Firm Performance, Entrepreneurship and Business Succession in Family Firms

Short-term market reaction to intra-family succession
Evidence from Chinese Listed Firms

A MASTER THESIS BY:

Xin Shu [414410]
MSc. Finance and International Business

ACADEMIC SUPERVISOR:

Anders Ryom Villadsen
Department of Business Administration

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Abstract

Purpose – This paper investigates the relationship between firm value/performance and business succession in family-controlled firms. The purpose is seeking to advance the literatures on entrepreneurship, family firms, corporate governance and business succession plan (BSP) in family-controlled firms.

Design/methodology/approach – Generally, the paper can be divided into three parts. Part 1: An extensive literature search of business magazines, journal, databases and relevant reports is carried out, aims to introduce the background of family business and business succession. Part 2: An event study is conducted to examine the short-term market reaction to the announcement of intra-family succession Part 3: Combining the business succession study with the theories of entrepreneurship, aims to explain how business succession affect firm’s performance/value in the long run.

Findings – The empirical study shows that there is no obvious short-term market reaction (abnormal return) to the announcement of intra-family succession. Further, two different sub-samples are identified (successions with trading suspension at the announcement day and those without trading suspension). Evidence shows that the market react favorably to the sample with trading suspension, but no such effects are found in the sample without suspension. Nevertheless, the significant tests indicate that the effect of trading suspension is not obvious and may need additional tests in the future.

Research limitations/implications – The main limitation of the event study lies in the constraint of data. Although 60 succession events are identified by hand collect work, about half of them are not available since they don’t have enough stock price data records for the empirical test. The problem could be attributed to the intrinsic limitation of emerging market. However, the 60 recognized events provide a foundation for the similar researches in the future.

Practical implications – Despite the need for further scientific and validated studies, the new perspective which based on entrepreneurial competences (ECs) may provide an opportunity for family firms to improve their business succession plan.

Originality/value – This paper presents a new perspective to understand the relationship between business succession and firm performance/value. Several new models are introduced during the process. The study contributes to the literatures of business succession research and entrepreneurship. Moreover, providing a framework of future researches.

Keywords - Family business, Intra-family succession, Emerging market, Entrepreneurial competencies, Business succession plan
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Chapter 1. Introduction

1. INTRODUCTION

"In the modern world those who legally have ownership over companies have been separated from their control" ---Berle and Means

The authors of the book “The Modern Corporation and Private Property”, Berle and Means forecasted the ownership structure of future corporations in their masterpiece in 1932. Now, after 80 years, the concept of agency theory and its focus on separating ownership and control of firms has been accepted by most of entrepreneurs and the capital world itself. However, is this a widespread description of our world economy? (Chapter 2)

It is indeed that since the interwar period (Berle and Means, 1932), the world have been showing a growing interest in the divorce of ownership from control, historians and management specialists have differentiated family firms from other business categories.(Shaker& James et al.) Nevertheless, abundant evidences show that the traditional family businesses are still playing an important role in our economy.

First of all, evidences about the distribution of family business show that family firms are prevalent throughout the world. Families control 53% of publicly traded firms with at least $500 million in market capitalization in 27 countries (La Porta, et al, 1999). Glassop et al. (2005) indicate that family firms comprise a significant portion (approximately 80%) of the Australian and world economy.

Secondly, in comparison to nonfamily firms, family firms exhibit higher levels of corporate and social performance on various dimensions (Dyer and Whetten, 2006). However, this kind of "family premium" mainly functions in the founder-controlling phase (Villalonga & Amit, 2004). This lead to my second question: will the excellence of family firms continue across generations? (Chapter 4)

Unfortunately, most evidences indicate that the excellence will fade away during the process of succession. Succession is an inevitable event to family firms. By natural force of aging, the old leadership has to be terminated, the ownership and control are transferred to the new generation (Joseph et al., 2007). However, there is actual evidence of a family discount in firms controlled by a second-generation family member (Anderson and Reeb, 2003). Le-Breton Miller et al. (2003) find that only 33% of family enterprises survive to the second generation, and only 15% to the third generation.
Chapter 1. Introduction

Nonetheless, several different situations could be distinguished. Ambrose (1983) and Wennberg et al. (2010) argue that transferring a family firm involves consideration of two options: internal transfer to another member of the family, or transfer to an external owner. Evidences indicate that the external succession is always a better option. The firms which are taken over by outside-successor often outperform those firms which remain within family-controlled (Bennedsen et al., 2006, 2007). This lead to my third question: Is there always a choice between internal and external succession for a family firm? (Chapter 4)

Once again, we get an inconclusive answer in the existing research. Evidences show that in some cases, firms choose the route of internal succession even though they know the route of external succession will lead to a better performance. The reasons are explained as the protection of the specialized assets (Alchian, 1965) and family interests (Bhattacharya & Ravikumar, 2002). Therefore, my research mainly focus on the topic of intra-family succession. More specifically I address the following research questions: how do intra-family succession affect firm’s performance (Empirical study), how do these influence factors work (Business succession analysis) and how should family firms react to eliminate potential negative influences (Business succession plan)?

Existing knowledge about business succession are mainly based on the evidences from developed countries. Comparing with a developed market, the emerging market exhibits different characteristics (Chapter 5) such as weak institution, weak property right protection and high transaction cost. Hence, my fourth question is: Can we get the same results of previous researches if we change the context from a developed market to an emerging market? In order to answer this question, an empirical study (Chapter 6) is conducted based on the data of Chinese listed firms. However, due to constraint of resource, the empirical study only examines the short-term market reaction to the announcement of intra-family succession. The results show that there is no significant abnormal return surrounding the announcement day, this might attribute to the offsetting effect from two sub-samples or due to the information leak which makes the market expect the event before the announcement. Interestingly, two sub-samples (succession with trading suspension and those without suspension) are identified during the sampling process. The test shows that the market reacts differently to the two sub-samples but the evidence is still not significant. This lead to my fifth question: Do family firms use trading-suspension as a strategy to avoid negative effect or acquire positive effect from business succession announcement?

Nevertheless, several limitations of the event study exist: (1) Small sample size for the test (2) Less efficient market for the methodology (3) The cluster of listed firms cannot capture the whole features of family business succession since most family firms are
Chapter 1. Introduction

SMEs. Therefore, I suggest further researches to test these speculative explanations on short-term market reactions.

For explaining how business succession affect firm performance/value in the long run, a business succession analysis is conducted in Chapter 7. The analysis is based on the conceptual pillars of entrepreneurship and family business research. Only few scholars have pointed out that the act of intra-family succession could be seen as a family’s continued commitment to entrepreneurship, the process include both an exit of current owner-managers and the entry of the next (Karl et al., 2011). I further develop this line of thinking and suggest a theory of Entrepreneurial Competencies Loss which explains value destruction in succession events. Based on the assumptions of entrepreneurial school, the new model (The pathway of ECs loss) is introduced to explain how an owner-manager’s capabilities (entrepreneurial competencies) are lost during the transfer and why the loss of ECs devastate firm’s value in the long-run.

In the last part of this chapter, the thesis combines the ECs loss theory with BSP (Business succession plan) and elaborates how to form a BSP from the perspective of ECs loss. Five steps are identified: (1) Identify the external environment of business succession, (2) Identify the Life-cycle phase of the firm, (3) Identify the key ECs in current life stage, (4) Identify the scarce ECs, (5) Outsourcing the scarce ECs.

Figure 1. The Basic idea of the thesis

The figure above demonstrates how the basic idea of the thesis are formed. The following part of the thesis is organized as follows. Chapter 2 of the paper reviews the literatures on family business. Chapter 3 describes the theoretical approach about how I define and identify family business/family firms in this thesis. Chapter 4 reviews the
relevant evidences on business succession. Chapter 5 elaborates the background of emerging market. Event study and business succession analysis are presented in Chapter 6 and 7 respectively. Chapter 8 is the conclusion. Chapter 9 and 10 list the references and appendices.
2. THE BACKGROUND OF FAMILY BUSINESS

This chapter aims to introduce the background of family business. Part 1 highlights the importance of family business in modern economy by presenting their distribution and performance from previous evidences. Part 2 focuses on comparing the pros and cons of family ownership. Part 3 explains how family business relate to the principal-agency problem.

2.1 THE CHARACTERISTIC OF FAMILY FIRM

Family firms have been the crucial composition of the business landscape for centuries and have played a significant role in employment, income generation and wealth accumulation. They can be small, medium, or large and have appeared in all sectors and all three industrial revolutions (Andrea & Mary, 2008). They represent a major engine of economic growth and wealth creation (Astrachan, 2003). Dyer and Whetten (2006) argue that family controlled firms espouse an identity based on the need to project a positive image and maintain a good reputation with stakeholders owing to a heightened need to protect the family reputation and legacy. Scholars believe family firms contain unique characteristics derived from the pattern of ownership, succession and governance. These characteristics have impact on the strategic process thereby affecting the performance of those firms. (Anderson & Reeb, 2003; Carney, 2005; Chua, Chrisman, & Sharma, 1999).

Kelly et al. (2000) argue that the enduring legacy of founder have a strong influence on the organizational identity of family firms. Similar, Davis & Harveston (1999) find that the impact of “founder’s shadow” existing even in cases where founder have not been involved with the management for many years.

Overall, family business is complex, but significant topic in modern economy study, the next part of this chapter aims to highlight the importance by presenting the distribution and performance of family firms all over the world.

2.1.1 The prevalence of family business

Family firms are prevalent throughout the world, evidences about the distribution of the family business show how important they are to our modern economy. Schleifer and Vishny (1986) observed that family ownership is common around the world even in well-developed countries that are symbolized by a high degree separation of ownership-management in their business system.
Chapter 2. The background of Family business

The study of La Porta, et al (1999) indicates that families control 53% of publicly traded firms with at least $500 million in market capitalization in 27 countries. In the United States, family firms constitute at least 80% of all firms (Beehr, Drexler, & Faulkner, 1997). Further, Anderson and Reeb (2003) argue that around 35% of firms in S&P 500 are family firms, those families hold an average of 18% percent of shares. A KPMG survey conducted by Glassop et al. (2005) shows that family firms comprise a significant portion (approximately 80%) of the Australian and world economy.

Further, the newest survey conducted by idea-bank of Larry Hsien Ping Lang shows that family businesses constitute 54.5% of all firms in the US, and the number turns to 76% in UK, 75% in AU, 71% in Spain. Italy, Sweden and Germany show a more concentrate evidence that the percentage of family controlled firms is more than 90 percent in the whole composition of firms in these countries. Families control these firms through holding large equity stakes and executive representation. In Western European corporations, founding families often continue to hold significant equity stakes after they retire from the managerial position. (Burkart et al., 2003).

Similar evidences are found in emerging-markets. La Porta et al. (1999) argue that more than half of publicly traded firms in East Asian are controlled by family ownership. Claessens, Djankov, and Lang (2000) state that a substantial number of firms are owned and managed by controlling families in East Asian emerging-market countries such as Korean whose listed firms exhibit some of the highest levels of family ownership in the world.

Table 1. Family business distribution in 1995-2000

<table>
<thead>
<tr>
<th>Country</th>
<th>Family business as a percent of registered companies</th>
<th>Percent of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>75-95</td>
<td>N/A</td>
</tr>
<tr>
<td>Spain</td>
<td>70-80</td>
<td>65</td>
</tr>
<tr>
<td>UK</td>
<td>75</td>
<td>N/A</td>
</tr>
<tr>
<td>Sweden</td>
<td>90-95</td>
<td>N/A</td>
</tr>
<tr>
<td>Switzerland</td>
<td>85</td>
<td>N/A</td>
</tr>
<tr>
<td>Netherlands</td>
<td>74</td>
<td>54</td>
</tr>
<tr>
<td>Belgium</td>
<td>70</td>
<td>55</td>
</tr>
<tr>
<td>Germany</td>
<td>60</td>
<td>55</td>
</tr>
<tr>
<td>Poland</td>
<td>50-80</td>
<td>35</td>
</tr>
<tr>
<td>Portugal</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>USA</td>
<td>95</td>
<td>40</td>
</tr>
<tr>
<td>Brazil</td>
<td>90</td>
<td>65</td>
</tr>
<tr>
<td>India</td>
<td>N/A</td>
<td>65</td>
</tr>
</tbody>
</table>

Quoted from: A Colli, M Rose - The Oxford handbook of business history, 2008
2.1.2  The Performance of family firms

As to the performance of family firms, Dyer and Whetten (2006) discovered in their study of S&P 500 firms that, in comparison to nonfamily firms, family firms exhibit higher levels of corporate social performance on various dimensions. In the study of Mc Conaughy et al. (1998), we can also find a similar result that family firms tend to have higher valuations and profitability than nonfamily firms in the US.

Take US publicly traded firms as the example, over last 10 years, the average stock return of family controlled firms is 15.6% while the number is 11.2% for nonfamily firms. The number turns to 23%(family) Vs. 10%(nonfamily) for the average revenue growth rate. Moreover, the evidence in the Asia shows that over 70 percent firms in the Asian Top 1000 are family controlled. (Source: The study of Xianping Lang)

Plus, Benjamin (2006) makes a distinction between active family control and passive family control. Based on the evidence of Western Europe, active family control is associated with higher profitability compared to nonfamily firms, however, passive family control does not affect the profitability.

However, according to the finding of Villalonga and Amit (2004), this kind of “family premium” is mainly due to founding family CEOs. Gains from family control start to decrease when the ownership stake exceeds about 30%.

The evidences listed above indicate that family business still play a key role in our modern economy, that's why I choose this area as the subject of my master thesis.

2.2  THE COMPETITIVENESS OF FAMILY BUSINESS

The second part of this chapter aims to analyze the competitiveness of family business by presenting the pros and cons of family ownership.

2.2.1  The advantages of Family ownership

One benefit of family control mentioned by Fama & Jensen (1983) is that this form of control can reduce the classical agency problem (Type I) between owners and managers. The argument is consistent with the result from Yo Han An and Tony Naughton (2009). Joseph P.H Fan and T. J. Wong (2004) believe that controlling owners can obtain power and incentives to negotiate and enforce corporate contracts with various stakeholders through concentrated ownership structure.

Shaker, James & Carlo (2004) state that organizational culture is an important strategic resource that family firms can use to gain a competitive advantage. Anderson and Reeb
Chapter 2. The background of Family business

(2003)’s study indicate that family firms have a lower cost of debt than non-family firms. Furthermore, comparing with non-family firms, a family firm could access to additional resource from the family members and this provides a comparative advantage to the family business. For example, when the required financial and human capital inputs are large and beyond what an individual entrepreneur can supply, friends and/or family members often join to become both highly disciplined labor force and contributors of financial capital. (Joseph et al, 2007)

As to the impact of family ownership on earning quality, the study of Wang (2006) shows that there is a positive correlation between family ownership and earning quality. The result implies that the family ownership has a strong incentive to monitor management as long-term investors. Addition to the study of Wang, Ali et al. (2007) got similar test result with different measurement that family firms have higher earning quality and better disclosure quality than non-family firm.

Further, Joseph et al. (2007) argue that the family ownership can provide a protection to the specialized assets of the firm such as the entrepreneur’s ideology, reputation or relationship with stakeholders. Because of the specialty of these assets, they are hard to transfer across individuals or organizational boundaries. Keeping within family is an effective way to prevent the value loss of these assets.

At the macro-economic level, family business should be viewed as a stable factor of the economy since family business are inwardly directed or closed family related system and their strategic behavior of those owner-managers is rather conservative(Rik & Erwin, 1991).

