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**Corporate Governance and Family Succession:
New Evidence from Taiwan**

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Corporate Governance and Family Succession: New Evidence from Taiwan

Abstract

Succession in family firms has historically been associated with risk. However, improvements in laws and regulations along with the consequent improvements in corporate governance can greatly mitigate the potentially negative impacts on succession performance. This study utilizes a comprehensive data set of 280 cases of succession from Taiwan between the years 1997 and 2012, a period which coincides with the introduction of a big bang of new domestic laws and regulations. The results indicate that improvements in the regulatory environment along with the consequent strengthening of corporate governance reduces the probability of family succession while at the same time increases firm performance during the succession period. In many cases the impact of improved corporate governance outweighs the influence of improved laws and regulations. The implications of these findings underscore the importance of the government's role in establishing robust internal and external mechanisms to enhance corporate governance, so that in significant events such as firm succession, the attendant risks are reduced.

Keywords: *Succession, Corporate Governance, Laws and Regulations*

1. Introduction

The prevalence and importance of family firms, as well as their impact on local economies, are by now well recognized around the world. While there are many corporate governance and finance issues that have an important bearing on family owned firms, among the most critical of these is succession.

Burkart et al. (2003) and Franks et al. (2012) found that the level legal protection for investors is an important influence on succession decisions. Moreover changes in laws and regulations will influence the quality of corporate governance. The impact of enhanced laws and regulations and improved corporate governance on family succession raises important questions, namely: 1) whether the probability of family succession decreases when laws and regulations, as well as the quality of corporate governance, improve over the succession period; and 2) whether stronger laws, regulations, and improved corporate governance reduce the risks of succession, or enhance stock performance over the succession period

This paper takes a closer examination of these questions on succession in Taiwanese family firms. There are several reasons for this. First, as in many countries around the globe, family ownership and succession is highly prevalent in Taiwanese listed firms. Second, as in other countries in the wake of the Enron collapse, key amendments to laws and regulations introduced in 2002 and 2007 significantly improved the level of investor protection in Taiwan which in turn had a profound impact on the succession patterns of family firms. Third, as a succession event is generally associated with transferring control from a family controller to another related family member (i.e. an offspring or close relative) or to an unrelated outsider in the case of a resignation, Taiwan can provide a very detailed and rich source of family succession and corporate governance data. The analysis of this data can

provide theoretical implications that can be extended to other countries that have undergone similar reforms.

The probability of a controlling family to choose a family member as the successor showed a steady decline between 2002 and 2012. This was primarily a result of the significant external and internal governance reforms in Taiwan during this period. In 2002 new IPO companies were required to appoint independent directors to their boards. The government also issued corporate governance best practices for all listed firms, and also passed the Investor Protection Act amid new regulations on internal control systems. Cumulatively these measures provided protection to investors in the event of any illegal trade activities. In 2003 the government also eased regulations related to foreign institutional investors. In addition, 2007 saw an important amendment to the Security Act which introduced the option to adopt an audit committee in lieu of a supervisory system. Another reform saw increased responsibility placed on insiders in the event of fraudulent reporting or other illegal corporate activities. In sum these new regulations forced listed companies in Taiwan to adopt enhanced corporate governance practices. The resulting change in operating environment gives occasion to reinvestigate and extend previous studies on succession.

This study provides new evidence and insights into the effects of succession, and in particular the roles of enhanced laws, regulations and corporate governance in influencing succession decisions, as well as the effect these have in maintaining firm value during the succession period. The findings support the conclusions of Burkart et al. (2003) and Franks et al. (2012) in the importance of establishing robust investor protection. While Bennedsen et al. (2015) provides a detailed account of the risks associated with succession events, and highlights the role of specialized assets as

explanatory factors, this study provides evidence of the importance of both external and internal governance mechanisms which will mitigate the effects of specialized assets as well as reduce the risks associated with succession.

The remainder of the paper is structured as follows: Section 2 reviews the literature of family succession and provides an overview of the institutional environment in Taiwan by describing the so called big bang of laws and regulations that occurred in Taiwan in 2002 and 2007, as well as the resulting improvements in corporate governance. Following this the two hypotheses that underpin this study are presented. Section 3 provides our methodology, including our definition of succession, our sample, as well as the definition of the empirical variables. Section 4 provides the empirical results and our robustness checks. Section 5 summarizes our findings and discusses future implications.

