BDL in IPO periods.

Keywords: backdoor listing, front-door listing, IPO, reverse takeover, reverse merger, M&A

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Abbreviations

ASX	Australian Securities Exchange
BDL	backdoor listing
CRM	Chinese reverse merger
CSH	cash and cash equivalent divided by total assets
CSRC	China Securities Regulatory Commission
GEM	growth enterprise market
IA	intangible assets divided by total assets
IPO	initial public offering
LEV	total debt divided by total assets
LNA	the logarithm of total assets
M&A	merger and acquisition
PIPE	private investment in public equity
R_D	research and development expenditure divided by total operating revenue
R&D	research and development expenditure
RM	reverse merger
ROA	return on assets: net profit divided by total assets
RTN	return on industry index
RTO	reverse takeover
SEO	secondary equity offering
SSE	Shanghai Stock Exchange
ST	special treatment
SZSE	Shenzhen Stock Exchange
The Measures	Administrative Measures for the Material Asset Reorganizations of Listed Companies
U.K.	United Kingdom
U.S.	United States
WFT	Wind Financial Terminal

1 Introduction

Initial public offering (IPO) underwritten by an investment bank is the regular way for a private company to access to public capital market, while reverse merger (RM, or reverse takeover, RTO) has been used as an alternative approach since the 1950s (Adjei et al., 2008). Gleason et al. (2005, p. 56) defined the term “reverse takeover” as “a specific corporate governance event where a private company is acquired by a public company in order to obtain the public listing, and where the private partner is the surviving public entity”. As it bypasses IPO regulation, it is considered as backdoor listing (BDL) (Brown et al., 2013). A “shell”, is a listed company used as a BDL vehicle, “that has no business purpose other than to find a private company to acquire, has no assets (other than possibly cash), and has no or nominal existing business operations” (Feldman, 2010, p. 24). BDL behavior has been found in the United States, the United Kingdom, Canada, Australia, China, Korea (Vermeulen, 2015; Carpentier et al., 2012; Brown et al., 2013; Song et al., 2014; Xiao and Lizhen, 2013).

Another alternative approach to regular IPO is by selling out to a public traded firm (Brown et al., 2013). The difference between an RTO and a sell-out transaction lies in the change of corporate control (Brown et al., 2013). After the consummation of an RTO, the shell company exits the new public entity and the shareholders of the private company becomes the de facto controller. It is often included in the process that the new public entity’s name is changed as the controller requests. In contrast, in a sell-out transaction, there is no such “shell” conception. A private firm is merged into a public firm, which usually has normal existing business operation, and the shareholders of the public firm still control the restructured firm. Considering the similar setting of BDL, the essay also takes the relevant literature as valuable references, e.g., Brau et al. (2003), Poulsen and Stegemoller (2008).

The growing number of RM deals has caught the scholars’ attention since the early 21st century. In the developed markets, a considerable amount of researches have been published on merger and acquisition (M&A) and IPO, while a very small body of literature is concerned with RTO as a backdoor listing route and compares them with front-door listing route, i.e., IPO. Previous study covers the ex-ante and ex-post performance of the listed firms via different routes. Regarding ex-ante performance, the scholars interpret the differential choices to public market from the aspect of market environment, regulation system, corporate governance, firm-specific characteristics and event-related characteristics (Xiao and Lizhen, 2013; Carpentier et al., 2012; Vermeulen, 2015). Regarding ex-post performance, they are more interested in the discrepancy of the stock performance and less in financial performance (Lee et al., 2015; Adjei et al., 2008).

However, not many studies have been done in Chinese market. Some scholars treat BDL as a category of M&A and employ the theories of M&A (Bin, 2012), while some scholars try to interpret the motivation of BDL with case studies and theoretical research. A small group of them have tested the impact of BDL on the ex-post operation performance using accounting

indicators (Bin, 2012). Few empirical evidence has been found in prior study to explain why those firms choose BDL instead of regular IPO.

This essay focuses on the ex-ante factors to address these questions: are those BDL firms and IPO firms different from each other; which factors make BDL or IPO more attractive to the firms. First, referring to prior studies, the essay examines the attractiveness of BDL and IPO as methods to go public, from the point of direct and indirect costs of listing. The direct costs come out from the money fees and time costs during the process. The indirect costs are the asymmetric information cost, derived from the transaction process and regulatory mechanism. Regarding the comparability between BDL and IPO, Sjostrom (2008) argues that they are not comparable in the United States because they are not substantially equivalent both pre- and post- event. Brown et al. (2013) provides the explanation that they are comparable in Australia. The essay refers to previous studies in China and states the comparability is viable in China from the point of market setting. Then it analyzes the determinants of the firm's choice from the aspect of regulatory mechanism, market timing, firm's self-limitation, the desire for capital and the firm's information asymmetry. The hypotheses are then proposed based on previous studies.

RTO of listed company has been regulated by China Securities Regulatory Commission (CSRC) since the document Administrative Measures for the Material Asset Reorganizations of Listed Companies (hereafter the Measures) was issued in 2011 (CSRC, 2011). The essay selects the companies listed through RTO according to the definition by the Measures and compares them with those listed through traditional IPO. The sample includes 104 firms which opt for BDL and 449 firms which opt for IPO between September 1st, 2011 and June 30th, 2016. The univariate analysis and multivariate logit model are employed to test the hypotheses. It concludes as follows. First, the reopening permission of IPO and stricter measures on BDL (November 30th, 2013) seem to attract the issuers' attention to IPO. In the meantime, it is unclear that the regulation with firm's profit as a review standard affects the firm's choice. Secondly, the BDL firms tend to go public at a hotter market than the IPO firms. By contrast, IPO firms have less time flexibility because of the regulation. Thirdly, due to the unclean shells and the intention of taking over the reorganized companies, the sizes of BDL firms are significantly larger than those of IPO firms. Fourthly, the faster process of BDL calls the attention of the firms which are financially distressed and have more asymmetric information. To be more specific, firms with higher debt ratio and higher ratio of research and development expenditure (R&D) are likely to choose BDL. Finally, the effect of asset liquidity and intangible assets have less influence on the choice, although the firms with higher profitability tend to choose BDL instead of IPO in IPO period only.

The essay adds to the existing literature from three aspects. First, to my best knowledge, previous studies on BDLs in China mainly focus on individual cases and theoretical analyses due to lack of BDL data, but thanks to the tighter disclosure requirement, the data is available in the database. With the help of the firms' financial information, the essay outlines the differential characteristics of the BDL firms and IPO firms. Secondly, the essay provides empirical evidence of the motivation of the choice between BDL and IPO. Thirdly, it contributes to the understanding why BDL is still an alternative to regular IPO despite the converged review standards with IPO. Fourthly, it sheds light on the future research of the BDL regulation.

This essay proceeds as follows. Section 2 introduces the mechanics of BDL in China. Section 3 presents the theoretical background and proposes the hypotheses. Section 4 describes the sample, variables and the methodology. Section 5 analyzes the empirical results, followed by the conclusion in Section 6. For convenient of reading, background knowledge on the institution and the characteristics of the shell is provided in the appendixes.

2 Mechanics of BDL in China

2.1 The emergence of BDL

The section starts from how a public-traded company becomes a backdoor listing vehicle. The initial reason lies in the delisting provision. Since April 1998, the CSRC introduced ST (special treatment) rules, those stocks of whose companies get negative profit in their financial statements for two consecutive years are mandated marked with “ST” in front of the stock’s names (Xiaonong et al., 2012). If the profit loss continues in the third year, “*ST” is added to the stock’s names. The daily prices change of stocks with “ST” and “*ST” marks are set to no more than five percent of the last-day close price, while the prices of normal stocks are set to no more than ten percent. And they are forbidden to raise fund before the marks are removed. If it continues till the fourth year, it is delisted from the exchange.

Another reason is the scarcity of the listing resources. The Chinese stock market is currently regulated by the government-based approach. The regulators try to trade off the efficiency of the stock market for its stability. They control the aggregate stock supply through reviewing procedure of IPO application. At the end of the first quarter of 2017, the CSRC published that 600 companies have submitted the IPO application, and they are waiting in queue for the approval from CSRC. China’s stock market started from the 1990s. Until last year, 3032 companies have been listed through IPO. On average 112 companies went public successfully each year. Maximally, 348 of them made it in 2010. With this frequency, those companies which are at the end of the waiting line of 600 companies needs more than five years to fulfill the public procedure. The entrepreneurs and venture capitalists are eager for a more efficient mechanism to bring the firms to public.

Then the ST companies would probably be targeted as shells to load private companies and help the private companies get listed. From the shell firms’ side, when they are not able to reach the requirement of operation profit and facing to be delisted, an alternative would be to sell them a good price. Besides the ST companies, the shell companies can also exist in the same industry, upstream and downstream enterprises, or the rivals. In this case, the private firms pursue business strategy of economies of scale, complete supply and demand chain, etc. From the private firms’ side, achieving listing status using a shell with a faster process instead of waiting in line of IPO, seems a better option for those who are more impatient to wait for IPO review by the CSRC.

2.2 The process of BDL

The role of underwriters in IPO is replaced by independent financial advisors in BDL, although they are from same institutions, usually securities companies. Financial advisors bring the private firms and shell companies into contact with each other. Similarly, lawyers and auditors are involved. Briefly, backdoor listing in China can be decomposed into the following three steps. This three-step process is summarized from the announcements published by the sample companies used in the essay.

Assume a public company Alpha and a private company Beta have made agreement to reverse takeover to help Beta go public. The owner of Alpha is called Shareholders A and the Owners of Beta is called Owners B. They are viewed as two groups instead of individual persons or entities in the following analysis. When the transaction meets the condition of Article 11 and 12 of the Measures (CSRC, 2011) (provided in Appendix A), the public company (Alpha) is required to apply for suspension of trading the stock in the exchange and preannounce the transaction to the public after the board of directors has made the decision or the shareholders have informed the company.