2.2.2 The disadvantages of Family ownership

As a coin has two sides, family firms have to suffer from different drawbacks. According to the studies of Anderson & Reeb(2003) and Villalonga & Amit (2005) which focus on the pros and cons of family ownership and control within publicly traded firms that drawbacks are main arise from agency problems(Type 1) and severe managerial entrenchment that allows controlling owners’ self-dealings to go unchallenged internally by boards of directors or externally by takeover markets. For instance, there is obvious evidence of nepotism in family business succession decisions, whereby newly appointed family CEOs are younger than non-family successors. Nepotism refers to the favoritism in politics or business granted to relatives regardless of merit. Perez-Gonzalez (2002) believes that nepotism limits the scope of labor market competition for the CEO position. Plus, nepotism plays a significant role in the selection of family members as executives of a firm which result in a restricted labor pool. That’s why the nepotism should be one significant factor to be considered when we make a
business succession plan. Claessens et al. (2002) and La Porta et al. (2002) argue that this entrenchment problem can come at a price to the controlling owners and their firms since once the outside investors anticipate the problem they will discount the share prices and raise the difficulty for the firms to issue equities in the future. Due to the preference for low risk, family-controlled firms are inclined to preserve the capital and the family members are unwilling to sell their stake to outside investors. Another concern should be noticed is that the family-control give rise to conflicts of interest between the controlling family and minority shareholders (Type 2), especially when the control is tight (Shleifer and Vishny, 1997).

Besides, evidences from East Asian (Hong Kong, Singapore, Malaysia, and Thailand) show that controlling family ownership may override incentives to report high-quality earning thereby the higher quality of earning is determined by the incentives of financial statement preparers while the real earnings quality which should be determined by accounting regimes is lower (Ball, Robin & Wu, 2003). Similar statement is proposed by Fan and Wong (2002) that controlling family shareholders in East Asian countries have incentives of taking advantage of flexibility and discretion over auditor selection and accounting choice to distort firms’ real earning quality.

Further, a research based on the data from South Korean indicates that firms with concentrated ownership by controlling family shareholder have lower firm value than those less concentrated ownership companies during the Asian financial crisis in 1997/1998 (Joh, 2003 and Baek, Kang, and Park, 2004). This might imply that family ownership is vulnerable when macro economy is turbulent.

### 2.3 Principal-Agent Problem

The third part of this chapter aims to introduce the principal-agent problem and how this problem relate to the sector of family businesses.

#### 2.3.1 Definition of Principal-Agency Problem

Generally, principal-agent problem concerns two parties which are the "agent" and the "principal". The problem lies in that the agent who is supposed to make the decisions that would best serve the principal is naturally motivated by self-interest, but the agent's own best interests may differ from the principal's best interest (see Figure 2).

One main cause of the problem is asymmetric information. The most common situation is that the agent having more information, so that the principal cannot directly ensure if the agent is always acting in its (principal's) best interests.
In corporate finance, this problem usually refers to a conflict of interest between a firm's management (agent) and the shareholder (principal) of the firm. The manager is hired outside and should act in the best interest of the principal which is maximizing shareholders' wealth. Nevertheless, the manager's own best interest is to maximize his own wealth.

Figure 2. The principal-agent problem

Source: www.wikipedia.org

2.3.2 Principal-Agency problem Vs. Family Ownership

In the studies of family ownership, two kinds of agency problems are identified by Ali, Chen, & Radhakrishnan (2007) as follow: (1) Type I agency problem- the classic owner-manager conflict (2) Type II agency problem- conflicts between controlling shareholders and non-controlling shareholders (minority shareholders). Furthermore, previous literatures indicate that the two types of agency problems have contrary effects on firms' performance/value which leaves a controversial result about the effect of family ownership on firm value and earnings. Consistent with previous evidence, Yo Han An and Tony Naughton (2009) argue that the family ownership may either reduce or aggravate agency problems since they observed both Type I and Type II agency problems in family ownership and they believe the unique features of family ownership may affect firm value and quality of earnings.

2.3.3 Positive effect of family ownership on firm value from the perspective of principal-agency theory

The positive effect of family ownership on firm value is raised from the Type I agency problem. Evidences show that the problem can be reduced by placing an internal family member in the position of manager instead of hiring one from outside. As Anderson, Mansi, & Reeb (2003) argue that, compared with other shareholders, families can better supervise managers and control manager's opportunistic behaviors. In addition to the incentive, another benefit is that family-ownership is likely to have better information on the firm and that reduce the cost of supervision. Plus, it is reasonable to believe that
the chosen manager who belongs to the controlling family is more likely to have the same vision with the family and work in the best interest of the family. So, compared with non-family shareholders, family owners are inclined to keep their wealth as long-term investors. From a managerial view, a long-term corporate strategy is easier to be carried out and maintained under the family ownership controlling. This is consistent with the study of James (1999) which states that family ownership is stable and more able to maintain efficient investment strategies to increase firm value since families are long term investors and have an incentive to transfer the business across generations.

2.3.4 Negative effect of family ownership on firm value from the perspective of principal-agency theory

A totally contrary opinion about the family ownership effect on firm value is argued by Mørck, Shleifer & Vishny (1988) that management entrenchment will be induced with the increase of the level of insider shareholding. Informative asymmetry and moral hazard are caused between controlling families and minority shareholders (Type II agency problem). Under such circumstance, family members are appointed as the firms CEO or key members of management to maintain the absoluteness of family control. Once the controlling right is concentrated on a single family, incentives are easy to be override, controlling family might act in its own interest at the cost of the interest of minority shareholders. Besides, controlling families are generally not willing to lose their actual controlling right (Gomez-Mejia, Nunez-Nickel, and Gutierrez 2001), the founding families have strong incentives to pass their firms to the next generation. Anderson et al. (2003) believe that founding families view their firms as an asset to bequeath to family members or their descendants. Because of this natural characteristic, entrenchment are built to protect family right from external challenge or influence (Schlze, Lubatkin, Dino, & Buchholtz 2001). Therefore, it is inevitable that some arbitrary strategies are made by the controlling family which might devastate the value of the firm.
3. AN APPROACH FOR DEFINING FAMILY BUSINESS

Definitions of family business in previous literatures are mixed. This chapter aims to propose an approach to define family business/family-controlled firm for the following empirical study. In the first part, different definitions of family business are presented. Part 2 is aimed to identify family business on a firm’s level. Part 3 aims to set the standard of “controlling right” for my following event study.

3.1 THEORETICAL VS. OPERATIONAL

Since my research mainly focus on the area of family firms, it is significant to distinguish the family business from other forms of business. However, there is no consensus about the definition of family business.

It is generally agreed that family involvement in the business is what makes the family business unique (Miller & Rice, 1967). Handler (1989) interprets that the family involvement refers to ownership and management. Churchill and Hatten (1987) believe that the involvement also includes the existence of a family successor. The argument is accord with the definition from Handler (1999) that a family business refers to an organization whose major operating decisions and plans for leadership succession are influenced by family members serving in management or on the board. However, even though the definitions based on the component of family involvement are easy to operationalize, they cannot capture the essence of the family business which distinguish the family business in theory, research, and practice, from the non-family business (Jess et al., 1999). One example is the definition made by Beckhard and Dyer (1983) that a family business is the system that includes the business, the family, the founder, and such linking organizations as the board of directors.

A different definition is presented by Donnelley (1964) that family business has been closely identified with at least two generation of a family and when this link has had a mutual influence on company policy and the interests and objective of the family. Plus, Churchill & Hatten(1993) argue that what is usually meant by family business is either the occurrence or the anticipation that a younger family member has or will assume control of the business from the elder. Both of the definitions indicate that the concept of family business refers to the element of "two generation" and this implies that the issue of succession will be one significant factor to be considered when we study family business.
After a comprehensive review of relative papers in the family business literatures, I find that most definitions about family business refer to three factors: (1) A nuclear family (2) Owned by the family (3) Managed by the family. For example, Gallo & Sveen (1991) define it as a business where a single family owns the majority of stock and has total control. Rosenblatt et al. (1985) propose a definition that any business in which majority ownership or control lies within a single family, and in which two or more family members are or at some time were directly involved in the business. Dreux (1990) believes family business are economic enterprises that happen to be controlled by one or more families that have a degree of influence in organizational governance sufficient to substantially influence or compel action. Lyman (1991) states that family business refers to one in which two or more extended family members influence the direction of the business through the exercise of kinship ties, management roles, or ownership rights.

Obviously, the main conflicts of those definitions are: (1) some definitions do not differentiate between management and governance (2) some require controlling ownership or family management alone while others require both ownership and management (Jess et al., 1999) (3) some definitions emphasize the condition of “single-family control” while others also acknowledge the type of “multi-family control”. For instance, Davis (1983) define family business are those whose policy and direction are subject to significant influence by one or more family units. Thus influence is exercised through ownership and sometimes through the participation of family members in management. However, Barnes & Hershon (1976) state that the key factor is that the controlling ownership is rested in the hands of an individual or of the member of a single family. The main difference here is that the former definition agrees the situation that more than one family unit controlling while the latter one emphasizes the status of “one single family”.

As to the classification of those definitions, Jess et al. (1999) argue for a distinction between theoretical and operational definitions. They believe a theoretical definition must identify the essence that distinguishes the family business form other businesses while an operational definition must be measured. Further, they propose a theoretical definition based on behavior that, the family business is a business governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generation of the family or families. However, even though this theoretical definition is more accurate and can capture the uniqueness of family business that distinguish it from non-family business, it is difficult to operationalize in my empirical study due to the resource constraint.
3.2 IDENTIFYING FAMILY CONTROLLED FIRM

Since the first step of my empirical study is identifying family controlled firm from a list of publicly traded corporations, it is significant to set a standard which is easy to operationalize in practice as well as capturing the essence of family business. However, as a coin has two sides, operational definitions are measurable but weak indicators while theoretical definitions might capture the essence but hard to operate. So, I introduce a two-step filtering method that try to combine the two kinds of definitions. The first step is setting a standard for my analysis to solve the controversies which mentioned in the previous theoretical definitions and the step 2 mainly focus on selecting a critical point to identify the status of absolute control.

Table 2 presents the main controversies about the definitions of family business. As I mentioned above, the first step is setting the theoretical criteria for my following data collection. As to the controversy about ownership control and management control, here I assume that the ownership is more important than management, once the condition “family owned” is met, the firm is qualified for further consideration. The reason why a family owned but not family managed firm is still qualified is that even the family do not directly manage the firm, it can exert significant influence on the firm’s decision through its ownership control. The second filtering criteria refers to the issue “whether it is necessary for a family firm to be held by one single family?” Here the key word is “nuclear family”, I assume that the business must be controlled by a nuclear family, it can also be controlled by a multi-family group as long as the nuclear family can be identified. The reason is simple, since my research focus on examining the succession events in family controlled firms, these successions must be identified within a single family for each firm. In the first step, only firms qualifying both criteria will be selected for the next step.

Table 2. The filtering criteria of family business

<table>
<thead>
<tr>
<th>Business controlled through...</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Family owned and family managed</td>
<td>✓</td>
</tr>
<tr>
<td>Family owned but not family managed</td>
<td>✓</td>
</tr>
<tr>
<td>Family managed but not family owned</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business controlled by...</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>One single family</td>
<td>✓</td>
</tr>
<tr>
<td>Multi-family control--one nuclear family</td>
<td>✓</td>
</tr>
<tr>
<td>Multi-family control--no nuclear family</td>
<td>X</td>
</tr>
</tbody>
</table>
Chapter 3. An approach for defining family business

As I mentioned earlier, ownership is the essential factor to identify if a family controlled a business or a firm. Hence it is necessary to set a critical ratio for identifying the status of “absolute (ownership) control” in step 2.

It is general accepted that the degree of the concentration of controlling right could be used as a standard to identify if a listed firm belonged to the category of family controlled firms. Controlling right could be reflected by shareholding right or voting right. However, the standard of the critical ratio varies. Donckels & Frohlich (1991) believe that if family members own at least 60 percent of the equity, the firm is family controlled. Leach, et al. (1990) argue that the family control means a company in which more than 50% of the voting shares are controlled by one family, and/or a single family group effectively controls the firm, and/or a significant proportion of the firm’s senior management is member from the same family.

The similar methods are used in the studies of Faccio et al. (2002), Claessens et al. (2000) and La porta et al. (1998) which the critical point of controlling right is set as 40%, 30%, 20% and 10% respectively. Once a family can exert a controlling right which exceed the chosen critical point, it can be regard as a family controlled firm. Berghe & Caechon (2002) argue that the critical ratio for identifying if a listed firm belongs to family controlled firm should be set as 50%, this is also the most common accepted by the public.

3.3 IDENTIFYING THE CRITICAL POINT OF CONTROLLING RIGHT BASED ON NATIONAL AVERAGE LEVEL

Identifying the critical point of controlling right is a case-dependent issue, this part of the chapter aims to explore the evidence of the specific market (China) thereby determining the standard of my thesis.

Evidences about critical point of controlling right from previous empirical studies are mixed, Anderson and Reeb (2003) find that in S&P 500, families hold an average of 18% percent of shares. The study of Mc Conaughy et al. (1998) indicate that the median percentage of votes held by controlling families is less than 15% in US sample. One different evidence is from the study of Brian & Ben (1999) which indicate a more concentrated ownership with the median percentage of family controlled votes exceeding 51% using a Canadian sample. Here we generally assume that there is a negative correlation between the development level of the country where the firm established and the concentration degree of controlling right exerted by the firm. Therefore, it is necessary to consider the geographic factor or market factor when we set the critical ratio for identifying the status of “family control”.


Table 3 presents the concentration of controlling right in Chinese family firms. According to the research of Su Qilin & Zhu Wen (2003), the controlling right is lower than 30% in 65.65% of Chinese family-controlled listed firms. This is a result from the Chinese privatization reform, most state-owned shares are sold by instalments to the controlling family or other legal person.

**Table 3. The controlling right concentration in Chinese family firms**

<table>
<thead>
<tr>
<th>The percentage of Controlling right (%)</th>
<th>The Distribution of family-controlled firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 10</td>
<td>0.78%</td>
</tr>
<tr>
<td>10–19.9</td>
<td>10.16%</td>
</tr>
<tr>
<td>20–29.9</td>
<td>54.69%</td>
</tr>
<tr>
<td>30–39.99</td>
<td>11.72%</td>
</tr>
<tr>
<td>40–49.99</td>
<td>12.50%</td>
</tr>
<tr>
<td>Over 50</td>
<td>10.15%</td>
</tr>
</tbody>
</table>


Based on the study of Su Qilin & Zhu wen (2003), the critical point of identifying if a firm is family-controlled will be set at 20% in my event study since around 90% family firms will be included under this standard.

Generally, the sampling procedure about selecting family controlled firms in my event study will follow the principle above. Beside, some other channels will be used as a supplementary to identify family firms such as news, financial reports and previous empirical studies.
4. BUSINESS SUCCESSION

Succession is the single most studied topic in family business research (Sharma, 2004; LeBreton-Miller, Miller and Steier, 2004). It is an inevitable event to family business governance since when an entrepreneur is getting old, he would force to consider who should be the successor to take over the ownership and management of the firm. Further, business succession is a significant topic in our economy, DeTienne (2010) made a conservative estimate that the transfer of wealth by trade among US privately held companies in the first six months of 2006, amounted to $100 billion.

Karl et al. (2010) indicate that previous literatures about firm succession mainly focus on the following topics: (1) what determines successful succession (2) the frequency of firm successions (3) the wider economic ramifications of different types of successions. Most of the literatures on succession is conceptual or relies on a small number of cases and/or surveys, based on convenience samples. Some scholars argue that more attention should be drawn on the impact of such firm ownership transition on economic development (Mason and Harrison, 2006).