2. Literature Review and Institutional Environment

2.1 Family Firm Succession and Performance

Succession is an inevitable process that virtually every successful family firm must undergo at some point in time. Successful succession, particularly between the first and second generation of management, is crucial to the survival and future prosperity of a successful family-owned business. In most instances, choosing between a family heir and a family-external professional is a complicated decision (Gomez-Mejia et al., 2001). This is because several competing concerns may require balancing, including internal conflicts between family members, competing personal

objectives about the firm's organization and governance (Bertrand et al., 2008; Bertrand and Shoar, 2006), managerial ability (Perez-Gonzales, 2006) and management philosophy (Mullins and Schoar, 2016).

There are many pros and cons associated with choosing a family member as a successor. For example, family successors are often associated with longer investment horizons, reputational concerns and diminished agency conflicts, which may therefore lead to superior performance (Anderson and Reeb, 2003a; Andres, 2008; Sraer and Thesmar, 2007). In contrast, non-family successors tend to exhibit superior executive skills (Bennedsen et al., 2007; Perez-Gonzales, 2006) and are often better equipped to deliver superior growth opportunities after the transition. Moreover, family heirs might enjoy the private benefits of control and therefore make inferior decisions in terms of managerial talent (Perez-Gonzales, 2006), which may in turn result in lower performance (Villalonga and Amit, 2006).

Succession therefore presents significant challenges, particularly in maintaining firm value. For instance, Smith and Amoako-Adu (1999) document a negative stock market reaction to family successor appointments in US firms, while Morck et al. (2000) report a lower return on sales and assets for heir controlled firms than comparable firms in Canada.

According to Villalonga and Amit (2006), drawing on a sample of Fortune 500 firms, family ownership creates value only when the family firms' founders serve as the CEO or as the chairman with an externally hired CEO. An event study in the United States was used by Perez-Gonzalez (2006) to determine that only promotions of external CEOs are associated with positive abnormal returns. In a different study examining Danish firms Bennedsen et al. (2007) took the unique approach of using the gender of the founder's first child as an instrument variable, and reported that

family successions, as opposed to successions by external professional managers, caused a 4% average decline in return on assets, with firm performance failing to meet pre-succession levels. The extent of a founder's involvement in the succession process was found in Bertrand et al. (2008) to negatively correlate with the performance of family firms, and in some cases detrimental instances of tunneling resources out of the group's firms into pockets of family members was documented.

In a study on succession cases in Hong Kong, Singapore, and Taiwan, Bennedsen et al. (2015) document a 56% drop in market-adjusted stock prices during the five-year period following family succession, and propose a hypothesis based on the transfer cost of specialized assets to explain their findings.

While the literature does report that management transitions in family firms to family heirs can be detrimental to firm value, there are other studies indicating that this may not always be the case. The particular characteristics of a given firm may have the biggest influence on firm performance. Miller et al. (2007) find that lone founder firms in which no other family members are involved in management perform better than family firms run by multiple family relatives. However, this pattern may not hold for firms that are relatively small in size. Anderson et al. (2009) indicate that the level of transparency of family firms is the most important factor in influencing performance. Here again firms managed by the founder may not always perform better than firms run by an heir. Providing another unique perspective, Mehrotra et al. (2013) find that inherited family firms in postwar Japan often perform well, as adopted heirs displace the less talented blood related successors. Finally, Xu et al. (2015) also show that family successors who inherited the family's political connection from the founder can improve the firm's performance.

2.2 The Degree of Legal Protection of Minority Shareholders

The degree of legal protection will influence the succession model that is ultimately adopted. Burkart et al. (2003) argue that the degree of legal protection of minority shareholders strongly influences the founding family's decision to hire a professional manager (as opposed to maintaining management control within the family) and also has a strong influence on how many shares of the firm are offered to the public. The model they introduce shows that in countries that provide the strongest legal protection for minority shareholders, the optimum solution for succession is to hire the best professional manager and to sell off the shares of the firm in the open market. In this scenario the law then becomes the principal constraint on managerial decision making and the agency conflict rests between the manager and small minority shareholders (i.e. the Anglo-Saxon model).