1) Material Asset Reorganizations

Alpha and Beta reorganize their companies by exchanging their assets. The goal is to load all of Beta's assets into Alpha and remove all of Alpha's assets out of the shell. If Alpha is an ST company, the reorganization would try to make the consolidated accounting statement show a positive profit in order to remove ST mark and then fulfill the requirement of raising new capital in Step 2). So they usually inject good-quality assets of Beta into the reorganized companies. It also happens that Alpha is merged into Beta in the end when Alpha's assets are beneficial to Beta's business. When Alpha and Beta are from completely different industries (65% of all in the following sample), it is usually removed away, for example, sold to some of Beta's owners. Thus Alpha becomes privatized. Figure 1 shows the change of ownership structure during a BDL transaction. The figure is inspired by Humphrey and Kuo (2002, Figure 3).

2) Issue new shares to purchase assets

Since Alpha holds fewer assets than Beta, it may not be able to fulfill the payment by available assets to acquire Beta. Assume Alpha and Beta hire an independent assets assessment agency. It evaluates Alpha at V_{Alpha} millions of Chinese yuan, and Beta at V_{Beta} millions of Chinese yuan ($V_{Alpha} < V_{Beta}$). Alpha and Beta agree on the price. The solution is that Alpha sells new shares worth of $V_{Beta} - V_{Alpha}$ to Beta's Owners B. The price of the shares should meet the requirement of Article 44 in the Measurement (Appendix A).

When the reorganization is completed, the proportion of shares held by Owners B as a whole

is $\frac{V_{Beta} - V_{Alpha}}{V_{Beta}}$, while $\frac{V_{Alpha}}{V_{Beta}}$ held by Shareholders A. In order to take control of the reorganized

company, V_{Beta} has to be large enough to make $\frac{V_{Beta}-V_{Alpha}}{V_{Beta}} > \frac{V_{Alpha}}{V_{Beta}}$. That is $V_{Beta} > 2V_{Alpha}$, otherwise, they have to invest extra money from their pocket. Exceptionally, if Alpha is merged into Beta, then the proportion of shares held by Owners B as a whole is $\frac{V_{Beta}}{V_{Beta}+V_{Alpha}}$, while $\frac{V_{Alpha}}{V_{Beta}+V_{Alpha}}$ held by Shareholders A. Then $V_{Beta} > V_{Alpha}$ is the essential condition to make Owners B maintain their control of the reorganized company, otherwise they need to pay more to buy the newly-offered shares. In the case when the de facto controller does not own 100% shares of Beta, Beta has to be much larger than Alpha if the controller is not willing to pay extra money. As the total assets in the balance sheet directly affect the market valuation V_{Beta} and V_{Alpha} , this explains why the companies using BDL to go public in China are larger than IPO companies in terms of total assets.

However, Beta cannot be too large. The Listing Rules on Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE) require that the stock held by the public shareholders should not be less than 25% of the total shares or less than 10% if the total shares are more than 400 millions of Chinese yuan (SSE, 2008; SZSE, 2008). In this case, there are not any public shareholders in Beta but only in Alpha. If Beta is a giant, it might lead to the proportion of public shareholders in the reorganized company fall below the requirement. Then the application for issuing new shares would not be approved by the CSRC.

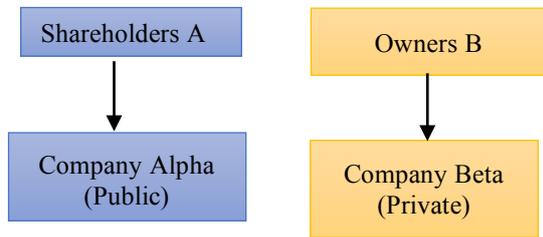
3) Issue new shares for business

At the end of Step 2), the private company is listed, hence the BDL is actually completed. However, the final objective is to raise new capital for business. This round of issuance can be faced to specific investors or the public investor. And this can be a chance that Owners B purchase a large amount of shares. Due to the issuance in Step 2), the ownership of Owners B is diluted, probably they would be willing to absorb more shares to obtain stronger control power. The reorganized company holds majority assets of company Beta in the name of Alpha, but at last, the name is often changed by Beta.

Regarding the lockup period of shares offered in Step 2) and 3), for Owners B, if their pre-issuance shares have been held for no more than 12 months till the issuance in Step 2) or 3), then the new shares offered in Step 2) and 3) is locked up for 12 months since offered; for the others of Owners B, the new shares is locked up for 36 months since offered. About the pre-issuance shares of Owners B, there is stricter and detailed rule on lockup period (SSE, 2008; SZSE, 2008).

Until then, company Beta has achieved the goal of being public and raising new capital, although the actual transaction is more complicated than described here. The mechanics of backdoor listing in reality is involved with regulations on scheduled procedures, disclosure requirement, listing and delisting provisions, trading rules, accounting rules, protection of shareholders, etc.

Before:



After:

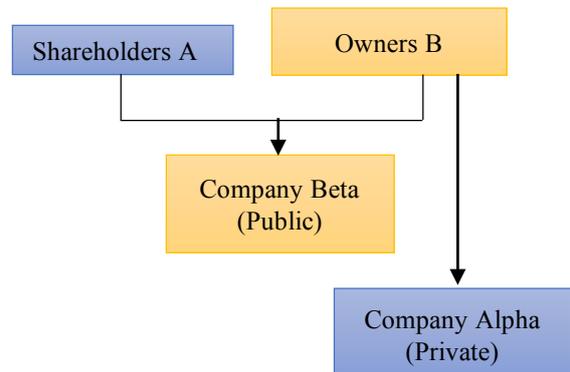


Figure 1 Changes of ownership structure in a BDL transaction

This figure is inspired by Humphrey and Kuo (2002, Figure 3).

3 Literature review and hypotheses development

3.1 Characteristics of BDL and IPO

3.1.1 Direct costs to go public by BDL and IPO

The essay discusses the differential costs between BDL and IPO, or the benefits from the other side. The difference of direct money cost between the BDL and IPO mainly depends on the remuneration of the underwriters. The IPO process incurs a series of direct fees, including the remuneration of the underwriters, lawyers, auditors and other listing fees. The remuneration of the underwriters accounted for about 81% of all the above fees and the fees were on average 6.1% of the IPO gross proceeds between 2005 and 2010 in China (Huyghebaert and Xu, 2015). The professionals suggest that the M&A advisory fees in BDL is much lower than IPO fees if the transaction size is greater than \$100 million, although the M&A professionals are reluctant to public the data (Peters, 2016).

Another significant cost is the time cost between BDL and IPO. The average processing time is approximately ten months from the preannouncement to the completion of BDL transaction, compared to 15.7 months from the preannouncement to the first listing date of IPO firms. It has not even taken the paused IPO period into consideration¹. The findings are of interest to the entrepreneurs and venture capitalist who cannot wait to raise new capital in the public market and cash out the pre-issuance shares.

3.1.2 Indirect costs of the BDL and IPO

Information asymmetry between the issuers and the investors has been at the center of much attention (Ritter and Welch, 2002; Yong, 2007; Brau et al., 2003; Poulsen and Stegemoller, 2008; Carpentier et al., 2012). Investors have less information than the issuers. With rational expectation hypothesis, investors believe that only a bad lemon would be sold higher than it is worth. Consequently, a good lemon has to signal its high quality. The issuers distinguish themselves by leaving money on the table in IPO and thus attract the investors (Ritter and Welch, 2002). Compared to the loss on the table, the gain from the issuance, e.g., the access to public financing approach, the advertisement of the firm's brand, is much larger. The underpricing of IPO is also viewed as the indirect compensation to the underwriters (Loughran and Ritter, 2002).

For the BDL route, it is commonly known as the opaque procedure leading to more severe information asymmetry than the IPO from these aspects. First, based on the extensive evidence

¹ The data is sourced from WFT, and calculated by the author.

from U.K., U.S., Canada and Australia, the regulation on BDL is not as strict as on IPO (Vermeulen, 2015; Carpentier et al., 2012; Brown et al., 2013). The IPO is designed to keep the issuance of stock market transparent between the participants of the market and reduce the adverse selection (Ellingsen and Rydqvist, 1997). The main benefit of IPO is gathering and dispersing the investors' and analysts' information and making the equilibrium between the participants with the offering price. One of the key solutions is disclosure requirement. By contrast, the rise of BDL is to evade IPO regulation. The lower disclosure requirement leaves the investors suffering massive asymmetric information (Carpentier et al., 2012; Gleason et al., 2006). On the other hand, there is a threshold on the quality of companies going public via IPO, while the lax requirement of BDL offers the listing chance to the risky firms, which aggravates the information asymmetry. For those pre-revenue, early-aged, and small private firms, it becomes possible to go public even with a shorter process than IPO. It leads to adverse selection interacted with more severe information asymmetry of these risky firms. Carpentier et al. (2012) show that in Canada when firms share similar characteristics such as size, profitability, and shareholding, the lower-quality ones opt for the BDL. The authors also suggest that firms' payment for stricter regulation of IPO attributes to reduce the information asymmetry component of cost of capital. Hail and Leuz (2006) also support the view that firms benefit from extensive disclosure requirements, stronger securities regulation, and stricter enforcement mechanisms with significantly low cost of equity.

Secondly, the role of agencies (underwriters, lawyers, auditors, and analysts) in IPO is a price for cutting information asymmetry. By law, underwriters are responsible for due diligence of the authenticity of the firms' public statements. During the IPO process, e.g., book building, roadshow, the underwriters as an agency between the firms and investors is dedicated to remove the barrier between them and to build a bridge to efficient communication. Hogan et al. (2001) point out that good reputation of lead underwriter attributes to reduce the degree of information asymmetry of the IPO procedure. However, in the BDL situation, the employment of agencies is not compulsory, for example, in the U.S. (Gleason et al., 2006). Small financial advisors, such as boutique "shell brokers" work for reverse takeover transaction and they are not plausible in obeying the rules.

Moreover, in a BDL transaction, there also exists information asymmetry between the private firm and the shell company, while the shell company suffers from the limited information of the private firm, and the private firm benefits from the more public information of the shell company. It makes the private firm superior in negotiation on the prices and articles. The price of the shell company and the cost of restructuring occupy an important position in the total BDL cost.