This chapter aims to introduce the background of business succession based on the researches of previous literatures.

4.1 TWO CHOICE OF SUCCESSION ROUTE-INTERNAL VS. EXTERNAL

Generally, there are two types of business succession route: Internal and external. The internal (intra-family) succession occurs when one or several members in the nuclear family transfer the ownership or controlling right of the family firm to an intra-family successor such as spouse or offspring. Oppositely, an external succession occurs in the situation that non-family members take over the ownership or controlling right. As Ambrose (1983) and Wennberg et al. (2010) argued that transferring a family firm involves consideration of two options: internal transfer to another member of the family, or transfer to an external owner. They believe the succession route a firm chosen is so fundamental that the survival of the firm is often contingent on the family agreeing upon and managing to execute one or other of these choices. Joseph P.H. Fan et al. (2007) examine the succession route choice based on a sample set including 217 cases from Hong Kong, Singapore, and Taiwan during 1987 to 2005. The result suggests that 65 percent of the choices are made related to the type of intra-family succession while only in about 22 percent of the sample, the outside professionalisms are appointed to succeed the management but still leave the ownership maintained by founding families.
Chapter 4. Business Succession

The rest is a third type of firms whose controlling owners chose to exit by selling off their ownership to unrelated parties.

Although abundant researches focus on examining the role of families in the choice between internal and external ownership transition and also how family composition and structure influence the type of ownership transition (Churchill and Hatten, 1997; DeTienne, 2010; Swagger, 1991; Vera and Dean, 2005) My empirical study only focus on the type of internal (intra-family) succession since evidences show that in some cases that the route of intra-family succession is the only option to be considered. In that situation, the current firm leader chooses the route of internal succession even though he/she knew that the firm will gain more/ lose less by selecting an external succession. Hence, question is left as follow: Why some firms insist choosing the route of intra-family succession even though they knew it might be a bad choice?

Several researchers explain the fundamental of choosing a route of intra-family succession. Bhattacharya and Ravikumar (2002) argue that the interest of an outsider (professional) is not necessarily aligned with the family even though he is more productive than an internal successor. Shleifer and Vishny(1997) believe that family controlled firms have the preference for low risk, they are inclined to preserve the capital and the family members are unwilling to sell their stake to the outside investor.

Alchian(1965) argue that family succession is an arrangement that aims to protect the specialized assets( such as the relationships with stakeholders etc.) within the firm. Due to the specialty of those assets, they are difficult to partition, value and transfer across organizational boundaries. Joseph et al. (2007) regard the choice of the succession route as a choice between standardizing the business and staying unique. The choice of who will be the successor depends on how well the value of the specialized assets can be preserved, or conversely how large is the value dissipation during and after the transfer. Further, they find that family succession is more likely happen when the family member is better educated or serving a senior position prior to taking the key position, besides, the more family members have such experience, the more concentrated the ownership will be.

4.2 MANAGEMENT TRANSITION VS. OWNERSHIP TRANSITION

Some researches about firm succession make a distinction between management succession and ownership succession (Churchill and Hatten, 1997; Gersick et al., 1999; Handler, 1994). However, most of those researches focus on management transitions, while ownership transfer has received much less attention (Karl et al., 2010). Some scholars view the problem of ownership succession as a legal problem (McCollom,
Chapter 4. Business Succession

1992 Howorth et al., 2004). Nevertheless, Handler (1994) observe that, for many small and medium sized enterprises (including family businesses), these two go hand in hand. Karl et al. (2010) argue more attention should be drawn on the co-existence of ownership and management succession for a better understanding of the complexity of the succession process from an entrepreneurial and multilevel perspective.

In my empirical study, ownership indicator (shareholding rate) is used as the central measurement to identify family firms while the indicators of management transition (turnover of key positions) are used as the measurement to identify succession event.

4.3 Factors related to succession process

Abundant researches of business succession focus on examining what factors determine the choice of the succession route and also the outcome of the succession. Le Breton-Miller et al. (2004) indicate several factors influencing the process of ownership transition and succession in private firms which are: (1) family structure (2) the personal goals of the owner-manager (3) ability and ambitions of potential successors (4) legal and financial issues. Similarly, DeTienne (2010) argue that the process may be influenced by the individual entrepreneur, the family members, the economic environment and the potential successors and families all. Further, De Massis, Chua and Chrisman (2008) suggest several factors that prevent intra-family succession including (1) lack of able successors (2) lack of motivation among potential successors (3) predecessors’ personal attachment to the business (4) conflicts between parent predecessors and their children. Cater and Justis (2009) argue that the development of successful management involving family successors is related to parent–child relationships, knowledge acquisition, long-term orientation, cooperation, successor roles, and risk orientation.

The studies of Kaslow (1998), Swagger (1991) and Vera and Dean (2005) show that the outcome of a succession is strongly affected by the relationships within family members. A research conducted by Joseph P.H Fan (2012) shows it takes only 7 years on average for a family member to promote from the position of merchandise to the executive director in family firms while it takes at least 25 years for non-family managers to complete the similar promotion route, further, most non-family managers even have no chance to take the position in the board of directors.

The study of Dunn (1999) highlights the importance of mitigating the anxieties of family members based on the analysis of the effects of family relations during the transfer of ownership to the next generation. Furthermore, evidences show that managers from controlling family are less likely to be removed from their position following poor performance than non-family managers. It is reasonable since management decisions within family controlled firms are unavoidable affected by the
intra-family relationship. Cabrera-Suárez and colleagues (2001) argue that a firm’s performance may be influenced by the successor’s ability of acquiring the key knowledge and skills from their predecessor from the perspective of resource based theory. This is according with my following analysis which view the knowledge acquiring process as a kind of inheritance.

The research of Sharma and colleagues (2003) which investigate 118 Canadian family firm owner-managers indicates that a succession was strongly related to the proactivity of a trusted successor in pushing the ownership succession process. Sharma et al. (2003) argue that the satisfaction with the succession process in family firms is enhanced by the (1) the willingness of the former owner to step aside (2) the willingness of the successor to take over (3) the agreement among family members to maintain involvement in the business and to accept their individual roles (4) an active succession planning phase.

Henrekson, (2005) argue that several factors may affect firm succession. For instance, firms may lack external funding to finance the transfers under the global financial crisis (Economic factors). Aging populations countries may experience more transition/succession events (Demographic factors). Further, taxation policy (institutional factor) may also affect the choice of the succession route.

Overall, management appointments and succession choices in family firms are affected by various factors. The choices they made for the family interest may supersede standard corporate objectives such as the maximization of shareholder’s interests.

### 4.4 HOW SUCCESSION AFFECT FIRM’S PERFORMANCE

There is no doubt that business succession will affect a firm’s performance. After a comprehensive review of previous literatures, I find that most researchers indicate the succession as a negative factor to firms’ value/performance but several situations could be distinguished. Generally, the finding results could be summarized as follow: (1) Intra-family succession devastate firm’s value in the long term. (2) Few studies examine the short term market reaction and get the similar results that the market response unfavorably to the intra-family succession. (3) Abundant research study the choice of the succession route, and suggest that the external succession might be a better choice than the internal succession. (4) Very few studies report the positive reactions to succession, most of them happened in the situation of non-routine departure (such as death) of an inside block holder. In The following part I will present the details of those evidences.
Chapter 4. Business Succession

Long-term reaction

Anderson and Reeb (2003) argue that there is actually evidence of a family discount in firms controlled by a second-generation family member. Morck et al. (2000) state that inherited control is a strong impediment to organizational growth. Moreover, Joseph et al. (2007) find an average negative 56 percent buy-and-hold market-adjusted stock return of emerging market (Hong Kong, Singapore, and Taiwan) entrepreneurial/family firms during a 5-year period in which their controlling owners pass on ownership and control to intra-family successors.

Short-term market reaction

The study conducted by Brian & Ben (1999) shows that when family successors are appointed, stock prices decline by 3.20% during the 3-days event window, whereas there is no significant decrease when either non-family insiders or Outsiders are appointed. Similar result is gotten by Smith & Amoako-Adu (1999) whose study based on Canadian firms reveal that the appointment of a new and relatively inexperienced family member resulted in a loss to shareholders of 3.2 % over 3 days event windows surrounding the announcement.

Internal VS. External

DeMassis, Chua & Chrisman (2008) argue that the type of the succession route that a family chooses will likely impact the future performance. Evidence from the US indicates that the firms’ financial performance are influenced no matter the next CEO is chosen from inside or outside the firm (Boeker and Goodstein, 1993).

The study of Bennedsen et al. (2006, 2007) suggests that firms which are taken over by outside-successor, often outperform those remain within the family. More specifically, the research report that family successions, as opposed to successions by unrelated professionals cause an average 4% decline in return on assets, and the firm performance does not recover after succession. Similarly, Perez-Gonzalez (2002) finds that stock prices respond favorably to the appointment of an unrelated CEO while an intra-family succession is usually associated with large declines in operating and stock price performance. Further, they argue that the decline can be explained by the educational background of the family business successor. The study of Karl et al. (2011) which based on the evidence from Swedish private family firms during last 10 years indicate that the family firms transferred to external owners outperforming those transferred within the family, Further, they attribute these performance differences to the long-term orientation of family firms passed on to the next generation and to the entrepreneurial willingness of acquirers to bear uncertainty.
Chapter 4. Business Succession

Some scholars explain the evidence from a resource-based theory that the outside-new owner-managers can bring additional resource and infuse entrepreneurial energy into the established firms (Nordqvist and Melin, 2010). Another explanation is that investors are uncertain about the “management quality” of family successors who have less established reputations than more seasoned outside professionalism.

Similar researches are conducted by Smith and Amoako-Adu (1999), Morck, Strangeland, and Yeung (2000), Anderson and Reeb (2003), Perez-Gonzales, (2006), Villalonga and Amit (2006) etc. The results of those researches are generally the same: firm performance is better when the firm is charged by a founder CEO or an outside (hired) professionalism, but worse if it is run by an intra-family successor.

Survival rate

Le-Breton Miller et al. (2003) argue that only 33% of family enterprises survive to the second generation, and only 15% to the third generation. The study of Karl et al. indicate that survival is higher among intra-family transfers.

Evidence of positive reaction

The evidence from UK firms (David & Patrick, 2005) suggests that there is a positive stock reaction when family firms announce the event of succession, but only when directors are replaced by a non-family successor. As to operating performance, the positive effect happens only in the situation of the departure of a family CEO. Slovin and Sushka (1993) find that the death of a significant inside block holder of a firm is associated with a positive stock price effect. Similar evidence is found by Johnson et al. (1985) that there is a positive stock price reaction to the announcement of the sudden death of a company’s founder executive. Denis et al. (1997) find a positive stock reaction to the non-routine departure of a top executive.

Evidences of no reaction

Allen and Panian (1982) find that there is no relationship between performance and managerial succession in firms directly controlled by families during periods of low profitability.

4.5 Succession as an Entrepreneurial Process

This section aims to explain how business succession issue are related to the theory of entrepreneurship, this is also the foundation of my analysis in chapter 7.
Chapter 4. Business Succession

Few scholars combine the research of family business with entrepreneurship, Aldrich & Cliff (2003) argue that the unique characteristics relevant to family firms’ identities foster entrepreneurship. Zahra, (2005) argues that these family firm characteristics may work to inhibit entrepreneurial activities over time.

As to the particular area of succession study, some scholars of entrepreneurship argue that succession in private firms and family business could be considered from an entrepreneurial process perspective (Habbershon and Pistrui, 2002; Nordqvist and Melin, 2010). Since when owner-manager entrepreneurs consider exiting their entrepreneurial ventures, they have following options: (1) close down the business (2) sell the business to an external party (Wennberg et al., 2010) (3) pass down the business to family members or relatives. It is obvious that the option 3 refer to both entrepreneurial entry and exit. Hence, Karl et al. (2011) argue that the act of passing on a family business within the same family could be seen as a family’s continued commitment to entrepreneurship, the process include both an exit of current owner-managers and the entry of the next. Further, (DeTienne, 2010) argue that the entrepreneurial process does not end with the new venture creation, and that firm succession is a key part of the entrepreneurship process (Sharma et al., 2003).

Addition to their studies, I create a model based on the theory of entrepreneurial school and use the concept of “entrepreneurial competences” as the key variables that can determine a firm’s performance. The model is aimed to demonstrate how succession affect a firm’s performance and partly explain the prevalent evidence that “internal succession devastating value”. The details can be found in chapter 7 “succession analysis”.
5. Emerging Market

There is no doubt that country context has impacts on a firm’s performance as well as the issues such as business succession. Bennedsen et al., (2006) find that the extent of value destruction in succession is alarming in the emerging market, compared with that in more developed economies. The study of Karl et al. (2010) identifies seven cross-country comparison studies (Berenbeim, 1990; Chau, 1991; Corbetta, 1999; Sharma and Irving., 2000; Royer et al., 2000, Stavrou, 1998; Scholes et al., 2007) and suggest that the country context is important for the evolution of ownership succession. However, most previous literatures on family business and succession are based on the context of developed markets (Western markets) while my research is based on an emerging market (China), therefore, it is necessary to find out the differences on business succession of the two distinguishing contexts. This chapter aims to investigate how emerging market factors affect family businesses and their succession choices. In the first part, I present two most relevant factors. Part 2 aims to introduce the characteristics of family firms in emerging market, further, how their features are shaped by the emerging market factors.

5.1 Two Main Emerging Factors

5.1.1 Weak property rights protection

Property rights are not well defined or not well protected by judicial systems in emerging markets. Some scholars argue that this characteristic may affect the choice of the succession route in family firms. Generally, the board of director choose the route of intra-family succession for protecting the interest within the family, since even though the outside-hired professional is more productive, his interest is not necessarily aligned with the family (Bhattacharya and Ravikumar, 2002). Burkart et al. (2003) find the threat of expropriation is expected to be serious in emerging markets where legal systems are weak to protect property rights. Based on this argument, I expect to observe more intra-family successions in emerging market.

5.1.2 Weak institution

Another characteristic of emerging market is the weak institution, which means the modern incentive contracts not widely used in these markets. Joseph P.H Fan and T. J. Wong (2004) argue that the agency problem (type 2) between controlling owners and the minority shareholders are difficult to be mitigated through conventional corporate
control mechanisms such as boards of directors and takeovers in an emerging market. Consequently, we observed more cases of corporate theft in emerging markets.

Nevertheless, emerging markets have their own traditional ways of governance when modern governance tools don’t work well. Human relationship plays a vital role in the businesses of emerging market. More specifically, the business models in emerging markets are relationship-based rather than market-based. Based on such business models, the political connection is often more significant than professionalism/productivity in creating value. One example is that firms use such relationship (politically connection) to help lobbying government (rent seeking). As a consequence, we observed more politicians but fewer professionals in the board of firms in emerging market.

5.2 FIRMS IN EMERGING MARKETS

This part presents the characteristics of firms in emerging market and explains how these features are shaped by the emerging market factors we discussed above.

Weak internal governance and low professionalism

Firms in emerging market exhibit weaker internal governance and a lower professionalism than the firms in western countries. Take Chinese listed firms for example, Joseph (2009) finds that the governance function and the degree of professionalism of listed companies’ management and boards of directors remain weak compared to the western standard. A survey conducted by Fan et al. (2007) shows that professionals only constitute 5% of board of directors in Chinese unaffiliated firms. Further, they explain this as the existing of professionals increase the possibility of leakages of the proprietary information which attract social/political sanctions.