In environments with an intermediate level of protection for minority shareholders, the founder may still hire a professional manager, but as the regulatory environment may not be strong enough to fully control managerial decision making, the founding family must maintain shareholding to serve as directors in order to monitor the management team. In scenarios where the protection of minority shareholders is the weakest, agency problems prevent any separation of ownership and management. When the agency problems become this severe, the founding family must maintain shareholding and involvement in management (i.e. control of the board of directors and management team) of the firm.

Franks et al. (2012) show that in countries with strong investor protection, developed financial markets, and active markets for corporate control, family firms often become widely held companies over time, while in countries with weaker investor protection, less developed financial markets, and inactive markets for

corporate control, family control persists over time.

These two papers use a cross sectional analysis to investigate the effect of different levels of legal protection on succession behavior. The current study extends this approach to investigate the change in the level of laws and regulations of investor protection in a single country over time, and more specifically how these changes influence family succession decisions and firm performance during the succession period.

2.3 The Big Bang of Taiwan's Laws and Regulations in 2002 and 2007

Bennedsen et al (2015) traced succession events in Taiwan from 1980 to 2001 and found that stock performance decreased significantly within the succession period. However, succession data from 2002 to 2012 failed to confirm the same result. In fact, in this period the on average stock performance generally increased over the succession period. The change of laws and regulations pertaining to corporate governance in Taiwan around 2002 had a significant effect on family succession decisions as well as the performance of family firms during the succession period.

In terms of a brief historical review, from February 2002, the Taiwan Stock Exchange (TWSE) first began requiring IPO firms to have two independent directors on their boards, and also issued best practice guidelines on corporate governance for all listed companies to follow. In mid-2002 the Taiwanese government passed an investor protection act designed to protect investors from any illegal activities of insiders. Along with this Act, an investor protection center was also established. At the end of 2002, the Taiwanese government also introduced regulations governing internal control systems within publicly traded firms along with regulations covering the loaning of funds and the making of guarantees. The introduction of these two

regulations served to improve the processes and limitations pertaining to related party transactions. Moreover, in September 2003 the Taiwanese government eased the regulations relating to foreign institutional investment, effectively opening the door to greater investment from foreign institutions. Since 2003, foreign institutional investment in Taiwan has rapidly increased.

In addition to the big bang of laws and regulations in 2002, there were also key amendments introduced in the 2006 Security and Trading Act, which were subsequently enforced at the beginning of 2007. These amendments began to formally require listed companies to appoint independent directors¹, with the further requirement that companies establish either an audit committee or a supervisor system². These amendments served to formally enhance the independence of the board of directors.

Additional amendments also introduced stricter regulations related to liability. In cases where financial reports or relevant financial or business documents contained misrepresentations or nondisclosures, the insiders (i.e. directors, supervisors, and managers) were made to bear liability for damages suffered by the legitimate purchasers, sellers, or holders of securities issued by the listed company. Insiders were not liable for damages when they could demonstrate that they exercised all due diligence and had legitimate cause to believe that the reports or documents contained no misrepresentations or nondisclosures. Significantly, however, this amendment placed the onus of proof of due diligence and legitimate cause on the insiders.

¹This law states the Competent Authority shall as necessary in view of the company's scale, shareholder structure, type of operations, and other essential factors, gradually require it to appoint independent directors, not less than two in number and not less than one-fifth of the total number of directors. By 2015 all listed companies will required to meet these conditions.

²The amendment specifies that the Competent Authority may in view of the company's scale, type of operations, or other essential considerations, order the establishment of an audit committee in lieu of a supervisor. By 2017 all companies with registered capital exceeding NT\$2 billion are required to establish an audit committee in place of a supervisor system.

A further amendment in the Security and Trading Act aimed to constrain the family relationships of directors and supervisors within a board³. Spousal and familial relationships within the second degree of kinship were no longer allowed to be held among more than half of a company's directors. Companies were also required to have at least one or more supervisors, or one or more supervisors and directors, with no spousal or familial relationship.

All together, each of these laws and regulations served to strengthen corporate governance in Taiwan. This study therefore hypothesizes that after 2002 (following the so called Big Bang of laws and regulations) the probability of family succession will decrease, and on average stock performance will improve compared to pre-2002.