3.1.3 Market setting in different countries

Comparability the between BDL and IPO

With respect to the comparability between BDL and IPO, there is a critical argument from Sjostrom (2008). The paper disagrees to compare reverse mergers (RMs) to IPOs in the U.S. as they are not substantially equivalent both pre- and post- event. Pre-RM, the shareholders cannot cash out by selling out their shares into the market as the pre-IPO shareholders do. RMs are

often accompanied by the private investment in public equity (PIPE) financing. PIPE financing is more expensive along with onerous terms. As the underwriters sit on the sidelines of RM, it signals the low quality of the RM companies to the market. Post-RM, most of the stocks are traded on the Pink Sheets and OTC Bulletin Board with low liquidity. Overall, RM companies gain less advantage but the same disadvantage compared to IPO companies.

Brown et al. (2013, p. 504) is aware of the issue of comparability, but insist that in the Australian stock market “BDL firms are closer substitutes for IPOs than RM firms in the US or Canada”. The argument is supported by the evidence of high proportion of concurrent financing in RM transactions and information disclosure by the re-admission requirements from the Australian Securities Exchange (ASX). Thus RM transactions gain partial benefits of IPO and reduce the information asymmetry.

When it comes to China’s market, it’s also viable. Xiao and Lizhen (2013) make a comparison of BDL regulatory policies among China, the U.S., and Hong Kong. The paper points out that the regulation in China is relatively stricter than the other two markets in prospectus requirement and the qualification of the companies to be listed. Additionally, the essay introduces the institution background in China in Appendix A. As the growth demand for the BDL catches the regulator’s attention, the administrative measures commenced in 2011 by the CSRC. The measures do not prohibit the BDL but aim to create convergent standards to IPO’s. Thus the pre-event criteria make BDL firms closer substitute of IPO firms.

3.2 Determinants of the choice between BDL and IPO

3.2.1 Regulatory mechanism

As an immature capital market, China has been improving the regulation system since its birth in the 1990s. Differing from the mature market, the CSRC constantly modifies the rules of IPO although improves over the time. The modification in the regulation naturally affects the market behavior. Cheung et al. (2009) document that the Chinese securities authority employs a fixed P/E ratio (offer prices relative to reported earnings) as an indicator of a firm’s quality and thus determine the approval or the rejection of an IPO application. Tian (2011) claims that those regulatory intervention leads to the underpricing in Chinese capital market. With an average level of 247%, it had the highest underpricing among the major capital markets. Chen et al. (2016) and Cheung et al. (2009) have proven that the Chinese securities regulation is more likely to depress the P/E value at IPO in the regime of government-based approach than market-based approach. As the underpricing is enlarged, the IPO cost is potentially increased. Thus it may affect the firms’ choice to seek alternative method to public.

With the number of M&A activities rising up, the regulation of M&A of listed companies started from 2008 and the BDL regulation from 2011 by CSRC (Appendix A). Song (2012) suggests that the laws and regulations in China impacts the returns that the firms earn from the M&A activities. Thus it is reasonable that the firms would consider a better option if the takeovers cannot reach their expectation of return. Song (2012) also documents that the CSRC

took firm's profit into consideration as one of the standards to decide whether to give approval for the secondary equity offering. The offering is a critical constituent in the process of BDL transaction to unlock the private company's final goal. Thus, to examine the regulatory effect, the following hypothesis is proposed,

H1: the regulatory changes in the criteria of firm's profit negatively affect the private firms' choice to go public by BDL or IPO.

3.2.2 Market timing

The capital market is influenced by the economy and go with the ebb and flow like the tide. The IPO firms would love to capture the flow but avoid the ebb. Ibbotson and Jaffe (1975) have introduced the "hot issue" market effect in the IPOs. The "hot issue" market refers to the periods when the post-listing returns of newly listed shares for example, in one month, are abnormally high; vice versa for the "cold issue" market. It sounds good deals to investors in "hot issue" market. However, it also means great demands among the investors and they have to pay extra costs to obtain the initial offering. The costs go to the underwriters' pocket in the form of trading commission when underwriters control the allocation of new shares (Chen and Ritter, 2000). On the one hand, the underwriters gain more remuneration, on the other hand, they build a good cooperative relationship with the investors. Both would help the consummation of IPO. From where the underwriters stand, they would push the clients to go public in "hot issue" market. By contrast, in the cold issue market, more severe adverse selection harms the potential premium issuers, which leads them to wait for better timing. Gao (2010) uses pre-market returns as proxy of investor sentiment in Chinese capital market. The author argues that higher investor sentiment reduces underpricing, even strongly increases overpricing instead.

In the meantime, the essay considers the market timing equally important in the BDLs. Kolev et al. (2012) have suggested that industry-level antecedents of M&A waves exist and include environmental shocks, such as changes in economic and demand conditions, technology innovations, deregulation. In the case of a bull market, the relatively overvalued share price is beneficial to the shell companies in the reverse merger transaction and the private companies in the secondary equity offering (SEO). Regarding the choice between the BDL and IPO, both Brau et al. (2003) and Vermeulen (2015) suggest it is affected by market timing effect. Brau et al. (2003) consider the IPO related to the hotness of the capital market, while Vermeulen (2015) think BDL boom in the high-tech industry was attributed to the increasing business opportunity in 2014. Ritter (1984) has also suggested the existence of a segmented market. Natural resource firms were widely exploited by underwriters while non-natural-resource firms were not when oil and gas were booming during 1980. Thus, based on the evidence above, the essay propose the hypothesis:

H2: the returns in the industry negatively affects the firms' choice to go public by BDL.

Previous studies also try to explore the answers inside the firms. On the one hand, firms are constrained to access to the public capital market when they are small, young, not profitable. On the other hand, they desire for a large amount of new capital when they are facing capital

constraint. The essay tries to discuss the influence of firm's self-limitation, desire for capital and asymmetric information.

3.2.3 The firm's self-limitation

A few literature has proved that the private firms which go public via BDL have poorer ex-ante performance than those via IPOs. It is commonly known that small and early-staged firms are more difficult to raise external capital (Campbell, 2008). Due to higher business risk and being more fragile to the fluctuation of the macro economy, they are less popular with the investors, and the regulators also restrict them to access to the public financial market. The environment pushes them to find a private capital or a way to public capital bypass the conventional IPO regulation. Thus it seems that smaller and younger companies are in favor of BDL. Jindra et al. (2012) focus on Chinese reverse mergers (CRM) in the U.S. market. Compared with those Chinese firms listed in the U.S. via IPOs, the CRM firms are of weaker background and underperformed their counterpart. They are significantly smaller concerning total assets. Adjei et al. (2008) proved that among their RTO and IPO sample, RTO firms are smaller, younger and 1.4% of them do not meet any listing requirement.

On the Data from the Australian Securities Exchange, Brown et al. (2013) have shown that firms go public via BDL are not necessarily smaller than those via IPO when collecting financial data from post-listing reports. However, the authors also admit that if the pre-listing data is applied, the result might be different. Consequently, the resolution has to turn to empirical testing. For convenience, the null hypothesis is proposed following the common belief in developed countries,

H3: the size of the firm negatively affects the decision to go public by BDL.

It seems that there has not any disagreement on the effect of firms' profitability on the decision to the BDL. Gleason et al. (2006) provided evidence from RTO, self-underwritten IPOs, and Traditional IPOs that, firms via RTO and self-underwritten IPOs are less profitable than those via traditional IPOs when matching their size, industry affiliation and listing time. When compared with firms electing for Penny Stock Initial Public Offerings (PSIPOs), RTO firms still have poorer profit (Floros and Shastri, 2009). This essay introduces return on assets (net profit divided by total assets) as a proxy of profitability to test the following hypotheses,

H4: the business profitability negatively affects the decision to go public by BDL.

3.2.4 The desire for capital

As important indicators of capital constraint, asset liquidity and financial leverage are often mentioned. Intuitively, those firms which are eager for capital are more impatient to wait for long IPO process and more reluctant to bear the uncertainty of completion inherent in the IPO process. However, the empirical evidence from Poulsen and Stegemoller (2008) was not in the same way. Their test in the USA from 1995 to 2004, shown that IPO firms were more likely to face more capital constraints than firms opting for a sellout to public firms. The capital

constraint was measured by leverage ratio as total debt divided by total assets and by a dummy variable to detect whether interest expense was greater than EBITDA. The authors analyzed that the potential reason was that firms using IPO are more flexible to access the public capital market than those using sellout transactions. Brown et al. (2013) used cash and cash equivalent to total assets as a proxy of asset liquidity. They have found that in Australia, the balance sheet liquidity of BDL firms tend to be lower than of IPO firms from 1992 through 2007, while it was not a significant factor among other firms' characteristics. Floros and Shastri (2009) provided the similar evidence in the USA between 1979 and 2006. Gleason et al. (2006) did not find any significance on capital distress. Here the essay introduces two proxies of capital constraint, asset liquidity (cash and cash equivalent divided by total assets), financial leverage (total debt divided by total assets), and predict the following effect on the firms' choice.

H5: the asset liquidity negatively affects the decision to go public by BDL.

H6: the financial leverage ratio positively affects the decision to go public by BDL.

3.2.5 Asymmetric information in the firm

It is known that intangible assets are non-physical assets and hard to evaluate. The fair value of goodwill, trademarks, and patented technology, etc. is often controversial even between the professionals. It takes extra information cost for outside investors getting a closer look at these assets. The companies with higher intangible assets have more severe information asymmetry, and they are more likely to evade the IPO route (Poulsen and Stegemoller, 2008). Intangible assets and R&D expenditure were used as proxies of asymmetric information size inside the firm by Poulsen and Stegemoller (2008), while used by Pollard (2016) as indicators of growth opportunities. Poulsen and Stegemoller (2008) found that BDL firms had higher proportion of intangible assets. But the findings from Pollard (2016) shown that, due to higher investor sentiment in potential growing firms, firms with higher intangible assets and R&D expenditure intended to using IPO rather than RTO.

Cuypers et al. (2017) has explained the asymmetry information in high-technology firms. The authors claim the product-market scope is one of the most important sources of information asymmetry. The knowledge and skills applied in the production are not easy to be understood by outside investors and analysts. Moreover, from the aspect of information disclosure cost, Oved (1995) has also shown the disadvantage of public financing. When the prospectuses are distributed to every corner, and the roadshows get closer to the investors, the firms face the risk that their new technologies are detected by the rivals. To some extent, the BDL helps conceal some information when the firms get less chance of being exposed to the public. Additionally, Maksimovic and Pichler (2001) have highlighted that in the industry with technological innovation, early public financing is viable since it is related little development cost and low probability of the displacement by more technologically advanced competitors. Then it makes the BDL route more attractive than IPO due to the faster process. In practice, Vermeulen (2015) detected a wave of high-tech firms get listing status via BDL in the United States and Australia in 2014.