Connection with bureaucrats

In many emerging markets, we can observe the connection between business sectors and bureaucrats. Scholars argue this as a consequence of weak institution of the market. On one hand, firms hope to acquire benefits (access to long term loan etc.) through building connection with bureaucrats since governments often control the vital resources that are critical to their business. On the other hand, governments wish to exert significant influence on the family business sector by appointing politicians serving key positions in those firms.

High ownership concentration

Empirical evidences indicate that the ownership concentration of publicly traded firms is higher in weaker legal environment (La Porta, Lopez-de-Silanes &Shleifer, 1999).
Joseph P.H Fan & T. J. Wong (2004) explain this as an institutional arrangement to facilitate transactions in a weak property rights environment. More specifically, these firms need to have more concentrated ownership to preserve the value of their specialized assets that are subject to the high costs if otherwise transferred across individuals or organizational boundaries.

Further, beneficial effect of concentrated ownership are exacerbated under the circumstance of emerging markets where are usually less developed (Shleifer and Vishny, 1997).

**Complex organizational and business structures**

Firms in emerging markets tend to have more complex organizational and business structures than western firms. They are featured by diversified, group affiliated and family controlled instead of diffusely owned, focused, and freestanding Organizations.

**Lower corporate transparency**

Low transparency is another feature of firms in emerging market. Fan and Wong (2002) explain this as the incentive to cover up rent seeking, corruption or egoism of family interest within those firms. Further, they argue it would be difficult to improve transparency even with new accounting standards, laws, and regulations if these institutional constraints cannot be relieved.

**High financial leverage**

Firms in emerging market exhibit a greater degree of reliance on debt financing than equity financing. Banks are the primary sources of funds for firms in developing countries. Joseph et al. (2007) argue that debt (bank loans) provide better private enforcement than equity in weak institution countries. Bureaucrats channel funds to their favored firms, only well connected firms have access to long term loans.

Overall, we can get a general understanding about how emerging market factors affect the behaviors of family firms from the existing literatures. However, there is no in-depth research about this topic. Therefore, I suggest further researches about this topic in the future.
6. EVENT STUDY

This chapter examines the stock market response to the announcement of intra-family succession based on the sample of Chinese listed firms. If the succession does devastate firm’s value as most of the previous evidences described, we should observe significant negative abnormal returns around the publication date. On the other hand, if the succession is irrelevant to the firm’s performance or not significant for the firm’s prospects, no significant change in market valuation around the event should be observed.

6.1 DEVELOPMENT OF HYPOTHESIS

So far, most previous evidences about business succession research indicate there is a negative correlation between intra-family succession and firm’s performance. The study of Joseph et al. (2007) reports an average negative 56 percent buy-and-hold market-adjusted stock return of emerging market entrepreneurial/family firms during a 5-year period in which their controlling owners pass on ownership and control to their successors.

As to the short-term market reaction, Brian & Ben (1999) argue that when family successors are appointed, stock prices decline by 3.20% during the 3-days event window. Similarly, the study of Smith & Amoako-Adu (1999) indicates that Canadian firms experience an average 3.2% loss over 3-days event windows surrounding the announcement when a new and relatively inexperienced family member is appointed.

However, there is no evidence about the short-term reaction to the intra-family succession in emerging market. Different from developed market, the result in emerging market may affected by additional factors such as less efficient market, weak institutional environment etc.

Therefore, there is a need to test if there exist an accordance with previous results of short market reaction in an emerging market (Chinese market) context. Since the fundamental is alike, I expect the existence of short-term abnormal returns. Based on the literature review and the characteristic of family controlled firms I define and set up the hypotheses that will be tested in this thesis as follow.

HI: A family-controlled firm will gain significant abnormal return from the announcement of an intra-family succession
Further, trading suspensions are observed in near half of the samples during the sampling procedure. Trading suspension is a stoppage in the trading of a security for an extended period of time that usually occurs when there is a lack of material financial information on the security. Once the security is suspended, shares of that security cannot be traded on the market until the suspension is lifted or lapses. The exact amount of time for the suspension will be determined on a case-by-case basis (quoted from http://www.investopedia.com).

So far, there are not any relevant literatures about the influence of trading suspension on an intra-family succession. This finding may lead to new questions: Is the occurrence of those trading suspensions coincidently or deliberately? Do those family firms use the trading suspension as a strategy to offset the negative effect of succession? Based on these assumptions and expectation, I develop the following hypotheses as:

**H2:** There is significant differences in performance between the successions with trading suspension and those without suspension.

**H3:** There are significant abnormal returns in an intra-family succession with trading suspension in the announcement day.

**H4:** There is significant abnormal returns in an intra-family succession without trading suspension in the announcement day.

### 6.2 Methodology

The methodology used in this chapter is the event study (Brown and Warner (1985)) which are usually used to measure the valuation effects of an event, such as a merger or earnings announcement, by examining the response of the stock price around the announcement. In my case, the event is the announcements of intra-family successions news from family controlled firm. This methodology assumes that the market are efficient so that stocks fully reflect all publicly available information and are unbiased indicators of firm value (Fama, 1970). So we can use these indicators to measure the unexpected returns in the event days. Nevertheless, my study are based on the data from emerging market which is characteristic by weak institution and lower efficient-market, this might lead to a biased result.

I employ 3- and 5-day event windows: from one trading day before to one trading day after the announcement date, (-1, +1), and from two days before to two days after the event date, (-2, +2). On one hand, the information may leaks to the financial market prior to the official announcement date. On the other hand, the information might not
Chapter 6. Event Study

be processed immediately by the market (information is released on Thursday after closing but markets react it on Friday). Besides, the choice of the short event windows can avoid potential confounding events to which long event windows would be subject.

Abnormal returns for each day in the event window are calculated as follow:

\[ A_{it} = r_{it} - E[r_{it}] \], \( t = -1,0,1 \) (same manner for a 5-day event windows)

Where:

- \( A_{it} \): daily abnormal return of stock i of the selected family firm for event day t,
- \( r_{it} \): actual return of the selected family firm stock i on event day t,
- \( E[r_{it}] \): expected return of the selected family firm stock i for event day t.

\( t=-1 \): The day before the succession announcement day
\( t=0 \): The succession announcement day
\( t=+1 \): The day after the succession accouchement day

There are three ways of estimating the expected return \( E[r_{it}] \):

- Mean adjustment
- Market adjustment
- Market adjustment model

Here we applied Market adjustment model since it encompasses the other two. The formula of Market Model can be found below:

\[ E(R_{it}) = \alpha_i + \beta_i R_{mt} \]

where:

- \( E(R_{it}) \): expected return of the acquiring company’s stock i on event day t,
- \( \alpha_i \): intercept term,
- \( \beta_i \): slope coefficient associated with the market return,
- \( R_{mt} \): return on market index on event day t.

The parameters \( \alpha \) and \( \beta \) were estimated using an OLS regression on the historical share and market returns over a 220 days estimation period ending two day before the announcement date.

One issue to be noted is that the stocks in my sample are from two distinguishing stock exchanges (SH stock exchange & SZ stock exchange, so two different market indexes (Shanghai composite index(0000001) & Shenzhen Component Index (399001) respectively) are used as proxies for calculating \( R_{mt} \).

Once I knew abnormal returns in the event days, I can calculate the cumulated abnormal returns (CAR) by using following formula:
Chapter 6. Event Study

\[ CAR = \overline{A_{-1}} + \overline{A_0} + \overline{A_{+1}} \]

\[ \overline{A}_t = \frac{1}{N_t} \sum_{j=1}^{N_t} A_{jt} \]

The next step is to test the significance of the average abnormal returns and cumulative average abnormal returns. Here I use both parametric and nonparametric tests. If the statistics do not follow a normal distribution, I will rely more on the results of nonparametric tests since empirical studies have shown that abnormal returns distributions show fat tails and are right skewed. Non-parametric tests are more robust at detecting a false null hypothesis of no abnormal returns. In this study, I will apply 2 parametric tests and 2 nonparametric tests. The details of the tests are listed in table 4 and appendix.

T1 assumes that there is cross-sectional dependence in the data. For each date in the event window, we calculate the test statistics using the average abnormal return and the standard deviation of the average excess return over the estimation period. T2, on the other hand, assumes that the abnormal return on the event day is independent across stocks, and the variance for the test statistics is calculated as the sum of the variances of abnormal returns of the individual stocks.

T4 assume the probability of observing either a negative or positive abnormal return is estimated from actual returns over the estimated period. The advantage of the generalized sign test is that it takes into account the evidence of skewness in security returns.

The differences between parametric tests and nonparametric tests are that parametric tests rely on the important assumption of a normal distribution of abnormal returns for each stock while non-parametric tests perform better when the assumption of normality doesn’t hold.

Table 4. A battery of tests

<table>
<thead>
<tr>
<th>Parametric tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1- t-test with cross sectional dependence</td>
</tr>
<tr>
<td>T2- t-test with cross sectional independence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nonparametric tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>T3- Rank test (Corrado, 1989 and 1992)</td>
</tr>
<tr>
<td>T4- Generalized sign test (Cown, 1992 and 1996)</td>
</tr>
</tbody>
</table>
At last, there is a concern that the announcement date may differ from the date that the successor actual take the key position from his/her predecessor. In other words, the succession effect may not be fully captured by the stock market until the succession actual takes place. Overall, the short window effect around the succession news should be regarded as the lower limit of the true value effect since only publicly traded firms can be included in the following analysis which based on stock returns.

6.3 SAMPLING PROCEDURE AND DATA ANALYSIS

The event study is based on a dataset of Chinese family controlled firms listed on SSE (The Shanghai stock Exchange) and SZSE(The Shenzhen Stock Exchange) which are two stock exchanges operating independently in the People's Republic of China. The reason does not take Hong Kong Stock Exchange into consideration is due to the characteristics of Hong Kong stock market are different from the feature of an emerging market.

Previous empirical studies show that the primary challenge of studying emerging market lies in the integrity and validity of the data. The current Chinese stock exchange was re-established at the end of 1990, due to the short history of the stock market, the time range of available data is limited, so making use of all available data is necessary in case of the problem of insufficient sample size.

Furthermore, the Chinese listed firms were required to disclose the ownership information and details of the ultimate controller in their annual report since 2001, which means the information before this date is difficult to collect. After a comprehensive consideration of the constraints mentioned above, I decide to take year 2001 as the starting point of the research.

The data used in this analysis come from two separate sources. The first is the CSMAR database compiled by GTA who is the leading global provider of Chinese financial market data, Chinese industries and economic data, whether real-time, delayed or historical, to international financial and educational institutions. The main database used in CSMAR is China Stock Market Database which covers data of all A shares and B shares companies listed on the Shanghai Stock Exchange and the Shenzhen Stock Exchange from 1990 to present. The dataset contains accounting, management and ownership information of all listed firms in China.

The second source comes from RESSET Financial Research Database (RESSET/DB) which is a database platform for model verification and investment research of the China’s financial markets, i.e. Shanghai, Shenzhen and Hong Kong. RESSET/DB has
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a large-sized and broad-ranged database, including stocks, fixed-income, funds, bonds, industry, Hong Kong stocks, foreign exchange, futures, gold, derivatives, and macro data.

6.3.1 Sampling procedure

The sampling procedure involves 3 steps: (1) selecting family-controlled firms from all Chinese listed firms (2) identifying and selecting the family firms with succession events (3) selecting the firms with available stock data for the final test. The entire procedure could be seen as a process of data filtering (See figure 3). The details of the procedure will be presented below.

Figure 3. The steps of data filtering

Step 1- Selecting family-controlled firms

The first step of sample filtering is selecting family controlled firms from all listed firms (A share plus B Share) in Chinese stock market (SZ exchange plus SH exchange). The ownership information of all listed firms is obtained from CSMAR database and the information includes: (1) the name of top 10 largest shareholders (2) shareholding ratio (3) the name of actual controlling person or family. Based on the 2-step approach of defining family business which I mentioned in chapter 3, a nuclear family must be identified. By using the information of actual controlling person and the shareholding ratio, this purpose can be reached: Once the actual controlling person is recognized as an individual or a family and the controlling right (shareholding ratio) exceeds the critical point (20%), the firm could be regarded as family-controlled.

One problem emerged in practice is that since the shareholding ratio of each shareholder might vary during a particular period and also new IPOs happen every year, the final sample is not stable. As can be seen in the table 5, the number of identified family firms is increasing every year. Therefore, in my research, I assume that once a firm is recognized as family controlled in any given year, it is qualified for step 2. The results only cover a data from 2001-2009 since the Chinese listed firms are required to file
ownership information only after 2001. The reason why I do not identify family firms after 2009 is due to those firms may not provide enough stock price records for a qualified estimation window or event window.

Table 5. The result of family firms filtering

<table>
<thead>
<tr>
<th>Year</th>
<th>Total sample</th>
<th>Family-controlled</th>
<th>Non-Family controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>1103</td>
<td>112</td>
<td>991</td>
</tr>
<tr>
<td>2002</td>
<td>1154</td>
<td>170</td>
<td>984</td>
</tr>
<tr>
<td>2003</td>
<td>1245</td>
<td>261</td>
<td>984</td>
</tr>
<tr>
<td>2004</td>
<td>1346</td>
<td>339</td>
<td>1007</td>
</tr>
<tr>
<td>2005</td>
<td>1335</td>
<td>356</td>
<td>979</td>
</tr>
<tr>
<td>2006</td>
<td>1427</td>
<td>438</td>
<td>989</td>
</tr>
<tr>
<td>2007</td>
<td>1520</td>
<td>521</td>
<td>999</td>
</tr>
<tr>
<td>2008</td>
<td>1558</td>
<td>543</td>
<td>1015</td>
</tr>
<tr>
<td>2009</td>
<td>1700</td>
<td>689</td>
<td>1101</td>
</tr>
<tr>
<td>Total</td>
<td>12388</td>
<td>3429</td>
<td>9049</td>
</tr>
</tbody>
</table>

After a combination of same firms qualified in different years, 793 family firms are identified as well as their actual controlling person/family. The result is quite similar with the description from Forbes family firm research report which indicate that there are 684 family firms which are listed in the Chinese stock market until 15th July, 2012.

Step 2- Identifying Succession event

The basic idea in step 2 is that, at first, identify if there are key positions changes in the selected family firms, then check the relationship between the predecessor and the successor, once they belongs to the same controlling family, the succession could be regarded as an intra-family succession

Under Chinese company law and securities law, Chinese listed firms are required to report the information of the board of director include name of the founders, the CEO and all board members to this agency. In addition, firms are required to file any change in the CEO and board positions. The information of the board positions changing is also acquired from CSMAR database. The dataset contains detailed information about the managers’ individual characteristics, their current positions, their pay, the firms in which they are employed, the reason of position changing (See Table 6). However, here I only focus on two types of position changing which are the changes of the chairman of the board and chief manager (CEO) since the two key positions can most represent the “actual controlling right” in the context of Chinese corporations.
Table 6. The reason of position changing

<table>
<thead>
<tr>
<th>Code</th>
<th>The Reason of Position Changing</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Transferred</td>
</tr>
<tr>
<td>21</td>
<td>To resign</td>
</tr>
<tr>
<td>23</td>
<td>Dismissed</td>
</tr>
<tr>
<td>25</td>
<td>Retirement</td>
</tr>
<tr>
<td>30</td>
<td>Passed away</td>
</tr>
<tr>
<td>40</td>
<td>General</td>
</tr>
<tr>
<td>43</td>
<td>A change in control</td>
</tr>
<tr>
<td>45</td>
<td>Improve the governance structure</td>
</tr>
<tr>
<td>50</td>
<td>Illegal or involved in the case</td>
</tr>
<tr>
<td>53</td>
<td>For health reasons</td>
</tr>
<tr>
<td>60</td>
<td>The end of the agency</td>
</tr>
<tr>
<td>63</td>
<td>General meeting rejected</td>
</tr>
<tr>
<td>90</td>
<td>For other reasons</td>
</tr>
<tr>
<td>99</td>
<td>Were not disclosed</td>
</tr>
</tbody>
</table>

The key position turnover occurs when the same person is not identified serving as the same position in two consecutive years in the data set. This is found by comparing the position, tenure and the resignation reason of the present position holder with the corresponding information on the position holder the year after. Further, I identify if those key positions changes belong to the type of intra-family succession, this has been checked by comparing the surname between the predecessor and successor. However, according to the definition, an intra-family succession may happen between the same generation (spouse and siblings) or two different generation (offspring, parents), even some special case (step children and children in law). Moreover, in some case I observed companies that change their board almost every year. Therefore, it is necessary to use some supplementary channels (Google, firm’s annual reports, Forbes family firm research report and business news etc.) to further check the essence of those successions as well as the relationship between two parties who do not share the same surname. Generally, this step refers to abundant hand-collection work.