2.4 The Quality of Corporate Governance

This study measures the quality of corporate governance in the succession sample to determine if there is a correlation between high quality corporate governance and stock performance within the succession period.

After taking the laws and regulations into account, this study identifies three main indicators of the effectiveness of sound corporate governance. The first is the change in shareholdings of foreign institutional investors (FINI) over the succession period. As foreign investors can closely monitor the management team, a higher increase in FINI over the succession period should indicate a higher quality of corporate governance.

The second indicator is the change in the percentage of directors and supervisors controlled by the controlling shareholders. As the newly introduced laws and regulations require listed companies to have independent directors on the board, this

³The amendment states when the government or a juristic person is a shareholder of a public company they may not concurrently be selected or serve as the director or supervisor of the company.

study anticipates a decrease over the succession period in the percentage of directors and supervisors controlled by the controlling shareholders, and therefore an increase in the quality of the monitoring and suggestions provided by the board.

The third indicator is the change in the percentage of related party transactions. Due to the new regulations the percentage of related party transactions (i.e. related party loans, guarantees, sales, and purchases) is expected to decrease over the succession period. A decrease in the amount of related party transactions will have a less detrimental impact on the interests of outside shareholders.

In summary, during the succession period, an increase in the percentage of shares held by foreign institutional investors, a decrease of directors and supervisors controlled by the controlling shareholders, and a decrease in the percentage of related party transactions will improve the quality of corporate governance.

Based on these indicators, this study further posits that improvements in corporate governance will make it more likely that a professional manager will serve as the successor, and will ultimately decrease the proportion of family succession, while also improving stock performance over the succession period.

3. Methodology

3.1 Definition of Succession and Sample

This sample in this paper consists of family businesses, here defined as firms where company control is held by either 1) the founder; 2) the founding family; or 3) a new controlling shareholder who buys sufficient shares from the founder. In each of these scenarios company control is held by an individual or family group, as opposed to a government or state organization. Family succession is here defined when the

new chairperson is a family member of the controlling shareholder⁴. Non-family succession is defined when the new chairperson is a non-family member (e.g. a professional manager) of the controlling shareholder(s). The purpose of this definition is to recognize the fact that in many Taiwanese firms the controlling shareholder exerts control over the board of directors and has the power to appoint the management team. In the majority of the sample the controlling shareholder and/or his or family member is the outgoing chairperson. In some cases the outgoing chairperson is not a controlling shareholder or a family member of the controlling shareholder, however, the successor is. These cases are here identified as instances of family succession. This captures the fact that in many such instances the outgoing chairperson does not in fact possess full executive power in the firm. That power is in reality held by the controlling shareholder. These two scenarios provide a more robust definition of family succession and better capture how power and control of a firm is transferred through succession.

A further example can be provided by considering the following case. The long term plan of the founder and chairperson of Company A is to pass control of the firm to his son. However, as his son is not yet of a suitable age or level of experience to assume control of the company, the founder passes control of the firm to a professional manager. In this paper this situation is defined as an instance of non-family succession. However, at the point where the son is ready to assume control of the firm from the previous successor, and the succession in fact occurs, this is

⁴ In Taiwanese company law, the chairperson is the top position and representative of the firm. There is no CEO position in company law. The top two positions are the chairperson of the board of directors and the general manager (GM). In the overwhelming majority of cases, the controlling family will occupy the chairperson position, and in many cases a member of the controlling family will also serve as the general manager. In drawing a loose parallel to US firms, the chairperson is the equivalent of the CEO, while the GM is equivalent to the COO. The duty of the chairperson is to implement the decisions of the board of directors, thus making the chairperson the suitable focus of research into firm succession.

defined as an instance of family succession.

Table 1 summarizes the sample selection process. In this study, historical annual reports of all listed companies that had a change of chairperson between 1997 and 2012 (1019 firms in total) were manually checked in order to trace the turnover of top executives. 149 government (or political party) controlled firms were excluded, as turnover in these types of firms is often directly dictated by political circumstances. 157 firms that were in financial distress around the succession were excluded so as to avoid the analysis being too specific to a distress scenario⁵. 96 merged or acquired firms were also excluded from the analysis, as the turnover event in these cases was directly determined by the merger or acquisition rather than succession. 181 cases of transitory arrangements, where either a) the outgoing chairperson passed or then subsequently reacquired control of the firm in the future, or b) two turnovers of the same firm occurred within a 2 year period are also excluded. 156 cases were excluded due to insufficient data. Our final sample contained 280 cases of family firm succession.