However, the differential impact of high-tech characteristics has been found in other literature. High-tech firms are willing to choose IPO rather than being taken over. Because being public shows the firms' confidence in their product to be monitored by the capital market, which is an important signal when there is full of uncertainty of the high-tech products (Stoughton et al., 2001). Hence, it leaves to empirical testing to decide the high-tech impact on the choice to the method of going public. R&D expenditure is a representative indicator for those firms as they consume a large proportion of R&D expenditure in the production. Combined with the intangible assets, the next hypothesis is proposed:

H7: the degree of asymmetric information inside the firm positively affects the decision to go public by BDL.

4 Sample and Methodology

4.1 Delimitation

Few empirical research on BDL in Chinese stock market has been yet carried out due to limited public data in the database. But thanks to the tighter regulation of BDL during recent years, more detailed and standard prospectus is required before the transaction. In 2011, the CSRC started to define and guide the backdoor listing activity in the Measures. Article 12 defines the backdoor listing activity when it results in the change of actual control of the listed company, and the total assets purchased by listed company from the purchaser is equal to or greater than 100% of the total assets in the listed company of the previous financial year (Chinalawinfo, 2011). The Measures enter into effect for all asset reorganizations preannounced since September 1st of the year (see Appendix A). The public listed companies (the shell) then are required to declare if the corporate behavior forms a backdoor listing. According to this, the essay selects the BDL and IPO events pre-announced between September 1st of 2011 and June 30th of 2016. Approval date of IPO in 2011 by the CSRC is used instead of preannouncement date as the latter is not available in the database. In 2013, the CSRC announced to forbid using a company listed in the growth enterprise market (GEM) as a BDL vehicle. Thus the essay selects all the backdoor listed A-shares and IPO A-shares in Shanghai Stock Exchange and Shenzhen Stock Exchange, excluding GEM. Note that all unsuccessful BDL and IPO activities are not included in the sample due to the unavailable data. Hereafter the event date is defined as preannouncement date of BDL or IPO.

All of the data applied in this essay unless stated is sourced from Wind Financial Terminal (WFT) provided by Wind Info. WFT is widely used and serves more than 90% of Chinese financial institutions, research institutions, and government regulatory bodies. Initially from the delimitation mentioned above, there are 104 backdoor listed companies and 468 IPO companies left. Among them, 19 firms are commercial banks, securities companies, and insurance companies in the IPO subsample. They are excluded because of the different accounting rules from general enterprises and non-matched observations in BDL subsample. Hence there are 8 real estate companies left in the financial sector. Thereby 104 BDLs and 449 IPOs are left in the sample.

Ideally, a comparison between BDL and IPO should remove as many noisy facts as possible (Lee et al., 2015). Due to the discrete distribution of the firms' size and industry, there are only 36 BDLs and 134 IPOs left when they are matched by the listing year, size and industry classification as the previous studies do. The remaining sample is improper to form statistical analysis. Hence the essay takes all these control factors into consideration within the univariate and multivariate analysis, but not match BDLs with IPOs in the sample. The specific reason why they are not matched is described in Section 5.2.

4.2 Variables

During the whole sample period (from September 1st, 2011 to June 30th, 2016), there are two periods when the CSRC did not accept any application of IPO, i.e., from November 3th, 2012 to Jan, 2014, and from July 4th, 2015 to November 6th, 2015 (Appendix A). Due to this institution background, the sample is divided into 5 sub-periods. Each period is given an indicator $Period_t$, which is a dummy variable representing when the preannouncement of BDL or IPO takes place. t equals to 1 to 5. This period indicator varies as the regulatory mechanism changes. The non-IPO periods are Period 2 and Period 4, and others are considered as IPO periods.

To examine the effect of market hotness on the choice of BDL and IPO, the industry returns are calculated for individual BDL and IPO firm. Contributed to the trust of the existence of a segmented market (Ritter, 1984), the industry return is chosen instead of the market return. In the sample, all companies are classified into 10 sectors according to 2-digit GICS codes (Global Industry Classification Standard). Due to no companies from telecommunication services in either BDL or IPO subsample, there are 9 sectors in the sample. The sector information is available in Wind info in the name of “Wind Industry”. Each industry is traced by an industry index. The industry index is composed of all the listed companies in the industry, a representative of the economy condition in the industry.

The return on industry index (RTN) during 9 months before the individual preannouncement is of interest, because it is more logical that the firms’ choice is affected by the factors emerging before their decision than after. The length of 9 months depends on how long the BDL process takes, rather than IPO do, as the primary concern is BDL as an alternative to a regular listing route. The median time length in the BDL subsample from the preannouncement to the announcement of consummation is 8.75 months, while the average is 10 months. By contrast, the median time of IPO from the preannouncement to the first listing date is 13.3 months and the average is 15.7 months. So roughly 9 months is estimated. Then the return on industry index (RTN) is simply the percentage change in the index price from the beginning to the end of the 9 months.

In the univariate analysis (Section 5.1), the average return on the sector of consumer discretionary equals to $\frac{\sum_1^n RTN_i}{n}$. Here i refers to the i_{th} individual BDL or IPO firm in the sector of industrials. RTN_i is the return during the 9 month before the i_{th} individual BDL or IPO preannouncement on the index of consumer discretionary. n is the number of BDLs or IPOs in the sector of consumer discretionary. Likewise, average industry returns on other sectors are calculated.

Then the last-year financial statements before the completion of BDL and IPO events are collected to analysis how the firms’ characteristics affect the choice. Assume the firm announce the completion of the transaction at Year 0, the financial indicators of interest should be from Year-1. However, it is usually the public firm, to bear the disclosure responsibility. Thus in

WFT, for the BDL subsample, the common financial statements of Year-1 published at Year 0 are about the shell companies, while the research concerns the private firms. Luckily, when the reorganized firms submit the financial statements of Year 0 at Year 1, they also update the ones of Year-1. The updated ones are about the private firms as they are controlled by the same entities as the reorganized firms, while the shell companies are not. And they are presented in WFT in the name of “adjusted” financial statements. Sometimes, the adjusted financial statements also involve the changes caused by accounting rules. As those changes are relatively small compared to the material asset reorganizations, and they are hard to fetch for the sample, the essay assumes it is insignificant for the analysis results. For the IPO subsample, the essay uses the common financial statements to collect the maximal number of observations of interest. Using the Year-1 financial statements of BDL and IPO firms, the financial variables in Table 1 are calculated.

Table 1 List of financial variables

	Calculation	Abbreviation
Firm size	the logarithm of total assets	LNA
Profitability	return on assets: net profit divided by total assets	ROA
Asset liquidity	cash and cash equivalent divided by total assets	CSH
Financial leverage ratio	total debt divided by total assets	LEV
Intangible assets ratio	intangible assets divided by total assets	IA
R&D ratio	research and development expenditure divided by total operating revenue	R_D

4.3 Methodology

Based on previous theory background, the essay designs the following model to test the hypotheses. Both univariate and multivariate analyses are executed. The univariate analysis provides an outline of the sample, studies the distribution of the data, and examines the difference of individual variables between BDL subsample and IPO subsample. Then multivariate analysis applies logistic regression model (Equation 1) by pooling all the BDL and IPO observations (Brau et al., 2003; Gleason et al., 2006; Brown et al., 2013).

$$Pr(BDL_i) = Pr(\alpha_0 + \alpha_1 RTN_i + \alpha_2 LnA_i + \alpha_3 ROA_i + \alpha_4 CSH_i + \alpha_5 LEV_i + \alpha_6 IA_i + \alpha_7 R_D_i + \gamma_{1,i} Period_1 + \gamma_{3,i} Period_3 + \varepsilon_i) \quad (Equation 1)$$

In Equation 1, i refers to the i_{th} firm in the sample. The left-hand side of the logit model is the probability of the i_{th} firm using BDL. It equals to 1 if it is a BDL firm or 0 otherwise. The right-hand side lists all the variables introduced in previous subsection. The abbreviation of each variable is listed in Table 1. Further, to avoid the dummy variable trap, the variable $Period_5$ is removed. The following explains the reason for removing variable $Period_2$ and $Period_4$.

Concerned with the distribution of the sample, there are only BDL observations in non-IPO periods. So if the regression includes variable $Period_2$ and $Period_4$, it would lead to the dependent variable has only one category. It does not work within the logit model. Thus it is appropriate to remove these two dummy variables. A reasonable question may rise up that why not remove all of the observations in non-IPO periods instead of just two dummy variables. The reason is the following. When the CSRC pauses IPO application occasionally, they would reopen it after a few months. So the firm still have the option to wait for IPO rather than only one choice to BDL. It is possible that the firms which cannot show in Period 2 or Period 4 would show in Period 3 or Period 5. The difference is that they wait for a few more month. And it is also possible that a longer waiting changes their decision to alternative route. Thus it is worthy to check a regression with the full sample (Test 1). However, to be prudent, additional test (Test 2) with all observations from non-IPO periods excluded is also executed². The aim is to check if the BDL observations in non-IPO periods make any difference to the result.

Additionally, the period effect might be correlated with the return on the industry index as the 9-month interval of individual transaction might overlap with the five periods to some extent. At the same time, the period effect is quite noisy. It may not only bring in the changes in the regulation, but also some unknown noises that fluctuates among different periods and would affect the choice. As the primary concern is which kind of firms use BDL, which kind of firms use IPO, instead of when they use BDL and IPO, the third test (Test 3) with the full sample is carried out without period effect. Finally, the fourth test (Test 4) with Equation 2 is designed to see if ROA effect is interacted with the regulation effect, as Song (2012) has documented that the CSRC took (ROE) as a criteria to decide whether to give approval for the secondary equity offering of BDL. As Test 4 intend to examine the effect on BDL firms, it includes all BDL observations, i.e., full sample. Test 1 is viewed as a basic test, and then other tests are compared with Test 1 to do analysis.

$$Pr(BDL_i) = Pr(\alpha_0 + \alpha_1 RTN_i + \alpha_2 LnA_i + \alpha_3 ROA_i + \alpha_4 CSH_i + \alpha_5 LEV_i + \alpha_6 IA_i + \alpha_7 R_D_i + \gamma_{1,i} Period_1 + \gamma_{3,i} Period_3 + \lambda_{1,i} Period_1 * ROA_i + \lambda_{3,i} Period_3 * ROA_i + \varepsilon_i)$$

(Equation 2)

² Here I appreciate my supervisor Jens Forssbaeck for his opinion very much.