After a comprehensive search, 60 intra-family succession events are identified, and the data cover events from 2000 to present. The newest event happened in 22th-05-2013 which is the transition between Yonghao Liu(Father) and Chang Liu( Daughter) who are the old and new chairman of the board of New hope group(The leading agribusiness operator in China) respectively. More details can be found in the table 7 the details of successions.
### Table 7. The details of business successions

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete succession</td>
<td>51</td>
<td>85%</td>
</tr>
<tr>
<td>Incomplete succession</td>
<td>9</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>60</td>
<td>100%</td>
</tr>
<tr>
<td><strong>B. Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>51</td>
<td>85%</td>
</tr>
<tr>
<td>Female</td>
<td>9</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>60</td>
<td>100%</td>
</tr>
<tr>
<td><strong>C. Relationship to current head</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offspring</td>
<td>50</td>
<td>83%</td>
</tr>
<tr>
<td>Son-in-Law</td>
<td>9</td>
<td>15%</td>
</tr>
<tr>
<td>Brother</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>60</td>
<td>100%</td>
</tr>
<tr>
<td><strong>D. Stock exchange</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shengzheng(SZ)</td>
<td>49</td>
<td>82%</td>
</tr>
<tr>
<td>Shanghai(SH)</td>
<td>11</td>
<td>18%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>60</td>
<td>100%</td>
</tr>
<tr>
<td><strong>E. Board type of stock</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main-board Market</td>
<td>17</td>
<td>28%</td>
</tr>
<tr>
<td>Second-board Market</td>
<td>43</td>
<td>72%</td>
</tr>
<tr>
<td>include: GEM(Growth Enterprise Market)</td>
<td>9</td>
<td>15%</td>
</tr>
<tr>
<td>SME board</td>
<td>34</td>
<td>57%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>60</td>
<td>100%</td>
</tr>
</tbody>
</table>

As can be seen in the table above, Males constitute the largest portion of the successors and most of them are offspring of the predecessors, this is quite fit to the pervasive custom of male-preference cognatic primogeniture (the firstborn son to inherit the family estate, in preference to siblings) in intra-family successions. Besides, most successions refer to the firms listed in SZ Stock exchange (82%), this is because most family firms are SMEs (72%) and listed in the second-board market board. The SME board is the largest component of the second-board which belongs to SZ stock exchange. This is quite fit to the description from previous evidences that most family firms are SMEs.

Further, I distinguish two types of intra-family succession. In the first type, the successor take the position of Chairman of the board from the predecessor and in some cases, take the position of chief manager as well. Another type refers to the situation that the successor only takes the position of chief manager while the founder/predecessor still taking the key position of chairman of the board. This is similar as the situation of ‘Co-habitation’ discuss by Handler (1990) which involves a period in which incumbent and successors share control of the firm. However, I don’t distinguish the two types in the next step since I assume the two types have the same impact on firm’s performance for getting a larger sample size.

Overall, the characteristic of identified sample provides lots of information which might
need further consideration in the latter part.

**Step 3- Matching stock data**

Step 3 refers to match the daily stock return data with the dates of those succession events (both estimation window and event window). The stock price data are obtained from the RESSET Financial Research Database (**RESSET/DB**), including the stock return for each stock and the market return index.

One unexpected problem emerged in the sampling procedure is that not all succession events have available stock price data. The problem occurs in a situation that a firm’s succession event happened before the IPO. Further, although some succession events occurred after firm’s IPO, there is still no sufficient stock price data for a qualified estimation window due to the two event dates are too close.

One accidental discovery in the process is that nearly half of those firms suspended their trade at the announcement date. There is a possible that that trading suspension is used as a strategy by those firms for a particular reason, hence the sub-sample need to be further tested separately.

Accordingly, 28 available samples are obtained, including 14 samples with trading suspension and 14 samples without trading suspension.

### 6.4 Empirical evidences and analysis

Table 8 shows the daily average abnormal returns and cumulated returns of the entire sample and the two sub samples. The test of their significance could be found in Appendix.

**Table 8. Daily average abnormal returns and cumulative abnormal returns**

<table>
<thead>
<tr>
<th>Abnormal Return</th>
<th>All data (28)</th>
<th>Data with suspension (14)</th>
<th>Data without suspension (14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-2</td>
<td>0.5635%</td>
<td>0.9934%</td>
<td>0.1336%</td>
</tr>
<tr>
<td>T-1</td>
<td>0.2006%</td>
<td>0.2435%</td>
<td>0.1577%</td>
</tr>
<tr>
<td>T0</td>
<td>0.1171%</td>
<td>No trading</td>
<td>0.1171%</td>
</tr>
<tr>
<td>T1</td>
<td>-0.0540%</td>
<td>0.7318%</td>
<td>-0.8398%</td>
</tr>
<tr>
<td>T2</td>
<td>0.0776%</td>
<td>0.5182%</td>
<td>-0.3629%</td>
</tr>
<tr>
<td>CAR (-1,+1)</td>
<td>0.2637%</td>
<td>0.9753%</td>
<td>-0.5651%</td>
</tr>
<tr>
<td>CAR 3-Adjusted</td>
<td>0.4490%</td>
<td>1.4630%</td>
<td>No data</td>
</tr>
<tr>
<td>CAR (-2,+2)</td>
<td>0.9048%</td>
<td>2.4869%</td>
<td>-0.7945%</td>
</tr>
<tr>
<td>CAR 5-Adjusted</td>
<td>1.1571%</td>
<td>3.1087%</td>
<td>No data</td>
</tr>
</tbody>
</table>
The results show that the abnormal returns for intra-family successions in Chinese listed firms are 0.2367% and 0.9048% around the announcement days using the 3-days event window and 5-days event windows respectively. However, all test results show that they are not statistically significant at 5%. As to the daily abnormal returns, the negative effect of intra-family returns only be found at the day after announcement day but still not statistical significant. So there is no strong evidence to support the Hypothesis 1 which states the existence of significant market reaction to the announcement of the intra-family succession. This is in contradiction with my previous expectation which is based on the evidences of general literatures on intra-family succession that intra-family succession devastate firm’s value.

For the non-suspension sample, negative cumulated abnormal returns are -0.5651%(CAR(-1,+1)) and -0.7945%(CAR(-2,+2)) respectively, the result supports the results from the general literatures. As to daily abnormal returns, the negative effect is observed only after the announcement day (T+1 and T+2). However, all abnormal returns mentioned above not statistical significant.

For the suspension sample, positive average abnormal returns are observed in the entire event window but all not significant. Further, Test 1 indicates that the positive CAR 3-adjusted is significant at 15%, CAR (-2, +2) is significant at 10%, and CAR 5-adjusted is significant at 5% respectively. Similarly, the results of Test 2 show that CAR (-2, +2) is significant at 15% while CAR-5 adjusted is significant at 10%.

Table 9. Test results for cumulated abnormal returns

<table>
<thead>
<tr>
<th>Test</th>
<th>Event window</th>
<th>Sample</th>
<th>All data</th>
<th>Data with suspension</th>
<th>Data without suspension</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Test statistic</td>
<td>P-value</td>
<td>Test statistic</td>
<td>P-value</td>
</tr>
<tr>
<td>Test-1</td>
<td>CAR (-1,+1)</td>
<td>0.29959</td>
<td>0.76477</td>
<td>0.51015</td>
<td>0.61046</td>
</tr>
<tr>
<td></td>
<td>CAR 3-Adjusted</td>
<td>0.987924139</td>
<td>0.324280033</td>
<td>1.481886208</td>
<td>0.139808012***</td>
</tr>
<tr>
<td></td>
<td>CAR (-2,+2)</td>
<td>0.333813361</td>
<td>0.738839814</td>
<td>0.740311531</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAR 5-Adjusted</td>
<td>0.30958</td>
<td>0.026994727*</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Test-2</td>
<td>CAR (-1,+1)</td>
<td>0.7466</td>
<td>0.4553</td>
<td>0.95483</td>
<td>0.33966</td>
</tr>
<tr>
<td></td>
<td>CAR 3-Adjusted</td>
<td>0.81544895</td>
<td>0.414815375</td>
<td>1.223173425</td>
<td>0.221264201</td>
</tr>
<tr>
<td></td>
<td>CAR (-2,+2)</td>
<td>0.462602791</td>
<td>0.643649108</td>
<td>0.611586279</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAR 5-Adjusted</td>
<td>0.133088155***</td>
<td>0.507810453</td>
<td>0.611586279</td>
<td></td>
</tr>
</tbody>
</table>
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The descriptive statistics was calculated as the average of the statistics for each stock and show that the stocks in my sample don’t follow a normal distribution. For the full sample and suspension sample, average daily abnormal returns are all positive, the positive coefficient of skewness indicates that the statistics is skewed-right, and the positive kurtosis indicates a peaked distribution. However, the non-suspension sample shows negative daily abnormal returns (-0.16% and -0.19%) and a skewed left distribution. Therefore, those statistics of abnormal returns don’t follow a distribution. According to the evidence from Bartholdy et al. (2007), I would be inclined to rely more on the results of non-parametric test. Since most of the test results for CAR indicate I can’t reject the null hypothesis of no abnormal returns from the announcement of intra-family succession event. Therefore, the conclusion is that there is very weak evidence to support the assumption that the market response to the announcement of intra-family succession in the Chinese stock market. Further, I do observed differences between the performances of firms who suspend trade at the announcement date and firms without suspension. However, the non-parametric tests indicate those differences are not statistical significant.

Table 10. Descriptive statistics of abnormal returns

<table>
<thead>
<tr>
<th></th>
<th>Full sample</th>
<th>suspension</th>
<th>Non suspension</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(-2,+2)</td>
<td>(-1,+1)</td>
<td>(-2,+2)</td>
</tr>
<tr>
<td>Nr. of events</td>
<td>28</td>
<td>28</td>
<td>14</td>
</tr>
<tr>
<td>Daily abnormal return</td>
<td>0.23%</td>
<td>0.15%</td>
<td>0.62%</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.0148</td>
<td>0.0189</td>
<td>0.0168</td>
</tr>
<tr>
<td>Coefficient of skewness</td>
<td>0.5865</td>
<td>1.2388</td>
<td>0.5221</td>
</tr>
<tr>
<td>Coefficient of kurtosis</td>
<td>1.2950</td>
<td>3.4564</td>
<td>0.7980</td>
</tr>
</tbody>
</table>
6.5 EXPLANATION AND LIMITATION OF THE EVENT STUDY

Clearly, the outcome of the event study is different from my previous expectation. Most of the evidences indicate that the intra-family succession devastate firm’s value in the long run, thereby I expect the market will see the intra-family succession as a negative factor to the firm’s performance and firms will response unfavorably to the announcement of the event. So, my question is: why there is such a difference? The following part aims to provide some speculative explanations of the test result.
6.5.1 Interpretation of the result

One possible explanation of the result is that, based on the event study methodology, businesses only react to unexpected news. However, it is likely that the market captured the intra-family succession news before the firm announced it in most cases since the process of succession often refers to a long time period, information may leak during this period. As Lambrecht (2005) suggests that in order to agree upon and execute an internal transfer, the choice needs to be anchored in the family for a long time. One example is that, before Chang Liu (the current chairman of the board of New Hope group) took over the controlling right form Yonghao Liu in 22th-05-2013, she was arranged to serve a senior position for many years. The market saw this as part of the business succession plan and knew that she will take over the control sooner or later. So, the market do not regard the announcement as a fully unexpected event, consequently, no significant abnormal returns is observed surrounding the announcement.

Another possible explanation is the cancellation effect from two sub-samples. As can be seen in Figure 4, the total sample is divided into two sub-samples with equal size. The further test shows that the market react oppositely to the events in the two sub samples. Therefore, there is a potential that the two kinds of effect are offset in the total sample. Nevertheless, due to the lack of significance, the existence of cancellation effect need to be further tested in the future when we can get larger sample size.

6.5.2 Limitations of the event study

The next part aims to explain how different limitations affect the test result. As can be seen in the figure 4, there are several external factors that affecting the test result:

1. Limitation from the research method: My previous expectation are mainly based on evidence of developed country. Comparing with the market in a developed country, emerging market is less efficient. This may not qualify the requirement of the event study methodology and lead to a biased result. Further, Block and colleagues (2010) argue that the Gaussian statistics that rely on significance testing might be inherently inappropriate research methods for research the performance effect of succession process due to the strong correlation between family ownership and family management in most family firms

2. Limitation from the listed firm factor: Generally, a firm must qualify the minimum requirement before going to public. These requirements can be seen as the pre-filter of our sample. More specifically, we can generally assume that the listed firms are more competitive than those non-listed, they may have a larger size, higher management level and more resources than non-listed firms. Therefore, it is difficult to capture the whole features of intra-family succession only based on the sample of listed
firms. The public have reasons to believe those firms are less depend on the capability of their owner-managers, hence the change of leader only have little impact on the firms’ future performance. Consequently, no clear responses to the announcement of those successions.

3. **Limitation from the small sample size:** The third factor is the restriction of the small sample. Due to the short history of Chinese stock market, my final sample only contains 28 successions, and 14 for each category, the small sample size may cause bias. However the coming wave of intra-family succession in family businesses may provide the basis for future studies.
Chapter 7. Business Succession Analysis

7. BUSINESS SUCCESSION ANALYSIS

This chapter aims to explain how a succession event affects a firm's performance. Part 1 presents the backgrounds of the analysis which are used as the foundation of the following analysis. In the second part, a new model is introduced, trying to explain business succession from the perspective of entrepreneurial school. Moreover, this part highlights the influences from firm's life-cycle. Part 3 is aimed to explain a pervasively observed phenomenon by using the model of “The pathway of ECs loss”. The explanation will lead to the last part of this chapter, Business succession plan.

7.1 BACKGROUND OF THE ANALYSIS

7.1.1 Analytical Framework based on Entrepreneurial school

There are few researches combine the study of business succession with the entrepreneurship. Karl et al. (2011) argue that the act of passing on a family business within the same family could be seen as a family’s continued commitment to entrepreneurship, the process include both an exit of current owner-managers and the entry of the next. Based on their studies, my following analysis will focus on explaining how the succession affect a firm’s performance/ value from the perspective of entrepreneurial school and aims to contribute the literature of this area.