<<Insert Table 1 Here>>

Corporate annual reports and initial public offering prospectuses make up the data sources for tracking ultimate ownership and identifying relations between the incoming chairperson and the controlling shareholder(s) of the firms. As these documents often disclose key information on director profiles, shareholdings of the

⁵ This paper focuses on typical cases of succession (i.e. when the chairperson is reaching retirement age or becomes too elderly to effectively manage the firm), and investigates the determinants of succession (i.e. when and why the succession process is initiated). Chairperson change in financially distressed firms is driven by poor firm performance, not by the original succession plan of the firm. These cases are here considered management change, and not succession. As management change due to poor performance is not the focus of this research, these cases were excluded from the sample.

top ten shareholders, and related party transactions, they are of great use in identifying relationships among managers and directors. In addition, this paper also collected data from the Taiwan Economic Journal, the Market Observation Post System, Google, Wikipedia, and the China Credit Information Service. Relevant stories from local newspapers, magazines and periodicals were also referenced for supplementary information.

Our succession sample spans the years 1997 to 2012, and traces the number of succession events as well as the proportion of family succession. The results show a net decrease over time. The sample distribution can be seen in Table 2.

<<Insert Table 2 Here>>

3.2 Definition of Variables

(1) Cumulative Market Adjusted Return during the Succession Period (CMAR)

Succession performance is determined by measuring a firm's change in value during the succession period. As succession always occurs over time, it is difficult to ascertain exactly when the process starts and when it ends. In terms of our empirical analysis, this study defines a 5-year observation period starting from 5 years before the chairman turnover. This 5-year period reflects the fact that a succession process typically starts much earlier than the documented turnover year⁶.

In order to measure the change in firm value during the succession period, this

⁶ The aim of this research is to identify a variable that captures firm value change during a succession process. As mentioned above, succession typically occurs over time, and in fact it is impossible to exactly determine when the process starts. Every case presents a unique situation. To facilitate the empirical analysis, a 5 year period before the chairman turnover is employed. This is to account for the fact that a succession process typically starts much earlier than the turnover year. Alternatively, a longer pre-turnover period could be employed, however, as the issue of missing data is more serious in earlier years, choosing a longer pre-turnover period would leave a much smaller sample of firms to analyze. As this paper provides new evidence regarding Bennedsen et al (2015), this paper follows the methodology presented there (i.e. 5 year market adjusted return during the succession period) in measuring stock performance.

paper follows Bennedsen et al. (2015) by estimating the market adjusted stock return of a given firm⁷. The first approach uses compounded market adjusted return, where the monthly compounded return of a security within a defined period and the corresponding monthly compounded return of a market index is calculated. The difference between the security and the market index compounded return serves as our first proxy for firm value change. The second approach is to calculate the monthly market adjusted return for security i on month t as follows:

$$MAR_{i,t} = R_{i,t} - R_{m,t}$$

here $MAR_{i,t}$ and $R_{i,t}$ are the market adjusted and actual return for firm i for month t , respectively, and $R_{m,t}$ is the market index return for month t . Cumulative market adjusted returns ($CMAR$) are obtained by adding up $MAR_{i,t}$ across all t . This study also uses time windows from month -60 to month -1. Month 0 of a given event is defined as the succession month⁸.

The preliminary results raise important questions as to why the proportion of family succession after 2002 decreases while the succession performance improves. It is here proposed that the improved laws and regulations along with the resulting improvement in the quality of corporate governance had a positive influence on average on firm performance during the succession period.

(2) Laws and Regulations

The variable *laws and regulations* was identified to take into account the series

⁷ A traditional event study would be appropriate in the case of an unexpected incident (e.g. sudden death) triggering a succession. However, cases of such events are exceedingly rare in the sample. It is much more common that when the health of the original chairperson begins to deteriorate (e.g. through advancing age), he or she will select and begin to train a successor and thus begin the succession process. Control of the firm will typically be passed to the successor well before the original chair person passes.