5 Results and analysis

5.1 Descriptive statistics

Figure 2 shows the distribution of BDLs and IPOs in 5 sub-periods. Starting from the beginning of Period 1, the CSRC was aware of RM being used by private firms as an alternative to IPO and it issued the standard on the takeover in the Measures. Since then, 5 companies have been preannounced doing RTO in Period 1 and achieved public status in the end, compared with 123 companies went to public via traditional IPO route. In Period 2 and Period 4 when the IPO was suspended, there were 27 and 6 companies sneaking into the listing board via BDL, respectively. In Period 3, 50 BDLs and 325 IPOs were preannounced in 18-month period, approaching the maximal number of IPOs in 2010. In Period 5, the CSRC still reviewed the request in Period 4 so that only one IPO was preannounced in Period 5. Recalling the long waiting list of IPO review, there might be connection between the blowout of both BDL and IPO in Period 3 and the suspension of IPO in Period 2. Another date should to be noticed that, on November 30th, 2013, the CSRC announced Backdoor Listing Review Strictly Follows the IPO Standards (CSRC, 2013). Before that, it had just followed similar standards rather than the same. But the volume of BDL transactions (74) is even more than before.

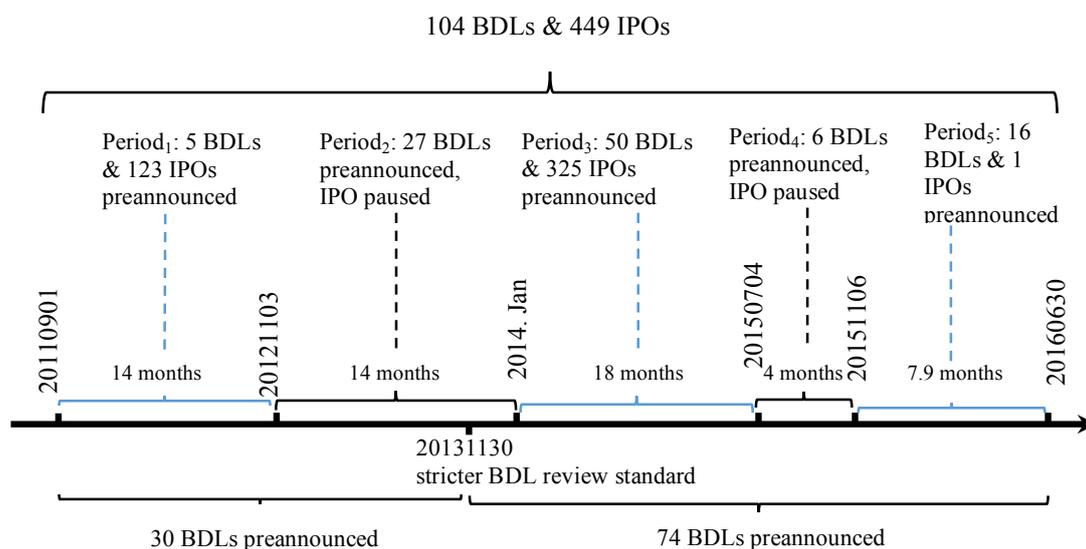


Figure 2 Five sub-periods in the sample

Figure 3 is constructed on the industry index returns 9 months before the events and the number of BDL and IPO from the industries. It shows that the average industry returns before BDL events are always higher than the returns before IPO events. The differences of the returns between BDL and IPO from the industry of information technology, health care, consumer discretionary and consumer staples are large, but from the industry of energy is little. From this aspect, the private firms seem more attracted to BDL by the returns.



Figure 3 The industry returns and the number of BDLs or IPOs

Further, the distribution of the observations in the sectors is displayed in Table 2. It reports the proportion of the number of BDLs (or IPOs) from individual sector to the total number of BDLs (or IPOs) from the sector. There are higher proportions of firms from consumer discretionary, consumer staples, energy, industrials, and materials choosing IPO than the average level (81.19%). By contrast, BDL is more prevalent in the sector of financials (real estate), utilities, health care and information technology using BDL. The materials section has the closest distribution to the entire sample as described in the methodology.

Table 2 Sector distribution between BDLs and IPOs

Sector	BDL	IPO
	<i>BDL+IPO=100%</i>	
Consumer Discretionary	14.75%	85.25%
Consumer Staples	9.30%	90.70%
Energy	16.67%	83.33%
Financials	87.50%	12.50%
Health Care	27.03%	72.97%
Industrials	15.29%	84.71%
Information Technology	21.43%	78.57%
Materials	16.85%	83.15%
Utilities	60.00%	40.00%
Total	18.81%	81.19%

In terms of firm size, the BDL firms have a similar distribution of total assets from balance sheet as the IPO firms do (Figure 4). 98 of 104 BDL firms (or 95%) have assets of less than 25 billion yuan, which is less than 5% of the largest firm; while 433 of 449 IPO firms (or 96%) have assets of less than 10 billion yuan, which is less than 28% of the largest firm. It is contrary to popular belief that the BDL firms are larger than the IPO counterparts.

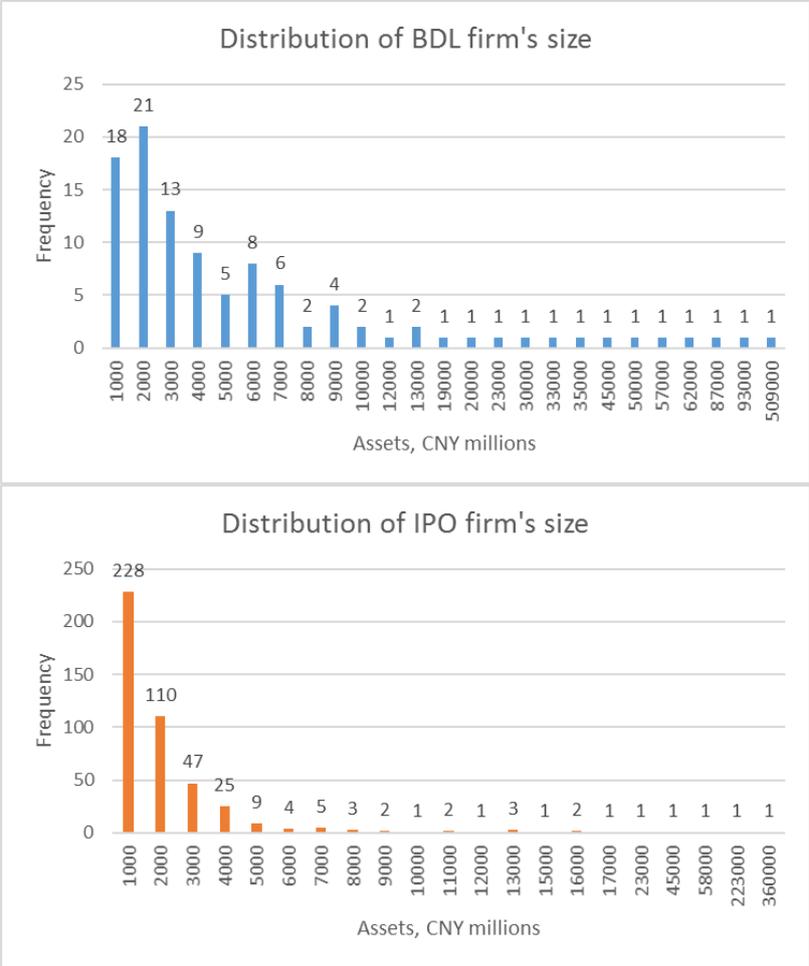


Figure 4 Distribution of the size of the private firms

The figures display the distribution of the total assets of the BDL and IPO firms at the preceding year of the event. Each bar shows an interval with 1 billion yuan. For example, in the distribution of BDL firm’s size, the first left bar shows 18 BDL firms had assets between 0 and 1 billion yuan. The rightmost bar shows only one company has assets between 508 and 509 billion yuan. So far that is the largest BDL case in China. In that case, a real estate company (Greenland Holdings Corporation Limited), used another firm (Jinfeng Investment, code in WFT 600606.SH) from financial industry as a shell to go public.

5.2 Difference test between BDL and IPO

To examine if the BDL and IPO subsample are different from each other, the essay tests the difference of means and medians using two-tail t-test and Wilcoxon test, respectively. The results are shown in Table 3. The null hypotheses are that the mean (or median) values from BDL subsample and IPO subsample are equal. The results from the mean test show that the average industry returns, average logarithm of firm's assets, and average financial leverage ratios from BDLs are significantly greater at 1% level than IPOs. The average intangible asset ratios and R&D ratios are significantly different at 5% level. The median tests indicate the median values of industry returns, firm size, return on the firm's assets, the leverage ratio, and the intangible asset ratio between BDL and IPO subsample are different.

Regarding the return on the industry index, the mean and median of BDL subsample are much higher than IPO subsample, followed by the higher standard deviation. But the maximum industry return related to individual firm appears in the IPO subsample, while the minimum appears in the BDL subsample. The test values prove that both the mean and median return before the BDL events are larger than before the IPO events. As the industry return reflects the market hotness in individual sector, BDL firms are in favor of hotter market than IPO firms.

Turn to the firm's self-limitation, all the indicators of logarithm of total assets of BDL firms, mean, median, maximum and minimum value are larger than IPO firms. Naturally, then it is followed by larger standard deviation. The difference tests provide further evidence that larger firms intend to choose BDL route rather than IPO route. With respect to the profitability, the mean values are equal, and the mean test is insignificant. But the median test shows that BDL firms have a significantly lower median return on assets (ROA) by 2% than IPO firms. Looking into the detailed figures, there are three BDL firms with negative ROA values while all of the IPO firms with positive ROA. With a higher ROA value by 38% in BDL sample, it shows that sporadic companies, which were poor performer before listed, sneaked into the back door of the exchange. From the evidence of the size and the profitability, the BDL firms do not significantly underperform their counterparts.