The Entrepreneurial School is the strategy school which saw personalized leadership as the key to organizational success, not only in starting up and building new organizations, but also in situations organizations need to turn around poor performance. One chief characteristic of this school is that, in the entrepreneurial organization, power is centralized in the hands of CEO (Mintzberg, 1973). It is quite fit to my fundamental assumption of the analysis that the capability of the owner-manager (entrepreneur) is a key factor in determining the performance of firms. Such assumption is made for the reason that, it would be easier and clearer when we consider the entrepreneurs themselves as the only variable in the study. Furthermore, this School presents strategy formation as all wrapped up in behavior of a single individual, so for the firm that runs into difficulty, the main prescription can be all too obvious and facile: finding a new visionary leader. However, if we consider an opposite situation under the same condition, will the change of new visionary leader affect the performance of a firm or even drive the firm into difficulty? More specifically, in the case of intra-family succession, how the change of a visionary leader (succession event) affects firms’
performances? This is the basic idea of my analysis which uses the theory of entrepreneurial school as the fundamental.

7.1.2 The Definition of EC

The key concept for analyzing in the study is Entrepreneurial Competences (ECs). Man et al. (2002) defined entrepreneurial competencies as the total ability of the entrepreneur to perform a job role successfully while Bird (1995) defines it in a more specific way that entrepreneurial competencies are underlying characteristics such as specific knowledge, motives, traits, self-images, social roles and skills which result in venture birth, survival and/or growth. From a Resource-based perspective, ECs are a critical and valuable resource of firms as well as the entrepreneurs themselves. In my following analysis, I will see ECs as the compositions of a manager-owner/ entrepreneur’s capability.

7.1.3 The Characteristics of EC

Although definitions about Entrepreneurial Competence are mixed in previous literatures, one general consensus is that ECs are carried by individuals who begin or transform their business (Bird, 1995). Hunt and Meech (1991) argue that entrepreneurial competencies only focus on the individual level. Similarly, Man and Lau (2005) argue that ECs are comprised by components that are deeply rooted in a person's background such as personality, traits, attitudes, self-image and social role. Therefore, entrepreneurial competences could be seen as a good indicator of an individual's capability, the quality and quantity of ECs that one entrepreneur held could determine the entrepreneurs' performance, further, determine the performance of his controlling firm. More specifically, firm performance are strongly determined by what degree those ECs can be inherited, or conversely how large value those ECs lost during the succession process. Therefore, ECs are used as the primary variables in my analysis.

Another significant characteristic of ECs is that some of them could be acquired at work or through education and training (Man and Lau, 2005). In the Model of "The Pathway of ECs Loss", I classify those ECs into the type of Learnable ECs which is a very significant source to an internal successor to supply his/her EC pool, therefore, affecting the inherited firm's performance.

7.1.4 The effects of firm Size

After a comprehensive review of previous literatures, I notice that most studies of entrepreneurship refer to SMEs. As Colombo and Grilli (2005) argue that entrepreneurship is often associated with the development of small and new businesses. It quite fit to my research since most family business are started and existed in the form
Chapter 7. Business Succession Analysis

of SMEs. However, the empirical study part of my thesis only focus on listed firms since the information of listed firms is relatively easier to acquire. Hence, one question is left to be asked: will different sizes of firms affect the requirement of ECs of entrepreneurs? The study of Johnson and Winterton (1999) might partly answer the question. They observe that the range of skills and competencies needed to run a small firm are qualitatively as well as quantitatively different from those needed in larger organizations. Therefore, there is a need to consider the affection from firm size in the study of family business.

7.1.5 The categorization of ECs

So far, there have been lots of researches trying to summarize lists of entrepreneurial competencies, however, former literatures about the categorization of ECs are still mixed. There is even no unanimous consent about the terminologies used in this area such as skills and expertise. Besides, some competences are generally acknowledged by most researchers while others only draw few attentions.

There is a primary dichotomy of ECs that accepted by many researchers. The dichotomy distinguish two kinds of ECs: entrepreneurial competencies and managerial competencies. According to the theory of Lerner and Almor (2002), entrepreneurial competencies are needed at the stage of start-up while managerial skills are needed at the phase of growth. Similar argument is stated by Chandler and Hanks (1994) that entrepreneurs needed to be competent in two key roles: entrepreneurial and managerial. Entrepreneurial competencies refer to recognizing and envisioning taking advantage of opportunities while managerial competences refer to acquiring and utilizing resources to coordinate the business interest and activities.

A more detailed taxonomy is suggested by Stuart and Lindsay's (1997) that competencies is a person’s skills, knowledge, and personal characteristics. Similarly, Bartlett and Ghoshal (1997) argue that ECs can be distinguished into three categories which are attitudes/trait, knowledge/experience, and, skills/abilities respectively. Moreover, Chandler and Jansen (1992) argue that there are three roles that successful founders must competently enact, and each role requires different competencies to perform efficiently. For example, the ability of recognizing business opportunities and the drive to see firms through to fruition are most necessary for the entrepreneurial role while the conceptual, interpersonal and political competence are most needed for the managerial role. Further, to be competent in the technical role an entrepreneur must be capable of using the tools or procedures required in their specialized field. Lerner and Almor (2002) distinguish five skills under the two main heading of dichotomy. They are finance skills, human resource management skills, operations and strategic management skills that all belong to managerial skills plus the innovation skills and
marketing skills which belong to the category of entrepreneurial skills. Smith and Morse (2005) state that there are two broad themes in organizational competencies such as the skills related to organizing and motivating, and managerial competencies, functional competencies such as marketing and financial skills and leadership.

The development of the categorization of ECs is completed by continuously recognizing and adding new competencies. For example, Herron and Robinson (1993) observed two new skills: self-management and opportunity. Bird (1988) notes the competence of persistence and perseverance as being a key characteristic for developing a new venture. Hofer and Sandberg, (1987) highlight the importance of selecting high quality opportunities to pursue.

Additional works are focused on the detailed division of ECs, Man et al. (2002) identified six competency areas under entrepreneurial competencies which are organizing, relationships, conceptual, opportunity, strategic and commitment competencies. Orser and Riding (2003) classified nine functional areas which include 25 competency scales in total.

Some researchers are focus on summarizing and generating a list of competence based on the work of others. Hood and Young (1993) developed a specific list of knowledge in term of content skills and mentality through in-depth interview of 100 leading entrepreneurs and chief executive officers. In their work, 12 categories skills are distinguished ranked by importance: 1.leadership skills 2. human relations skills 3.oral communications skills 4.written communications skills 5.management skills 6.deal-making skills 7.logical thinking 8.analytical skills 9.decision making skills 10.goal setting skills 11.hiring skills 12.business plan preparation. Similar work has been done by Baum (1994) who formed a list of nine entrepreneurship competencies based on the work of Herron and Robinson, the competences include: self-management, opportunity recognition, knowledge, cognitive ability, administration, human resource, decision skill, opportunity development and leadership.

Based on such a categorization, ECs are clearly an important factor to be considered when assessing firm performance. In the next section, I will present the evidences about how EC is related to firm performance.

7.1.6 How Do ECs Affect Firms' performance?

It is a consensus that entrepreneurial competencies are essential to business growth and success. The researches of Cooper et al. (1994) & Lerner and Almor (2002) show that the entrepreneur's skills contribute to venture performance and growth. Similar result is reached by Chandler & Jansen (1992) that developing entrepreneurial skills among entrepreneurs contribute to profitability and growth.
Some researches focus on how entrepreneurial competences affect firms' performance in detail. Based on the opinion of Bird (1995), value is added through entrepreneurs’ organizing of resources and opportunities, he believes that EC is directly related to venture outcomes due to it refers to the quality of the action taken by entrepreneurs. Grant (1991) and Barney (1991) argue that the value creation process of a firm is strictly related to the capability of managers in acquiring and developing resources. Both of the arguments indicate that the process of value creation is directly related to the entrepreneurs' (managers') actions as well as themselves.

Similarly, Capaldo et al. (2004) explain that there is a direct link between competencies, value creation and firm's strategy and growth since competencies mean the capability of an entrepreneur and of her/his collaborators in acquiring, using and developing successful resources for their business purpose, in the specific context in which firm operates. They highlight the importance of entrepreneur-manager position in the running of a business and point that the success and failure of a business depend heavily on the entrepreneur-manager's competencies. This view is accord with the argument of Siwan & Jennifer (2009) who elaborate the relationship between different kinds of ECs and how those ECs exert their function in different aspects. They believe the quality of opportunity is affected by the competence of entrepreneurs. More specifically, the more ECs an entrepreneur has, the better venture opportunity the entrepreneur chooses to exploit. The functions of managerial competences lie in formulating superior venture strategies which fit their business. Therefore, ECs are used as the fundamental elements to determine the performance of selected firms in this analysis since they could be seen as the decomposition of an individual's capabilities, the more ECs held by a chief manager who actually controls a firm the better the firm will perform. Nevertheless, it is crucial to note that those ECs are functioning in various ways in determining a firm's performance, as Bird (1995) suggests that in interpreting any list or framework of competencies it is necessary to distinguish between competency that contributes to excellence in performance, and competency as a minimum standard.

7.1.7 The Life Cycle Effect on ECs

Churchill and Lewis (1983) state that SMEs’ competencies are highly linked to entrepreneurial stages of the firms' life-cycle. These stages of business development refer to moving from an entrepreneurially managed business to a professionally managed business, and when this stage-transfer occurs, both the problems faced and the skills needed will change consequently.

Further, Dr Jaan Suurküla (2011) distinguishes two kind of behavior style at entrepreneurial phase and maturity phase respectively in his article.
decline- a new understanding”. He states that, in the entrepreneurial stage, the people whose act are Balanced-Emphatic-Behavior (BEB) oriented are most likely to thrive in the management. These people tend to be significantly more creative, secure, and confident than an average person, they like challenges, daring to take the risk of losing their job due to project failure. Contrarily, in the maturity phase, people’s action show an increasing trend that following the characteristic of Survival-Oriented-Behavior (SOB), such people prefer stable and tend to be less creative, more rigid, more assertion-oriented (prestige/status-fixed), overtly or covertly aggressive and more or less dishonest. One outcome of this difference is that the BEB people are less likely to seek employment in a company that has reached the maturity stage. Therefore, we might deduce that the traits/capacities needed in different firm life-cycle phases are different.

Overall, the existing researches suggest that entrepreneurs need both kinds of competencies, managerial competencies are particularly necessary to support successful business growth especial when we focus on executive succession and especially in family firms. Accordingly, I assume that entrepreneurial competences are more important to a founder while managerial competencies are more important to a successor since most succession events occur in the growth phase or maturity phase.

7.1.8 How do emerging market factors work from the perspective of EC

Based on my previous discussion in Chapter 5, we can find there is an interacting effect between firms and emerging markets. On one hand, the emerging market factors shape firms’ behaviors, on the other hand, firms’ behaviors contribute to these factors and even become the components of them.

One question left is that how to combine the emerging factors with my following analysis? The central idea is that the emerging market factors exert their effects by diminishing or enhancing the effectiveness of a particular entrepreneurial competence. For instance, we know that firms in emerging markets are suffering from the effects of weak institutions. However, human-relationship are used as the substitution of modern incentive contracts to diminish the negative effect of weak institution. More specifically, relationship based transactions with stakeholders enforced by family reputation and connections. Internal governance enforced by family ties. Furthermore, family relationship networks allow self-enforcement thus by passing weak institutions. Hence, I regard the competence of human relation skills is more important to the firms in emerging market.

Overall, the emerging market factors affect a firm’s performance by affecting the identification of key ECs in my model. Key ECs are the crucial capabilities for an
owner-manager to operate the business. Under different market context, the importance of the same EC are different.

### 7.2 The Pathway of ECs Loss

The second part of the chapter aims to demonstrate how an intra-family succession event affects the performance of a firm and also how the effectiveness of succession is affected by various factors by using the theory I mentioned in last part. The model and its explanations are listed below.

*Figure 5. The Pathway of ECs Loss*

#### 7.2.1 The invention of a new taxonomy

One innovation of my thesis is proposing a new way of classifying entrepreneurial competencies which is based on the heritability of ECs across generations. As can be seen in Figure 5, entrepreneurial competences are divided into inheritable EC (such as the relationship network built by the predecessor) and Non-inheritable EC (such as the personal traits). The two kinds are distinguished by the characteristic that if the particular competence hold by a predecessor could be passed down to the next generation during the process of succession. Moreover, inheritable ECs are classified into two sub-categories: Completely Inherited EC (100% Inherited EC) and Partially Inherited EC. The distinction between these two types lies what on degree that the particular competence could be inherited by the successor. Once a competence could not be 100% received by the successor, in other words, could not exert the same effectiveness as it did before the succession, it should be identified as a PIEC (Partial Inherited Entrepreneurial Competence).
7.2.2 Three basic assumptions

For demonstrating how successions affect firm performance/value, the model "The pathway of ECs Loss" is introduced. As I mentioned earlier, the fundamental assumption of this model is the theory of entrepreneurial school which saw entrepreneurs themselves as the decisive factor of firms' performance. Moreover, I assume that the capability of entrepreneurs is strongly determined by EC (Entrepreneurial Competence), more specifically, the quality and quantity of ECs that one entrepreneur holds. Here the word "entrepreneur" means the chairman of the board/chief manager/CEO or anyone who actually controls a family business. The term "ECs pool" is the sum set of an entrepreneur's competencies. It contains all ECs that one entrepreneur holds.

Further, Cucculelli and Micucci (2008) argue that different types of succession are likely to have different impacts on the performance of the business post-succession. For example, the performance implications of ownership transfers from the first to the second generation are different from ownership transfers from second to the third generation (Molly, Laveren and Deloof, 2010). However, from the perspective of my design, these influences are resulted from the firm’s life-cycle effect (same ECs are differently important in different firm life stages) rather than the type of succession. Further, the life cycle effect only exert function on a quantitative level (increasing or diminishing the effectiveness of ECs). Therefore, I treat the condition “between different generations” as an exogenous variable to the succession. As to the successions, the essence is the same: the transfer of ECs between two entrepreneurs/individuals. So, there is no need to point out the particular generation of the predecessor and the successor in my model, the predecessor could be the founder of the firm or a successor in the former succession. Hence, the third assumption is that there are no qualitative differences in effects between the successions occurs between different generations (founder to 2nd generation or 2nd generation to 3rd generation etc.).

7.2.3 Two Main phases of the model

In the model, the path way is divided into two main phases: (1) predecessor controlling phase (2) successor controlling phase. The division point of the two phases is the succession event which represents the transfer of the actual controlling right of a family business. In the reality, the successor actually taking the key position or the announcement of a succession event is usually regarded as the symbol of the accomplishment of the right transfer, since only when an entrepreneur actually takes the key position and can exert the controlling right, what he/she does can affect the firm's performance. However, from the view of the stock market, any unexpected news
can cause the market reaction in an efficient market. In my case, once the succession news is announced, the stock market reacts immediately, that's why I choose the announcement date as T0 in the event window.

7.2.4 Three types of Entrepreneurial competences

In this section, I will elaborate three types of ECs that distinguished in the model “the pathway of ECs loss”. What noteworthy here is that the classification of the three ideal types might be case-dependent in the reality, here I only aim to elaborate the fundamental principle of how or by what those ECs are classified.