⁸ The results are not altered in any significant way by including the one month prior to the succession effective date. This is because the succession is already known or expected in the market by this point.

of legislative reforms that took place in Taiwan starting in 2002, and followed in 2007 (see Section 3). There are three aspects to this variable, pertaining to the three periods of reform. The years between 1997-2001 are represented by the value 1; the years 2002-2006 by the value 2; and the years 2007-2012 by the value 3. Legislation introduced by the government to protect the interests of shareholders increased steadily through each of these periods.

(3) The Quality of Corporate Governance and a Comprehensive Index

Based on these legislative reforms, seven corporate governance variables are used to construct a comprehensive index which provides a mechanism to measure resulting improvements in corporate governance during the succession period. The changes in each of these seven variables are analyzed over the five year period prior to succession (i.e. the succession period) to measure and track improvements in the quality of corporate governance influenced by the legislative reforms.

The first two of these variables pertain to board structure, and include board control and supervisory control. The proportion of board directorship that is ultimately controlled by the controlling owner is referred to as Δ *directorship control*. This also applies to the calculation of the control of the supervisory board, which is referred to as Δ *supervisory control*. In order to comprehensively measure the degree of control that controlling shareholders exert over both boards, a third distinction, (Δ *board membership control*) is made. This combines Δ *directorship control* and Δ *supervisory control*.

Although the Taiwanese government introduced an independent director system from 2002, the effect was limited as most listed companies only met the minimum requirement. The use of the ratio of independent directors is therefore not appropriate

in this study because, as opposed to US or UK firms, Taiwanese firms typically have a concentrated ownership structure. Therefore the use of two variables is necessary to verify the percentage of directorship and supervision controlled by the controlling shareholder.

Two variables for ownership structure are employed. The first relates to $\Delta FINI$ and is designed to measure the change in shareholdings of foreign institutional investors over the succession period. The proportion of ownership of foreign investors is positively associated with corporate governance (Kim et al., 2010). This study also aims to identify the change in deviation in voting rights and cash flow rights, or the Δ *voting-cash deviation*, held by the controlling shareholders over the succession period (e.g. La Porta et al., 1999; Claessens et al., 2000). The voting rights are aggregated along the chain with the weakest link of all of the holding layers. Cash flow rights are calculated from summing all of the cash flow rights from all of the ownership chains. Cash flow rights along each chain are the products of all the ownership in the intermediate companies along that chain. Claessens et al. (2002) propose the negative entrenchment hypothesis by arguing that the motive for exploiting wealth would be higher when controlling owners excessively abuse cross shareholding or pyramidal structures to exert their control over the firm, resulting in a higher deviation between voting rights and cash flow rights. The Δ *voting-cash deviation* therefore suggests negativity in the quality of corporate governance.

Controlling shareholders can have a direct effect on a firm's performance through related party transactions. Taiwan, like most developed economies, imposes regulations on related party transactions. According to Article 6 of the Statement of Financial Accounting Standards, regulations apply when a company and any other organization or individual has the capability to control the other or exert a significant

influence on another firm's management and/or financial policies, or when the two parties serve as counterparties for each other.

Related party transactions are broken down into three sub items: sales and purchases (ΔRP_{SP}), loans (ΔRP_L), and guarantees (ΔRP_G). For ease of comparison, sales and purchases are divided by total sales, while loans and guarantees are divided by net worth. Gordon et al. (2004) indicate that weaker corporate governance mechanisms are associated with a higher ratio of related party transactions. They also find that industry-adjusted returns are negatively associated with related party transactions, while Kang et al. (2014) show similar results in Korean chaebols.

Based on the seven variables identified in this study, an index to provide a comprehensive means of measuring the effect of the changes of laws and regulations in 2002 and 2007 (ΔCGI) was constructed. In order to perform a comprehensive analysis, all firms (both in the succession and non-succession sample) on a year by year basis between the years 1997 and 2012 (see the last column of Table 2) are examined. Based on this analysis each firm in the succession sample was given a score based on the change in firm performance over the succession period. This result was then compared back to the entire sample (both succession and non-succession) to measure the quality of corporate governance based on the performance in the total market. The change in each variable was then measured on a year by year basis over the succession period using a four point scale, and was also analyzed and compared to the non-succession sample over the same time period. While scores were only given to firms from the succession sample, the scores themselves were based on the entire sample on a year by year basis. This provided a more accurate and comprehensive analysis of not only the smaller proportion of firms in the succession sample, but of the quality of corporate governance in the market as a whole.