The indicators of statistics show that, the BDL firms tend to have lower cash relative to their total assets by 3%. But it is insignificant from both the t-statistics on mean difference and Wilcoxon test on median difference. However, the debt ratio of BDL firms are evidenced significantly heavier than their counterparts at 1% level. BDL firms may face more severe capital constraint from the creditors, while their operations are uncertain to be affected by the cash shortage.

Table 3 Difference test with full sample

The table reports the difference test of means and medians between BDL and IPO subsamples using two-tail t-test and Wilcoxon test, respectively. The test covers full sample. The variables are described as below. RTN, the 9-month return before the preannouncement of the event on the industry index which the firm belongs to. The following accounting indicators are calculated from the the private firm’s audited financial statement of the year before the completion of BDL or IPO. LNA, logarithm of assets; ROA, net profit divided by total assets; CSH, cash and cash equivalent divided by total assets; LEV, total debt divided by total assets; IA, the ratio of intangible assets divided by total assets; R_D, research and development expenditure divided by total operating revenue. *, ** and *** indicates significance at the 10%, 5% and 1% level, respectively.

Variable		Mean	Median	Max.	Min.	Std. Dev.	Obs.	Mean Test	Median Test
RTN	BDL	0.29	0.23	1.81	-0.53	0.42	104	-10.29***	7.80***
	IPO	0.00	0.01	1.95	-0.44	0.20	449		
LNA	BDL	8.14	8.00	13.14	5.53	1.38	104	7.40***	7.95***
	IPO	7.06	6.90	12.79	5.38	0.98	449		
ROA	BDL	0.11	0.08	0.76	-0.11	0.11	103	-0.51	2.81***
	IPO	0.11	0.10	0.38	0.00	0.06	449		
CSH	BDL	0.17	0.13	0.63	0.02	0.13	104	-1.50	1.61
	IPO	0.20	0.15	0.79	0.01	0.14	449		
LEV	BDL	0.55	0.56	0.93	0.10	0.20	104	5.28***	5.13***
	IPO	0.44	0.44	0.98	0.06	0.17	449		
IA	BDL	0.04	0.03	0.33	0.00	0.06	102	-2.33**	4.44***
	IPO	0.06	0.05	0.77	0.00	0.06	427		
R_D	BDL	0.01	0.00	0.18	0.00	0.03	104	-2.20**	1.18
	IPO	0.01	0.00	0.11	0.00	0.02	449		

The ratio of intangible assets (IA) and R&D expenditure, as proxies of firm’s information asymmetry, provide differential results. The mean, median and maximum ratio of intangible assets scaled by total assets in BDL subsample is relatively lower than that in IPO subsample. Less intangible assets of BDLs may reflect less asymmetric information on the firms’ accounting. Regarding the R&D ratio (R&D expenditure scaled by total revenue), the mean test shows significance at 5% level, while the median test shows insignificance. Looking into the figures, 25 of 104 of BDL firms (24%) and 75 of 449 IPO firms (17%) have R&D expenditure in their income statements (Table 4). Among these R&D firms, the mean and median R&D ratios are close, and the difference test cannot reject the equality hypothesis. Thus, the IA ratio indicates less asymmetric accounting information in BDL firms, while R&D ratio shows the two subsamples might be close to each other.

Table 4 The difference test with R&D firms

The table reports the difference test of means and medians between BDL and IPO subsamples using two-tail t-test and Wilcoxon test, respectively. The test covers the firms which have non-zero R&D expenditure in their income statement before the BDL or IPO event. *, ** and *** indicates significance at the 10%, 5% and 1% level, respectively.

		Mean	Median	Max.	Min.	Std. Dev.	Obs.	Mean Test	Median test
R_D	BDL	0.0431	0.0329	0.1789	0.0017	0.0411	25	-1.18	0.24
	IPO	0.0357	0.0332	0.1124	0.0004	0.0210	75		

5.3 Multivariate logit model

5.3.1 Results

As illustrated before, the logit model with Equation 1 and 2 is run in EViews, and the result of Test 1, 2, 3 and 4 are reported in Table 5. The model takes all the relevant factors of interest into consideration, so that shows the trade-off when firms make a decision. The McFadden R-squared value of Test 1, 2, 3 and 4 are 0.60, 0.34, 0.33 and 0.61, respectively. It highlights the presence of the observations from non-IPO periods and variable of period effect increase the fitness of the regression. A possible reason is that the observations from non-IPO period are more fitted by the model. Concerned with period effect alone, the result of Test 2 is consistent with the distribution of BDL firms. The ratio of number of BDL firms to IPO firms in Period 1 and Period 3 accounts for 4% (5 over 123) and 15% (50 over 325), respectively, while 16 over 1 in Period 5. It shows less BDL firms in Period 1 and Period 3 compared to Period 5, thus the variable $Period_1$ and $Period_3$ are expected to end up with negative coefficients. The involvement of period effect improves the fitness of Test 1, compared to Test 3.

Besides period effect, these variables are also significant in all of the four tests, return on industry index, firm size, financial leverage ratio, and R&D ratio. But the return on firm's assets is significant only in Test 2 and Test 3. Test 2 emphasizes that BDL choices from IPO periods are related to higher ROA. Comparing Test 1 with Test 2, it indicates that BDL choices from non-IPO periods are less likely to be related with ROA effect. As Test 3 excludes period effect and then shows significance of ROA, it points out that there is some unknown effect related with period effect is also related with ROA. Therefore, Test 4 is carried out to check whether the period effect (the regulator) affects ROA and then affects the choice. The result denies it as the interact effect of period and ROA is insignificant.

To examine the economic meaning of the factors further, the essay turns to the marginal effect. As analyzed before, the explanatory variables are asymmetric distributed, most of the data series have greater mean values than median values, it is skewed to the right. Hence, the base scenario is set on the median value of variables. There is no big difference of marginal effect among these four tests. Among those significant factors, R&D ratio always has the highest marginal effect. As only a small proportion of observations are R&D firms, it may pull up the marginal effect. This is checked in Section 5.4. Then it is followed by the period effect and indicates the powerful strength from the government intervention. The marginal effect of the firm's size is always the lowest among all the variables. The reason is that firm's size is measured by logarithm of total assets, while other variables are percentage number or dummy variables. Although the return on the industry index would be higher than 1, on average they are much smaller than the number of firm's assets. So it is not comparable with other marginal effects.

Table 5 Result of the multivariate logit model

Test 1 examines the full sample with all variables in Equation 1. Test 2 examines the observations from IPO period (Period 1, 3 and 5) with all variables in Equation 1. Test 3 examines the full sample with Equation 1 excluding period dummy variables. Test 4 examines the full sample with Equation 2, i.e., adding interact effect of period and ROA.

The table presents the various effects on the choice between BDL and IPO. The explanatory variables are illustrated as below. RTN, the 9-month return before the preannouncement of the event on the industry index which the firm belongs to. The following accounting indicators are calculated from the the private firm's audited financial statement of the year before the completion of BDL or IPO. LNA, logarithm of assets; ROA, net profit divided by total assets; CSH, cash and cash equivalent divided by total assets; LEV, total debt divided by total assets; IA, the ratio of intangible assets divided by total assets; R_D, research and development expenditure divided by total operating revenue. PERIOD1 and PERIOD3 are dummy variables indicating the preannouncement date.

*, ** and *** indicates significance at the 10%, 5% and 1% level, respectively.

Variable	Predict Sign	Coefficient	z-Statistic				Marginal Effect			
			Test 1	Test 2	Test 3	Test 4	Test 1	Test 2	Test 3	Test 4
Intercept		-	-1.81*	-3.2***	8.04***	-1.26	-0.14	-0.38	-0.92	-0.11
RTN	-	+	5.83***	2.48**	6.50***	5.78***	0.23	0.12	0.35	0.23
LNA	-	+	4.4***	4.57***	5.69***	4.19***	0.03	0.05	0.08	0.03
ROA	-	+	0.83	1.66*	2.46**	-0.44	0.13	0.32	0.49	-0.13
CSH	-	-	-0.21	-0.08	-0.36	-0.09	-0.02	-0.01	-0.04	-0.01
LEV	+	+	1.80*	1.93*	2.63***	1.79*	0.12	0.16	0.25	0.12
IA	+	+	0.03	-0.44	-0.34	0.05	0	-0.08	-0.07	0.01
R_D	+	+	3.68***	3.91***	2.99***	3.32***	1.23	1.68	1.75	1.13
PERIOD1		-	5.56***	3.98***		2.77***	-0.29	-0.33		-0.24
PERIOD3		-	6.22***	3.06***		4.95***	-0.32	-0.23		-0.35
PERIOD1*ROA		-				-0.98				-0.88
PERIOD3*ROA		+				0.99				0.33
			Test 1	Test 2	Test 3	Test 4				
No. of observations			528	497	528	528				
McFadden R-squared			0.60	0.34	0.33	0.61				

5.3.2 Analysis

Since the birth of Chinese capital market, the regulation factor has received considerable scholarly attention. Xiao and Lizhen (2013) suggest as a developing market, it needs stricter scrutiny in the BDL transaction. They also argue that the BDL behavior would decrease with the improvement of regulation on the capital market and the emergence of alternative approach to the acquisition. From the distribution of BDL firms in five sub-periods, the coefficients of period effect are expected with negative estimators. However, it is necessary to looking into Period 1 and Period 3. In Period 3, the IPO was reopened and stricter measures on BDL were issued one month before. But the proportion of BDL was even higher than in Period 1. Thus it

is possible that the deregulation of IPO warmed up the issuance market and the regulation of BDL provides a legal mechanics to public. Additionally, Test 4 cannot evidence the effect of review standard on firm's profit from CSRC, although it is documented by Song (2012). Thus hypothesis H1 cannot be proved. As stated before, period effect may bring in some noises, the significance of the period dummy variable may link to some unknown effects, which is not included in the model. Since the unknown effects have not been discovered so far, the conclusion above is based on the assumption that nothing except the regulation fluctuates exactly with the period dummy variable.