Back to the model itself, it can be seen in Figure 5 that, in the predecessor controlling phase, ECs of the entrepreneur are collected in the ECs pool which represent the total capability of the entrepreneur (Chairman of the board/CEO etc.) thereby determining the firm's performance in this phase. ECs are divided into three types by their characteristic of inheritability: (Ⅰ) CIEC: Completely inherited EC, (Ⅱ) PIEC: Partially inherited EC (Ⅲ) NIEC: Non-inherited EC. The next phase (succession phase) is a process of filtering. There is no loss of type (Ⅰ) during this process, they are 100% received by successors in the next phase (successor controlling phase), and the successors can completely exploit the benefits brought by the CIECs. For example, human relation network could be regarded as a strategic resource for a firm, especially under a weak institutional environment such as emerging markets in East Asia, it can play a key role in business dealings. Comparing with a non-family member successor, an intra-family successor is easier to exploit the advantages of the human relationship network that built his/her predecessor, since the intra-family successor could make business with others in the name of the family, his personal image is enhanced by the family reputation. Therefore, the intra-family relationship provides a comparative advantage to internal successors to exploit the benefits of human relationship network built by predecessors, it should be regarded as a CIEC. So, the human relationship network should belong to the category of inherited EC. However, whether it belongs to a CIEC(type Ⅰ) or PIEC(type Ⅱ) must depend on what degree a successor can exploit the benefits of former-built human relationship through his/her inherent intra-family status.

The central characteristic of PIEC(type Ⅱ) is that they will partially lost during the process of transfer. For example, the competence of management style which belongs to the category of Business and management competencies according to the taxonomy of Siwan & Jennifer (2009). The competence should be regarded as a PIEC. Because it's reasonable to believe that an intra-family successor's management style is unconsciously influenced by his predecessor since they have been working under the
same environment for a long time before the succession. Nonetheless, it is impossible to copy others’ management styles completely in practice, some unique personalities developed during the life experience of the new entrepreneur will affect the future management style naturally. Another example of PIEC is the competence of "Familiarity with industry" (Siwan & Jeniffer, 2009). It is obvious that an intra-family successor is more familiar with the business than an outside-hired CEO, and this provides a comparative advantage to an intra-family successor. However, the degree of familiarity depends on the degree of the successors' previous involvements with their family businesses, and this, might be variable in different cases. Consequently, the effectiveness of the competence exerted in the successor controlling phase are different and more likely lower than the equivalents in predecessor controlling phase. This is why it shows a trend of “loss” in the model.

The third type of EC is NIEC (Non-inherited Entrepreneurial Competence). As its literal meaning, this kind of EC cannot be transferred to successors. This type usually refers to competencies which relevant to an entrepreneur's personal traits such as integrity, persistence and optimism. Most of those competencies are developed through the synergistic effects of entrepreneurs' prior life experiences and the environments they used to live.

7.2.5 Learnable EC

It is noteworthy "succession" is not the only source of successors to acquire competences. ECs can be obtained through other channels such as education/training. Joseph et al. find that family succession is more likely when the family member is better educated or serving a senior position prior to taking the helm, further, they highlight the importance of education since they observed that the stock performance is better when the successor has a high education level. In principle, all competences can be acquired through education/training if we relax the restriction on the definition of education/training. For instance, integrity is a kind of competence which means the entrepreneur has a clear sense of values and beliefs that underpin the creative and business decisions which they make, and that affect the actions they take, particularly when in difficult or challenging circumstances. From the view of inheritability, this competence should be regarded as a non-inheritable EC since integrity belongs to the personal trait. We cannot deduct that a successor must be as honest as his predecessor, even though his behavior might be affected by his predecessor. From the view of learnability, there is no doubt that the trait of an individual is strongly affected by the education he/she received from school or family. However, it cannot be regarded as a learnable EC since the education does not directly serve for the business management and cannot be acquired in a relatively short time. Hereby, the definition of the learnable
Chapter 7. Business Succession Analysis

EC is “a sort of entrepreneurial competence can be obtained through an intensive training, and the purpose of the training is directly serving for the business management.” One instance of learnable EC is the competence of financial and budgeting skills which belong to the category of business and management competencies according to the taxonomy of Siwan & Jennifer (2009). From the view of inheritability, the skills cannot be transferred directly to the successor, from the view of learnability, it could be acquired through an intensive training. Further, the purpose of training is directly serving for business management (strengthening the professional skills of financing and budgeting). Therefore, the competence of financial and budgeting could be classified into "learnable EC".

7.2.6 Recognizing the inheritability and learnability of specific competences

As I mentioned above there is a major dichotomy in ECs which is generally accepted by most researchers. Two kinds of entrepreneurial competences are differentiated between the kind needed to start a business and those needed to manage the business through growth (Man et al., 2002). However, for using my model in practice, a list of specific competencies must be identified.

After a comprehensive search of relevant literatures (see part “the categorization of ECs), I decide to use the work of Siwan Mitchelmore & Jennifer Rowley(2009), who summarize four main categories of ECs in their study "Entrepreneurial competencies: a literature review and development agenda", as the foundation of my analysis. Their work is based on the filling and integration of previous researches in this area and provide a comprehensive collection of these specific competences which is mixed mentioned in previous literatures. Besides, that they consolidated some very similar statements of competencies. Therefore, it is quite suitable to use their work as the basis of my research since I can recognize the inheritability for each particular competence based on their work.

In their study, these individual level competencies have been categorized into four main types (1) entrepreneurial competencies (2) business and management competencies (3) human relations competencies (4) conceptual and relationship competencies. Under each heading, we could find a list of specific individual level competencies which represent different capacities that an entrepreneur needed. Based on their work, I identified the inheritability for each competence as well as the learnability. However, it is disputable about the identification of competences' inheritability since the standard might vary under different contexts, therefore, further discusses might be needed and here I only provide a way of thinking (see Table 11).
### Table 11. The Inheritability and Learnability of ECs (based on the work of Siwan & Jennifer, 2009)

<table>
<thead>
<tr>
<th><strong>Entrepreneurial competencies</strong></th>
<th><strong>Type</strong></th>
<th><strong>Learnable</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification and definition of a viable market niche</td>
<td>III</td>
<td>N</td>
</tr>
<tr>
<td>Development of products of services appropriate to the firms chosen market niche/product innovation</td>
<td>III</td>
<td>Y</td>
</tr>
<tr>
<td>Idea generation</td>
<td>III</td>
<td>N</td>
</tr>
<tr>
<td>Environmental scanning</td>
<td>III</td>
<td>Y</td>
</tr>
<tr>
<td>Recognizing and envisioning taking advantage of opportunities</td>
<td>III</td>
<td>N</td>
</tr>
<tr>
<td>Formulating strategies for taking advantage of opportunities</td>
<td>III</td>
<td>N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Business and management competencies</strong></th>
<th><strong>Type</strong></th>
<th><strong>Learnable</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of the management system necessary for the long term functioning of the organization</td>
<td>II</td>
<td>Y</td>
</tr>
<tr>
<td>Acquisition and development of resources required to operate the firm</td>
<td>I</td>
<td>N</td>
</tr>
<tr>
<td>Business operational skills</td>
<td>III</td>
<td>Y</td>
</tr>
<tr>
<td>Previous involvement with start-ups</td>
<td>I</td>
<td>N</td>
</tr>
<tr>
<td>Managerial experience</td>
<td>II</td>
<td>Y</td>
</tr>
<tr>
<td>Familiarity with industry</td>
<td>I</td>
<td>N</td>
</tr>
<tr>
<td>Financial and budgeting skills</td>
<td>III</td>
<td>Y</td>
</tr>
<tr>
<td>Previous experience</td>
<td>II</td>
<td>N</td>
</tr>
<tr>
<td>Management style</td>
<td>II</td>
<td>N</td>
</tr>
<tr>
<td>Marketing skills</td>
<td>III</td>
<td>Y</td>
</tr>
<tr>
<td>Technical skills</td>
<td>III</td>
<td>Y</td>
</tr>
<tr>
<td>Industry skills</td>
<td>III</td>
<td>Y</td>
</tr>
<tr>
<td>The ability to implement strategy (develop programmes, budgets, procedures, evaluate performance)</td>
<td>III</td>
<td>Y</td>
</tr>
<tr>
<td>Familiarity with the market</td>
<td>II</td>
<td>Y</td>
</tr>
<tr>
<td>Business plan preparation</td>
<td>III</td>
<td>Y</td>
</tr>
<tr>
<td>Goal setting skills</td>
<td>III</td>
<td>Y</td>
</tr>
<tr>
<td>Management skills</td>
<td>III</td>
<td>Y</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Human relations competencies</strong></th>
<th><strong>Type</strong></th>
<th><strong>Learnable</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of the organizational culture management feel is necessary to guide the firm</td>
<td>I</td>
<td>Y</td>
</tr>
<tr>
<td>Delegation skills</td>
<td>III</td>
<td>Y</td>
</tr>
<tr>
<td>The ability to motivate others individual and in groups</td>
<td>II</td>
<td>Y</td>
</tr>
<tr>
<td>Hiring skills</td>
<td>III</td>
<td>Y</td>
</tr>
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<td>Y</td>
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<tr>
<td>Leadership skills</td>
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<th><strong>Type</strong></th>
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<tr>
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<td>Y</td>
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<tr>
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Chapter 7. Business Succession Analysis

<table>
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<td>Deal-making skills</td>
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<tr>
<td>Commitment competencies</td>
<td>III</td>
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</table>

Note: (Type I: completely inherited ECs; Type II: partially inherited ECs; Type III: non-inheritable ECs)

7.2.7 The external source of ECs

The term "external" in the model "the pathway of ECs loss" refers to any other sources except inheriting from predecessors. As can be seen in the model, "education/training" belongs to the external source. It is highlighted purposely due to its importance. One example from the source of "outside" is the competence of risk taking propensity which refers to "deliberately calculating risks and evaluates alternatives, taking action to reduce risks or control outcomes and placing self in situations involving a challenge or moderate risk". It is hard to define how an individual's risk propensity is formed since it's a mixed result from environment, family, education and even the gene of an entrepreneur. The non-heritability of the competence does not mean the deletion of the competence of a successor. Because this propensity is naturally formed and developed inside a human being. More specifically, the new entrepreneur will develop his own competence of risk taking propensity which is different from his predecessor's, therefore, I assume that it comes from “outside”. Nevertheless, since the external source might be varied in the reality but not the main topic here, I only focus on the sub-type of Education/training of this category.

7.2.8 Firm's performance in successor controlling phase

In this phase, ECs form various sources are pooling into the ECs Pool (successor) which represents the total capacity of a successor, based on our previous assumption, the capacity (the quality and quantity of ECs) of an entrepreneur can finally determine the performance of the firm that he/she controlled.

7.2.9 The Effect of firm's life cycle on ECs

As I mentioned earlier, the effectiveness of ECs are affected by the firm's life cycle. Churchill and Lewis (1983) believe that competencies are highly relevant to firms' life-cycle stages. It is reasonable that the key ECs needed in different life-cycle stages are different since the goals of each stage are different and they require different capacities of entrepreneurs to fulfill. As Churchill and Lewis state that business development is a process moving from entrepreneurially managed stage to professionally managed stage. It implies the trend of ECs requirement is moving from entrepreneurial competences to managerial competencies as the development of a firm. This is quite fit to the dichotomy
Chapter 7. Business Succession Analysis

of ECs which suggested by Lerner and Almor (2002). They argue that entrepreneurial competencies are more significant in the start-up phase while managerial competencies usually functioning at the phase of growth. That’s because a firm's life-cycle phase will affect the efficacies of ECs held by the entrepreneur thereby affecting and the firm's performance. Therefore, it is vital to recognize the life-cycle phase in my theory.

Generally, the effects of firm's life cycle are functioning in the form of mitigating or exacerbating the efficacies of ECs thereby affecting the firm's performance. For example, the competence of idea generation which is classified as entrepreneurial competence by Siwan & Jennifer (2009) should be regarded more significant in the phase of start-up since this phase related to more activities of the brainstorm, an entrepreneur might start up his business based on a good idea and this idea might be the core and the origin of his business. So the effect form firm's life-cycle stage on the competence of idea generation is showed as a mitigating effect at the phase of start-up. However, as the development of the business, more decisions are made through a group discuss or even the voting procedure by the board of director, these decisions are based on careful planning and budgeting, so the importance of a good idea from the entrepreneur is decreasing while the need of professional management skills is increasing. For example, the effectiveness of financial and budgeting skill (Siwan & Jennifer, 2009) is exacerbated in the growth and maturity stage but mitigated in the start-up stage. More details of the firm’s life cycle effects are demonstrated in the following figure.

Figure 6. The firm’s life-cycle effects on ECs
Despite not 100% matched, the general principle is that the efficacies of entrepreneurial competencies are exacerbated at the start-up phase and the decline phase, but mitigated at the stages of growth and maturity, while the efficacies of managerial competencies are exacerbated at growth phase and maturity phase but mitigated at the stages of start-up and decline. The explanation is that, the start-up phase refers to more entrepreneurial activities which rely on the entrepreneur's entrepreneurial competencies such as creativity, as the development of the business, the firm has established itself on the market and functions in a stable and adequate way when it comes to satisfy the demand of the market (Dr Jaan Suurküla, 2011), it has turned into a safe workplace for the employees. Meanwhile, the business becomes more relying on professional management skills instead of entrepreneur's personal traits. The situation continues until the firm into the decline stage, the essential problems that a firm faced here are a loss of creativity and turning bureaucratic, resulting in slow and inadequate adaption to changing market conditions. At this stage management skills cannot sustain the further business development anymore, most of the firms are end in firm death. However, there is another possibility, few firms could survive in the decline phase and step into the rejuvenation phase through a process of "creative destruction" which is first mentioned by Joseph Schumpeter (1942) “a process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one.” Creative destruction occurs when something new kills something older, in our case, it refers to taking some radical measures which can break the old business patterns and create a new business model then totally change the way you make money. The term "rejuvenation" could be understood as rebirth of a firm and the process could be regarded as launching a new business by a serial entrepreneur, therefore, the fundamental is similar as the situation in the start-up phase: since it's an entrepreneurial phase, entrepreneurial competences are more significant in this stage.

7.3 UNDERSTANDING THE GENERAL EVIDENCE FROM THE ECs LOSS PERSPECTIVE

This section aims to interpret the general evidence that intra-family succession devastate firm value from the perspective of ECs loss.

Since I assume the entrepreneurial competences of the owner-manager are the key variables in determining the firm’s performance. Hence, reduced firm performance in the successor controlling phase can be explained by the fewer ECs in the successor’s ECs pool, in other words, the successor is less capable than his/her predecessor. Furthermore, I identify two main sources of ECs, one is inheriting form the predecessor (inside the organizational boundary), another is outsourcing (outside the organization
boundary). Based on the model “the pathway of ECs loss”, ECs may lose during the transfer between the two generation/relatives, therefore, it is certainly that the accepted ECs will be less than those held by the predecessor. Consequently, the only way to compensate the lost ECs is by outsourcing (supply form the external sources). If the outsourcing is insufficient, the firm’s value decrease. Therefore, the evidence of intra-family succession devastating firm value could be attributed to the insufficient outsourcing. Furthermore, the evidence that hiring an outside professionalism (external succession) outperform the intra-family succession might be the reason that the additional competencies which a family successor inherit form his predecessor cannot compensate the relatively insufficient in professionalism (such as managerial competencies) comparing with the hired manager.

Joseph et al. (2007) design a similar approach which introduce concepts of “transfer cost” and “specialized asset” into the process of business succession. Based on their assumption, asset specificity and its associated transfer costs are fundamental to succession performance. As I attribute the reduction of firm’s value to the loss of ECs during the process of succession, they attribute the value destruction to the difficulties in partitioning and transferring specialized assets across individuals and/or firm boundaries including intangible assets such as relationships with employees and banks, or assets jointly controlled by family members and/or co-founders.

However, comparing with their approach, understand the process from the ECs loss view might be more helpful to those firms who plan to improve the performance. In the next section, I will elaborate how to combine my theory with business succession plan.