The $\Delta FINI$ variable in our study indicates positivity in the quality of corporate governance, and was measured on a year by year basis over the succession period using a four point scale. Scores in the first quarter percentile (0-25%) were given the value one; scores between the first quarter and the median percentile (25%-50%) were given the value two; scores of 3 and 4 were awarded based on results in the third quarter percentile (50%-75%) and fourth quarter percentile (75% and higher) respectively. The other six variables were measured in a similar way but in reverse (i.e. 0-25% was scored as a four, and so on), indicating a negative correlation in the quality of corporate governance. The highest possible score in this index was therefore 28. A higher score in this index indicates a bigger improvement in the quality of corporate governance over the succession period.

(4) Control variables

a. Measurement of Specialized Assets

In assessing specialized assets, this study follows the definition outlined in Bennedsen et al (2015). *Founder* is treated as a dummy variable equal to one if the old chairman is the founder of the company, and zero otherwise. The degree of specialized assets will be higher if a firm is not far removed from its founding stage, as the founder likely exerts a strong influence on the firm's succession decisions. A further dummy variable, *Founding family*, is applied when the old chairperson is a founder of the company or a descendant of the founder. *Family Managed* is used as a proxy for specialized assets arising from the indivisibility of common property, and refers to the number of family members serving as executive directors at the time of succession, including the outgoing chairperson. Excluding the outgoing chairperson does not affect the result in any way, as the internal struggle for the redistribution of

property rights during succession is more acute in firms managed by more than one family member.

An additional three variables are employed to capture specialized assets that develop between the company and its key stakeholders. It is assumed the higher these specialized assets are, the higher the transfer costs during succession. Since firms with better employee relation possess higher firm value (Lee and Kim, 2016), the quality of employee relations within the firm is proposed to be a specialized asset, as it can be difficult to transfer these relationships across different generations of entrepreneurs. *Employee relations* therefore is measured by the turnover ratio within the firm during the succession period, and is determined by dividing the number of departed employees by the total number of employees one year prior to the succession year.

The second variable, *Bank relations*, is the ratio of long-term debt in a succeeding firm to its total assets one year before the succession event. Whether a firm has good access to long-term loans depends on its relation with banks. Relationship banking is also well known in emerging markets (Dinc, 2005; Charumilind et al., 2006).

The third variable, *political connections*, is treated as a dummy variable if a firm is found to have political connections, and is treated as zero otherwise. A firm is identified as politically connected if it meets at least one of the following conditions one year prior to the succession year: (1) the firm was founded or run by a political party; (2) a political party is one of the firm's top ten shareholders; (3) the chairman or CEO publicly supports the presidential candidate representing a certain political party, participates in or has his/her employees participate in a presidential campaign, or was referred or reported by at least one of the major newspapers as being supportive of a certain political party; (4) one of the large shareholders, directors, or top officers

is/was a member of parliament, a minister, or top official in government.

b. Successor Experience and Education

In order to account for prior firm experience of the successor, a dummy variable equal to one was assigned if the successor had been a senior manager or above in the firm prior to succession (zero otherwise). The education level of the successor is assessed by assigning a value of 1 for a high school (or below) level of education, a value of 2 for an undergraduate degree, a value of 3 for a master degree, and a value of 4 for a doctoral degree.

c. Other Control Variables

Four other control variables are used to further analyze influencing factors on the succession sample. The first variable is *business group*, which is defined as having a minimum of at least two listed companies. Firms in a business group are assigned a dummy variable of 1 or otherwise zero. This method is followed with the second control variable, *electronic*, which refers to firms from the electronic industries (including IT firms). The third and fourth control variables are *gross margin ratio*, (calculated as gross margin divided by sales) and *total assets*. Both of these two variables are taken from the annual report issued one year prior to succession. A summary of all variables can be found in Appendix 1.