Turning to the market-timing effect, the coefficient of RTN is positive and significant. It indicates that the firms are likely to opt for the BDL if the prior market is hotter. As the industry index return instead of the market return is employed, it shows the hotness of segmented market stimulates the BDL transaction rather than IPO. It then leads to the hypothesis H2 rejected. It is contrary to the evidence in the U.S. by Brau et al. (2003), which have concluded that IPO choice is more related to the hotter market than the takeover choice. The reason is that the takeover transaction by a public company is different from reverse takeover in the sample. As introduced in Section 2, a BDL transaction in China is usually accompanied by secondary equity offering. The offering price is required no less than the average price of 20 trade days before the announcement of the decision of the board of directors on the transaction (Appendix A). The share's trading price is related to the entire sector return, i.e., RTN. Thus the firms would probably prefer to carry out a transaction at a hotter market. By contrast, for an ordinary takeover, the matter is the private firm's value. It is settled between the two sides of the trade, but less dependent on the market hotness. Although it would directly affect the acquirer's value, the effect on the timing of takeover is indirect. Additionally, Brau et al. (2003) uses lagged relative volume of IPOs to mergers by quarter and market return as proxies to test the market-timing effect if IPOs or takeovers cluster over time. As the average time in the sample taken by BDL transactions is 9 months, the calculation of the return here is based on a longer period. The return on different index can also lead to different conclusions.

Compared to the opinion of "hot issue" and "cold issue" market proposed by Ibbotson and Jaffe (1975), the investor enthusiasm stimulates the BDL transaction more than the IPO in this case. Despite Gao (2010) cannot be evidenced here, it provides the hint that time window is critical for IPO. In the case of RTO in China, it is usually accompanied with secondary equity offering. A time window with higher investor sentiment helps the private firm sell the shares at higher price and complete the secondary equity offering. The reason that the timing effect make the BDL choice beat the IPO choice is probably the time window of IPO regulation. Considering about the occasional suspension of IPO and long wait line of IPO, the issuers are not completely free to capture a better time window for them. Once get approved, they might be eager for the completion of going public rather than wait again for a chance to minimize the underpricing of their stocks or maximize the post-IPO return. In the BDL process, as long as the agreement between the private company and shell company is settled, and the transaction is qualified with the law and regulation, they submit the application and wait for review. However, there is no closed period. On this ground, the BDL firms have more flexibility to decide when to launch the transaction.

With respect to the firm's size, the regression supports the previous difference test that the larger firms tend to choose BDL transaction, so it rejects the hypothesis H3. It is contrary to the

evidence in developed countries (Jindra et al., 2012; Adjei et al., 2008). Corresponding to BDL mechanics in China, this peculiar phenomenon can be explained. It is possible that the long waiting time makes some big firms choose BDL, but there is no direct evidence from this model.

The key is that most of the shells in China are not “clean shells”. James (2007) has proposed “clean shells” and “dirty shells” to illustrate the impact on a RTO structure. In his opinion, “dirty shells” include unresolved liabilities, some financial problems, accounting or legal irregularities, etc. In this case, the shell company’s assets are emphasized. Appendix B provides the figure of the shell company’s assets, which are related to the sample. 80 of 104 shell companies have assets of less than 2 billion yuan, while the others have much more than that. The average is 2.4 billion yuan.

But why would the unclean shells lead to the reverse merged private firms larger? One of the goals of a company going public is to raise new capital, but it also brings in new shareholders, which may dilute the ownership of pre-issuance shareholders. Following the introduction of the BDL transaction (Section 2), the pre-issuance shareholders aim to maintain the control of the reorganized company; otherwise, it goes against their original intention and turns into an ordinary acquisition by public firms. When a private firm is large enough, all the pre-issuance shareholders as a whole, hold more proportion of shares after the BDL than the public firm’s shareholder as a whole, they are able to control the listed firms afterward. In other words, if a private firm is too small, the shareholders hold fewer shares than the public firm’s shareholders, they lose the control. In the IPO subsample, 338 of 449 firms (75%) have assets less than 2 billion yuan before IPO. If they choose to BDL, they can only use shells which are smaller than them. As the the shell resources are scarce, it is not easy to find an appropriate one for them.

The profitability factor (ROA) is not significant in full sample period but significant with a positive coefficient in Test 2 and 3. The tests show BDL firms in IPO period seem to be more profitable than IPO firms in IPO periods, but it is unclear in the whole sample period. Nevertheless, hypothesis H4 is rejected. Corresponding to prior study, it cannot support the argument from Gleason et al. (2006), Floros and Shastri (2009) and Brown et al. (2013) that BDL firms are less profitable than IPO firms. The evidence from Floros and Shastri (2009) is based on the comparison between penny stock IPO and RTO. Considering the penny stock is inferior to ordinary stock in the U.S., the evidence is even stronger. From Gleason et al. (2006), the RTO, self-underwritten IPO and traditional IPO sample on the New York, American, or NASDAQ stock exchanges between 1986 and 2002, has been matched by timing, industry, firm size. Thus the model has removed more noises and make other factors clearer. Brown et al. (2013) has followed them and obtained the similar result in Australia. However, due to the limited BDL observations and the distribution by period, sectors and size, most of BDL observations in the sample cannot get a matched IPO observation. This could cause the difference between the result of the essay and previous studies mentioned above.

The result of two indicators of capital constraint is consistent with the prior difference test. The impact of cash ratio is not significant, leaving not enough evidence to hypothesis H5 that asset liquidity adversely affect the firm’s choice to BDL. But the hypothesis H6 that BDL firms have higher leverage ratio is proved. Thus liquidity argument cannot support Brown et al. (2013) that BDL firms are less liquid than the IPO firms. It is uncertain that their argument is absolutely plausible as they use the first set of financial statement after the event due to the limited prior

event data. As Gleason et al. (2006) has proved that BDL firms tend to experience significantly increased debt and decreased profitability and balance sheet liquidity after going public, the conclusion from Brown et al. (2013) needs further evidence.

It is interesting that, the leverage argument is contrary to the empirical evidence from Poulsen and Stegemoller (2008). They found more capital constraint in IPOs firms than firms using sellout transactions. Using debt ratio and a dummy variable to detect whether interest expense is greater than EBITDA, they explain that IPO firms have more flexibility in the public market than the firms using sellout route. It cannot be evidenced from the model as the secondary equity offering is not tested here. As the concern of the essay is the ex-ante factor, the secondary offering is interesting to be examined in the future research. Brown et al. (2013) also argued that IPO firms raised more money than their matched BDL firms. On this ground, if the money raised by IPO firms was not more than they need, then IPO firms tend to face more capital demand than BDL firms. However, the leverage argument from the sample is not in that way either.

A possible explanation for the higher debt ratio of BDL firms is that the financing dilemma in the firms with financial distress. The firms may turn to the bank and apply for more loans if they are not able to obtain equity finance. However, these firms with financial distress are not favored by the credit market. An extra compensation price for default would be charged. Further, the line of credit for each borrower is limited. Either because the firms are reluctant to pay a high cost of debt, or they are not able to manage to get anymore loans from the loaners, they need an alternative financing source to resolve the dilemma. They are probably interested in BDL as it would be better to obtain new capital before the debt is due.

Differential results of indicators of asymmetric information also exist in the regression. The impact of the intangible assets ratio (IA) is insignificant, which leads to the hypothesis H7 hang in doubt. However, the proportion of R&D expenditure (R_D) is significant at 1% level and it supports hypothesis H7. Both are inconsistent with the difference test. Only R&D ratio adds evidence to Poulsen and Stegemoller (2008) instead of Pollard (2016). The disclosure cost of leaking information to competitors from Oved (1995) is weak here, as the BDL mechanics in the sample is usually accompanied by secondary equity following, where they do not have many opportunities to evade disclosure requirement. The result is consistent with Maksimovic and Pichler (2001) that high-tech firms are more impatient. High-tech firms are facing fast-moving market. Late financing may risk missing the market opportunity. So they would rather choose a faster route to finance.

5.4 Robustness checks

As R&D ratio has the highest marginal effect, it is concerned whether the collinearity exists between R&D ratio and other explanatory variables. Thus the correlation between them is reported in Table 6. It ends up with weak correlation.

Table 6 Correlation between R&D ratio and other explanatory variables

	RTN	LNA	ROA	CSH	LEV	IA	PERIOD1	PERIOD3
R_D	0.14	-0.19	0.14	0.07	-0.19	-0.05	-0.15	0.16

Kolev et al. (2012) have suggested there exists industry cluster in M&A waves. Plus the distribution of BDL and IPO firms by sectors also shows BDL firms cluster in four sectors. So the robustness checks introduce industry dummy variables into the regression, $Industry_k$. It is defined as the proxy of the sector which the i_{th} firm belongs to. For example, if the i_{th} firm belongs to $Industry_1$, then $Industry_1$ equals to 1, and $Industry_2$ to $Industry_9$ equal to 0. To dummy variable trap, at most 8 industry dummies can be included in the regression. Because the BDL and IPO firms in material industry have similar distribution as in full sample (Table 2), the dummy variable of materials industry is removed. k ranges from 1 to 8.

Additionally, as the knowledge-intensive industry might have relatively high R&D expenses, the correlation between R_D and the industry dummy variables is gauged. It turns out the correlation coefficient between R_D and IT sector is the highest, but only 0.13 (Table 7). Thus the regression includes both R_D and industry dummies (Equation 3).

$$Pr(BDL_i) = Pr(\alpha_0 + \alpha_1 RTN_i + \alpha_2 LnA_i + \alpha_3 ROA_i + \alpha_4 CSH_i + \alpha_5 LEV_i + \alpha_6 IA_i + \alpha_7 R_D_i + \gamma_{1,i} Period_1 + \gamma_{3,i} Period_3 + \sum_1^8 \beta_{i,k} Industry_k + \varepsilon_i) \quad (Equation 3)$$

The results are shown in Table 8. There is not much difference between this regression and the original regression. The McFadden R-squared value is increased by 0.01 than before. But the significant factors don't change. None of the industry variables are significant. Thus, industry cluster effect cannot be found in the sample. Overall, the robustness checks do not change any conclusion above.