### 7.4 Combining the ECs loss theory with BSP

Planning is strongly correlated to the eventual succession success. There are a great deal of evidences show that the probability of a successful succession increases if there is a well-structured succession plan in place (Sharma et al., 2001). Some scholars explain this as that planning enhances the self-efficacy of both predecessors and successors (DeNoble et al., 2007) or that planning facilitates self-confidence and goal setting (Delmar and Shane, 2003).

Goldberg and Wooldridge (1993) argue that creating the right environment for developing the successor is an important ability for a predecessor. This section aims to combine my previous study with BSP (Business succession plan) by providing a way of thinking about how to develop a succession plan from the perspective of entrepreneurial competences loss. The figure 7 demonstrates each step of the planning, the details of each step are described as follow:
Figure 7. BSP based on Entrepreneurial Competences theory

7.4.1 Step 1-Identify the external environment of business succession

As I mentioned in chapter 5, cultural context can affect the process of succession. The same EC may exert different effectiveness under different cultural context. For example, the competence of relationship skill is more significant in an Eastern Asia country such as China, since human relationship is used as an insurance for the business agreements under such weak institutional environment.

Besides, some scholars argue that, as the development of technology and our society, the requirements of a successful succession have also been changed or developed. For example, professional management skill might be more needed for a firm which operated in the developed country than the one established in a developing country.

Therefore, it is essential to identify the external environment before we recognize the key ECs for the entrepreneur.

7.4.2 Step 2-Identify the Life cycle phase of the firm

Similar as the first step, firm’s life cycle stage also affect the identification of key ECs, the importance of the same EC varies in different life-cycle states. That means the key ECs are different in each life stage. Therefore, it is necessary to identify the firm’s life-cycle stage before we go to the next step.

7.4.3 Step 3-Identify the key ECs in current life stage

The third step it to identify the key ECs. Bennedsen et al., (2007) argue that there is a need to know what specific skills, resources and relations make family successor less able than outside-successors. Because of that the existing research does not go beyond an insider/outsider view of succession to investigate what resources are necessary for successors, Karl et al. (2003) suggest further research on firm succession should be
related to corporate entrepreneurship in the areas of what are the skills and resources that successors bring to firms that are characterized by sustained high entrepreneurial orientation? Based on my theory, key ECs represent the most significant capabilities in current life-cycle stage which can strongly determine the firm’s performance. Identifying those key ECs is the basis of business succession plan and also the premise of the rest steps.

However, we must understand that the key ECs of a firm is case-depended. The identification of key ECs is affected by the external environment (economic and cultural), the firm’s life-cycle phase and the characteristic of the family business itself.

### 7.4.4 Step 4 - Identify the scarce Key ECs

The fourth step is identifying the scarce key ECs of the successor. It also refers to the work of identifying the inheritability of those key ECs. However, as I mentioned earlier, the inheritability of an EC might be case-depended. For instance, an internal successor is more likely to inherit the competences related to the predecessor’s relationship or the family’s reputation and use them to gain a competitive advantage than an external successor.

This is consistent with the view of Joseph et al. (2007) who argue that the specialized assets such as a founder’s ideology, reputation in the business, and political connections are specific to the founder while difficult to be capitalized by another manager or even his own son. The statement implies that there is a distinction about the capability of acquiring the predecessor’s specialized assets or competencies between an internal successor (his son) and the external hired manager.

Once identified the inheritability of the key ECs, we can know which of them will be lost or partly lost and which of them will be inherited naturally during the transfer. Since we have already known the total key ECs from step 3, a simple subtraction can lead to what are the scarce key ECs.

### 7.4.5 Step 5 - Outsourcing the scarce Key ECs

The last step is outsourcing the scarce key ECs. Here I define “outsourcing” as a way of acquiring ECs from the outside of the organizational boundary. Further, the concept “outsourcing” has two dimensions, the first is resupplying the key ECs that lost during the transfer. The second dimension refers to acquiring of new key ECs which were not held by the predecessor but necessary in current life-cycle phase.

As I mentioned in the model “the pathway of ECs loss”, the main channel of outsourcing ECs is education/ training. Motwani and colleagues (2006) investigated
Chapter 7. Business Succession Analysis

368 US SMEs and found that, regardless of firm size, releasing the identity of the successors and providing them with training/mentoring were important planning steps.

What is noteworthy is that outsourcing is just an abstract description of acquiring ECs from the external sources. In the reality, outsourcing will be a long-term process, and it requires the interaction between the succession planner and the successor in advance of the actual happening of the transfer. For example, the succession planner identifies that the current business rely heavily on the owner-manager’s relationship with stakeholders. The competence will definitely lose at least part of it once the current owner-manager was replaced. Therefore, the outsourcing of the competencies of “human relations skills”, “previous experience” and “previous involvement with star-ups” should be carried out in advance. More specifically, arranging the successor to serve a senior position prior to taking the helm, build and strengthen his personal relationship with stakeholders. A similar approach is argued by Joseph et al. (2007) that substantial reputation and relationship with stakeholders dissipate in the transfer process and are not recoverable ex post, the successor will need to adopt a new governance structure to compensate for the credibility loss.
8. **CONCLUSIONS**

This thesis aims to explore the relationship between firm performance, entrepreneurship and business succession in family firms. The first part (chapter 2, 3, 4, 5) refers to a comprehensive literature review about family business, business succession and emerging market. The key finding in this part is that, even though existing literatures about this area are mixed, there are some evidences observed by most researchers. These evidences include: (1) the distribution of family firms shows that families still play a vital role in the modern economies. (2) Family firms outperform non-family firms on several dimensions, but this kind of excellences is mainly exhibited in the founder-controlling phase. (3) The route of external succession (hire an outside professional) might be a better choice for the firm who plans a business succession. (4) Intra-family succession devastate firm value and lead to a reduced post-succession performance in the long run. (5) Emerging market factors influence firm’s behaviors on various dimensions. These evidences are used as the clues and background of my thesis.

In the second part (chapter 6) of this paper, I examine the short-market reaction to the announcements of intra-family succession in Chinese listed firms. The result of the test indicates there are no significant abnormal returns surrounding the announcement of the succession event. This is not consistent with my previous expectation which based on the evidences in Part 1-chapter 4. I attribute this result to two possible explanations, first is the offsetting effect of two sub-samples. Second is that the market captured the intra-family succession news before the firm announce it in most cases since the process of succession often refers to a long process, information may leak during this period. Consequently, the market felt unsurprised to this news when they are announced thereby no response to them.

Furthermore, I find that trading suspension might be used as a strategy to avoid the negative effect or acquire positive effect from business succession announcement, since I observed 0.9754% (CAR-3) and 2.4869% (CAR-5) positive cumulated abnormal returns respectively in the sample with trading suspension at the announcement day. However, the result is not significant under the non-parametric tests. Hence, I suggest further test for this trading-suspension effect.

The limitations of this event study are: (1) Small sample size for the test (2) Less efficient market for the methodology (3) The cluster of listed firms cannot capture the whole characteristics of family business succession since most family firms are SMEs.
Chapter 8. Conclusion

The last part (chapter 7) of this paper aims to combine the study of business succession with the theory of entrepreneurship. I propose a theory of Entrepreneurial Competencies Loss which explains value destruction in succession events. Based on this theory, the value destruction is mainly attributed to the ECs loss during the succession process. If the successor does not have enough outsourced-EC to compensate the loss, the firm value decrease.

Additionally, I highlight the influence from firm’s life-cycle phase and combine the firm life-cycle theory with the ECs loss model. More specifically, I suggest that entrepreneurial competencies are more significant in the phases of start-up and decline while managerial competencies are more important in the phases of growth and maturity.

At the end of this chapter, I suggest a five-step approach of forming business succession plan based on the ECs loss theory. The Five steps include: (1) Identify the external environment of business succession, (2) Identify the Life-cycle phase of the firm, (3) Identify the key ECs in current life stage, (4) Identify the scarce ECs, (5) Outsourcing the scarce ECs.

One contribution of this thesis is providing new empirical evidence on emerging market (China). Although the result is not consistent with previous evidence, the study provide a foundation for future researches (60 succession events are identified by hand-collect work, but only 28 are used). Hence, I suggest a similar test in the future. Furthermore, the thesis provides a new perspective (ECs loss) to explain how business succession affect a firm’s performance/value and combines the new model (the pathway of ECs loss) with BSP (Business succession plan). Overall, the thesis contributes to the existing literatures of entrepreneurship and corporate governance (BSP). Although most theory of this thesis have not been tested, they can provide a new framework, perspective and a way of thinking for future researches in this area.
Chapter 9. References

9. References


Chapter 9 References


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### Appendix 1. Sample of complete succession events

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<th>No.</th>
<th>Stock code</th>
<th>Firm Name</th>
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<th>Position</th>
<th>Gender</th>
<th>Relationship</th>
<th>Date of Events</th>
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<td>F</td>
<td></td>
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<tr>
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<td>34</td>
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<td>Yeqing Zhao</td>
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<td>Brother</td>
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<td>莱克科技</td>
<td>Jianhao Zhang</td>
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<td>M</td>
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<td>Ping Xie</td>
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<td>In-Law</td>
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<td>Chang Liu</td>
<td>Chairman of board</td>
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</table>
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Appendix 2. Sample of incompletely succession events

<table>
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<tr>
<th>Nr.</th>
<th>Stock code</th>
<th>Firm</th>
<th>Successor</th>
<th>Position</th>
<th>Gender</th>
<th>Relationship</th>
<th>Date</th>
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<tbody>
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<td>1</td>
<td>002111SZ</td>
<td>威海广泰</td>
<td>Yan Meng</td>
<td>Chief manager</td>
<td>M</td>
<td>Son-in-Law</td>
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<td>2</td>
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<td>多氟多</td>
<td>Hongjun Hou</td>
<td>Chief manager</td>
<td>M</td>
<td>Son-in-Law</td>
<td>2010/1/4</td>
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<tr>
<td>3</td>
<td>002581SZ</td>
<td>万昌科技</td>
<td>Xianming Wang</td>
<td>Chief manager</td>
<td>M</td>
<td>Son-in-Law</td>
<td>2008/6/9</td>
</tr>
<tr>
<td>4</td>
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<td>飞利股份</td>
<td>Pi Li</td>
<td>President</td>
<td>M</td>
<td>Son-in-Law</td>
<td>2009/9/11</td>
</tr>
<tr>
<td>6</td>
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<td>赛象科技</td>
<td>Jianhao Zhang</td>
<td>Chief manager</td>
<td>M</td>
<td>Son-in-Law</td>
<td>2009/10/16</td>
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<td>Yabo Zhang</td>
<td>Chief manager</td>
<td>M</td>
<td>Offspring</td>
<td>2009/9/22</td>
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<tr>
<td>8</td>
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<td>广宇集团</td>
<td>Yike Wang</td>
<td>President</td>
<td>M</td>
<td>Offspring</td>
<td>2010/9/10</td>
</tr>
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<td>9</td>
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<td>Lingyun Liu</td>
<td>Chief manager</td>
<td>F</td>
<td>Offspring</td>
<td>2011/2/11</td>
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</table>

Appendix 3. Description of the Test Statistics

T1- t-test with cross sectional dependence

The standard deviation of the average excess return over the estimation period (T observations) is given by:

\[
S(\bar{A}) = \sqrt{\frac{1}{T} \sum_{t=1}^{T} (\bar{A}_t - \bar{A})^2}
\]

Where \( \bar{A}_t = \frac{1}{N} \sum_{j=1}^{N} A_{jt} \) and \( \bar{A} = \frac{1}{T} \sum_{t=1}^{T} \bar{A}_t \)

For each date in the event window (here three days) calculate the test statistic

\[ T_t^{\frac{1}{1}} = \frac{\bar{A}_t}{S(\bar{A})} : t (T-1), t = -1, 0, +1 \]

The cumulative average residuals over an event window of three days are given by:

\[ CAR = \bar{A}_{-1} + \bar{A}_0 + \bar{A}_{+1} \]

To test for significance of the CAR (3) over the entire event window the following test statistic is used:

\[ T_1^{CAR} = \frac{\sum_{t=-1}^{1} \bar{A}_t}{\sqrt{3S(\bar{A})^2}} \]
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T2- t-test with cross sectional independence

\[ T_t^2 = \frac{\frac{1}{N_1} \sum_{i=1}^{N} A_{it}}{\frac{1}{N_1} \sum_{i=1}^{N} \sum_{t=1}^{T} A_{it}^2 - \frac{1}{T} \sum_{t=1}^{T} A_{it}^2} : N(0,1), t = -1, 0, 1 \]

The variance for the test statistics is calculated as the sum of the variances of abnormal returns of the individual stocks, since returns are assumed to be independently distributed.

The t-statistics for CAR is calculated as for T1 using the standard deviation which is the denominator of Tt.

T3- Rank test (Corrado, 1989 and 1992)

Kit denote the rank of the excess return Ait over security i’s estimation and event period, for total period of 225 we have:

\[ K(A_{it}) = \text{rank}(A_{it}), t= -222, \ldots,+2 \]

Where the first 220 observations are used as an estimation period and one observation on each side of day “0” is used as an event window

Then the ranks are scaled by the number of observations for each stock:

\[ U_{it} = \frac{K_{it}}{(1 + T_i)} \]

Where Ti is the number of non-missing excess returns for security “i” over the entire period.

The sum of Ui is given by

\[ \sum_{t=1}^{T_i} U_{it} = \sum_{t=1}^{T_i} \frac{K_{it}}{(1 + T_i)} = \frac{1}{(1 + T_i)} \frac{T_i}{2} (1 + T_i) = \frac{T_i}{2} \]

The mean of U is given by:

\[ \bar{U}_i = \frac{1}{T_i} \sum_{t=1}^{T_i} U_{it} = \frac{1}{T_i} \times \frac{T_i}{2} = \frac{1}{2} \]

The test statistics is given by:

\[ T_4 = \frac{\frac{1}{\sqrt{N}} \sum_{j=1}^{N} (U_{jt} - \frac{1}{2})}{S(K)} \]
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\[ S(K) = \sqrt{\frac{1}{225} \sum_{t=-222}^{2} \left( \frac{1}{\sqrt{N_t}} \sum_{i=1}^{N_t} (U_{it} - \frac{1}{2}) \right)^2} \]

The test statistics for CAR (3) is given by:

\[ T_{CAR} = \sum_{t=-1}^{1} \frac{1}{\sqrt{N_t}} \frac{\sum_{j=1}^{N} (U_{jt} - \frac{1}{2})}{\sqrt{3S(K)}} \]

T4- Generalized sign test (Cown, 1992 and 1996)

In this test the expected number of abnormal returns is estimated from the estimation period across time and stocks and is given by:

\[ \hat{p} = \frac{1}{N} \sum_{j=1}^{N} \frac{1}{T_j} \sum_{t=1}^{T_j} \varphi_{jt} \]

Where \( \varphi = 1 \) if \( A_{it} > 0 \) and \( \varphi = 0 \) otherwise.

The generalized sign test statistic is:

\[ T_t = \frac{w_t - N \times \hat{p}}{\sqrt{N \times p(1 - \hat{p})}} \]

Where \( w \) is the number of positive \( A_{it} \) in the event window, for a given \( t \), across stocks.

CAR(3) test statistic is the sum of the three test statistics during the event window divided by the square root of three.

\[ T_{CAR} = \sum_{t=-1}^{1} \frac{1}{\sqrt{N_0}} \frac{\sum_{j=1}^{N_0} G_{jt}}{\sqrt{3S(G)}} \]
### Appendix 4. Test results daily abnormal returns and cumulated returns

<table>
<thead>
<tr>
<th>Test</th>
<th>date</th>
<th>All data</th>
<th>Data with suspension</th>
<th>Data without suspension</th>
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<tr>
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<td>T 2</td>
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