Table 7 Correlation between R&D ratio and industry dummy variables

	Consumer Discretionary	Consumer Staples	Energy	Financials	Health Care
R_D	-0.06	-0.09	-0.03	-0.03	0.07
	Industrials	Information Technology	Materials	Utilities	
R_D	0.03	0.13	-0.03	-0.05	

Table 8 Logit model with Equation 3

The test examines the full sample with a regression on Equation 3. Equation 3 adds industry dummy variables to Equation 1. The table presents the various effects on the choice between BDL and IPO. The explanatory variables are illustrated as below. RTN, the 9-month return before the preannouncement of the event on the industry index which the firm belongs to. The following accounting indicators are calculated from the the private firm's audited financial statement of the year before the completion of BDL or IPO. LNA, logarithm of assets; ROA, net profit divided by total assets; CSH, cash and cash equivalent divided by total assets; LEV, total debt divided by total assets; IA, the ratio of intangible assets divided by total assets; R_D, research and development expenditure divided by total operating revenue. PERIOD1 and PERIOD3 are dummy variables indicating the preannouncement date. The variables below PERIOD3 are the industry dummy variables. The McFadden R-squared value is 0.59. *, ** and *** indicates significance at the 10%, 5% and 1% level, respectively.

Variable	Predict Sign	Coefficient	Std. Error	z-Statistic
Intercept		-2.68	1.95	-1.38
RTN	-	0.06	0.01	5.66***
LNA	-	0.68	0.19	3.6***
ROA	-	2.4	3.6	0.67
CSH	-	-0.51	1.96	-0.26
LEV	+	3.3	1.62	2.04**
IA	+	-0.24	3.35	-0.07
R_D	+	29.87	8.35	3.58***
PERIOD1		-7.02	1.26	-5.58***
PERIOD3		-7.66	1.25	-6.14***
Consumer Discretionary		0.26	0.74	0.36
Consumer Staples		0.56	0.9	0.63
Energy		0.86	1.49	0.58
Financials		2.16	1.65	1.31
Health Care		1.27	0.9	1.41
Industrials		-0.02	0.71	-0.03
Information Technology		-0.07	0.89	-0.08
Utilities		-0.27	1.16	-0.23

6 Conclusion remarks and future research

The essay selects 104 BDL firms and 449 IPO firms in China between September 1st, 2011 and June 30th, 2016, and tests these effects on the firm's choice by BDL or IPO, regulatory changes, market timing, firm's self-limitation, desire for capital and asymmetric information. The Chinese securities regulator paused IPO in Period 2 and 4, and the firm's profit is concerned as a review standard of secondary equity offering. Therefore, 4 tests are executed to compare the results with full sample and with the IPO-period sample, with period effect and without period effect, with interact effect of period and ROA and without them. These effects are confirmed to be significant, period effect, return on industry index, firm size, financial leverage ratio, and R&D ratio, while the return on firm's assets is significant only in IPO period.

To be more specific, first, the model employs a dummy variable to trace the periods with different regulations assuming that nothing but the regulation fluctuates exactly with the period dummy variables. Then the tests indicate significant regulation impact to the firm's decision. But it is unclear that the review standard of firm's profit affects the firm's choice. Secondly, using a 9-month return on the industry index before the decision of the transaction as an indicator of the market-timing effect, BDL firms are likely to choose a better time window of transaction, and they are in favor of the hotter market. As the secondary equity offering is usually accompanied with BDL transactions here, probably BDL firms are concerned with the price of the offering. The offering price is regulated by the CSRC with a criteria linked to the market price of the firm's share. Thus a higher-return market is beneficial to the offering. By contrast, because of the regulatory environment, the long waiting line of IPO review and the occasional suspension of IPO by the CSRC have consumed the issuers' patience. IPO firms prefer the completion of going public rather than caring about a better timing to offer at a higher price. Thirdly, the private firms which have chosen BDL are significantly larger in terms of total assets than those which have chosen IPO. As the shells are not "clean shells" but have moderate amount of assets, the private firms have to be larger than the shells in order to take over the reorganized companies. Fourthly, the positive effect of debt ratio on BDL choice reflects that the BDL firms desire to replace the debt finance source with equity financing source. Finally, the result indicates that firms with a higher ratio of R&D expenditure scaled by total revenue are in favor of BDL route. The marginal effect of R&D ratio provides a further demonstration. The possible reason is that firms in the technology-intensive industry are more impatient due to the fast-moving market.

The essay adds empirical evidence of BDL in China, outlines the BDL firms' feature and identifies key determinants of choice between the backdoor and front-door listing. It has been said that, if the CSRC switches from government-based approach to the market-based approach as they have been planning to, the value of the shell company would disappear, since listing resource is no longer scarce resource. However, referring to the experience in the developed market and the results from this essay, BDL still has its advantage to cover the firm's

information and save the direct listing cost if the regulation does not treat the BDL and IPO equally.

If the BDL market grows in the future, the empirical result could be more plausible when more observations are involved. And if the regulator continuously adjusts the detailed rules, the future research could include more periods, then the regulation effect could be clearer. Moreover, it is also interesting to examine how the preannouncement of BDL greatly influences the share price thus affects the shareholders' wealth. The proceeds of following equity offering are still not clear and the post-event performance is also worthy to study in the future.

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Appendix A: Institution Background in China

i. Backdoor listing

- 1) April 16th, 2008, the CSRC issued Order No. 53—Administrative Measures for the Material Asset Reorganizations of Listed Companies (CSRC, 2008)³. It was the first time the regulator to take action on asset reorganizations of listed companies.
- 2) August 1st, 2011, the CSRC revises the Measures (2008) and added articles about backdoor listing activities (CSRC, 2011). It was effective from September 1st, 2011 until updated in 2013.

Article 11 declares that, when the transaction meets one of the following conditions, it forms a material asset reorganization:

- total assets purchased or sold account for more than 50% of the total asset of listed company at the end of last accounting year;
- the operating income in the last accounting year generated from the assets to be traded account for more than 50% of the operating income of the listed company in the last account year;
- the net assets between purchased and sold account for more than 50% of the last accounting year, and are over 50 million yuan⁴.

Article 12 defines the backdoor listing activity when it results in the change of actual control of the listed company and the total assets purchased by the listed company from the purchaser is equal to or greater than 100% of the total assets of the listed company in the previous financial year (Chinalawinfo, 2011). It also proposed the backdoor listing review standards should be similar to those for IPO review. The business entity which the purchased assets belong to should have been operated for more than 3 consecutive years; in the recent two years the entity should have been making a positive profit and the accumulated profit is no less than 20 million yuan.

Article 44 introduces the pricing rules when the listed company issue new shares in order to purchase assets. The offering price should be no less than the average price of 20 trade days before the announcement of the decision of the board of directors on the transaction.

- 3) November 30th, 2013, the CSRC tightened the review of backdoor Listing. It published the announcement “Backdoor Listing Review Strictly Follows the IPO Standards” (CSRC, 2013). The standards include that the backdoor listed company should be also qualified to go public by IPO and it is not allowed to backdoor listed in the growth

³ All these CSRC documents are available on its official website in Chinese. Some of them are also provided in English. The rest of the English translation is referred to <http://www.lawinfochina.com/> provided by Chinalawinfo Co. Ltd.

⁴ The new and stricter definitions of material asset reorganizations and backdoor listing are issued by CSRC in 2013 and 2016.

enterprise market (GEM). The GEM is a NASDAQ-style market, launched in 2009 stock market and designed for small and medium enterprise (Euroweek, 2009).

4) September 8th, 2016, the CSRC extended the definition of material asset reorganizations to more strictly regulate backdoor listing (CSRC, 2016).

ii. Initial public offering

- There were nine times the CSRC announced to pause the IPO review process (see following). The 8th and 9th time are included in the sample period.

Table 9 The periods when the IPO is paused by the CSRC in the history

	From:	To:	Duration (month)
1	1994-07-21	1994-12-07	4.6
2	1995-01-19	1995-06-09	4.7
3	1995-07-05	1996-01-03	6.1
4	2001-07-31	2001-11-02	3.1
5	2004-08-26	2005-01-23	5.0
6	2005-05-25	2006-06-02	12.4
7	2008-12-06	2009-06-29	6.8
8	2012-11-03	2014-01-01	14.1
9	2015-07-04	2015-11-06	4.2

Appendix B: The characteristics of the shell companies

Figure 5 displays the distribution of the total assets of the shell company. Each bar shows an interval with 1 billion yuan. The first left bar shows 48 shell companies had assets between 0 and 1 billion yuan. The rightmost bar shows only one company has assets between 56 and 57 billion yuan. That is the largest one, China Railway Hi-tech Industry Corporation Limited (code in WFT 600528.SH). The RTO transaction was to load the assets from one of its shareholders, which is also a public company (China Railway Group Limited, code in WFT 601390). It is not a typical BDL, but part of reform of the reconstruction of the enterprises directly controlled by the central authorities. The transaction was announced as RTO as it forms the BDL condition defined by the CSRC.

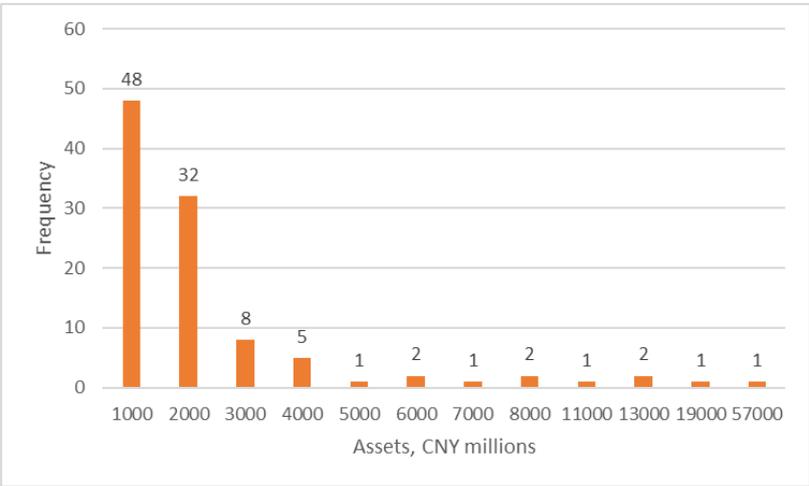


Figure 5 Distribution of the size of the shell company