4. Empirical Results

4.1 Basic Statistics

The basic statistical results can be seen in Table 3. To reflect and align with the big bang of new laws and regulations introduced in 2002 and 2007, the sample period is divided into three subsections. Panel A provides an overview of the entire sample of

280 cases between 1997 and 2012. Panel B describes the basic statistics of the periods 1997- 2001 (49 cases); 2002-2006 (105 cases); and 2007-2012 (126 cases).

Previously, Bennedsen et al. (2015) found that between 1987-2001, the average buy-and-hold market-adjusted stock return of the Taiwan sample in the five years prior to succession was -31.4%. However, this contrasts with the current study, where an average *CMAR* of 29.9% from 1997-2012 is found. In order to better understand this change, this study divides the 15 year period between 1997 and 2012 into three five-year sub periods (1997-2001; 2002-2006; and 2007-2012).⁹

In the initial sub period (1997-2001) there is an average *CMAR* of -18.4% (the median is -32.94%) which is roughly in line with the previous study. However, in the subsequent sub period (2002-2006) a significant shift in average *CMAR* (+34.3%) occurs. This trend continues in the third sub period (2007-2012), with the average *CMAR* growing to +42.9%.

The proportion of family succession (i.e. where the successor is a family member of the controlling shareholder) over the three sub periods (1997-2001; 2002-2006; and 2007-2012) declines from 0.71 to 0.50 to 0.47, respectively. The proportion of family succession in the first sub period (1997-2001) is closely in line with Bennedsen et al.'s (2015) finding of 0.74 between 1987-2001.

The mean of the corporate governance index (A *CGI*) for the complete succession sample is 17.1. The mean between 1997-2001 is 15.7; 2002-2006 grows to 17.1; and 2007-2012 is 17.6. This indicates a gradual improvement in the quality of corporate governance over the succession period. In terms of ownership structure (i.e. FINI and voting-cash deviation) a significant change is found around 2002. Prior to 2002 there

⁹ While two approaches were used to calculate *CMAR* (see Section 3.2), only the results of the second approach are reported here. The results using the first approach are similar when applied to the data.

is a mean $\Delta FINI$ of -0.95% which indicates a decrease in the quality of governance over the sample period. This contrasts with post-2002, where the mean is positive (2.89% between 2002-2006; and 1.26% between the years 2007-2012). This trend towards an increased quality of corporate governance is echoed in the other six variables that are analyzed. For example, the mean percentage of Δ *directorship control* prior to 2002 is 6.74%. This contrasts with post-2002, where the mean percentage drops to -0.22 (2002-2006) and -6.94% (2007-2012) respectively. A similar trend is found with the ΔRP_L (related party loan) variable, where 1997 to 2001 is 6.29%, compared with 0.17% (2002-2006) and -0.37% (2007-2012). These results clearly indicate that the quality of corporate governance in the succession sample showed strong improvement over the succession period.

In terms of specialized assets, the most notable trends in founder succession and founding family succession occur in the years 2007-2012, where the mean percentage of founder succession (36%) decreases markedly from the previous two sub periods (47% in 1997-2001; and 49% in 2002-2006). A similar trend is found in founding family succession and family members on board. In terms of relationships with key stakeholders, employee relations and bank relations remain stable throughout the three sub periods. However, political connections drop to 41% in the years 2007-2012, compared to 54% in 2002-2006 and 55% in 1997-2001. To some extent, specialized assets decrease in the period 2007-2012 compared to the previous two sub periods.

The results indicate that the mean of the *group* variable remains stable throughout the three sub periods. However, a marked increase occurs in the proportion of firms from the electronic industries in the sample, from 14% in 1997-2001 to 30% in 2002-2006, and 39% in 2007-2012. This trend is echoed in the

assets variable. The mean *gross margin* variable increases to 22% in 2007-2012, from 17% in the previous two sub periods.

<<Insert Table 3 Here>>

4.2 Test in Means for Family Succession and Non-family Succession Firms

In order to identify influential variables motivating family succession, the sample is divided into two broad groups: family succession and non-family succession in Table 4. Compared to non-family succession, family succession is more prevalent when there is a lower level of laws and regulations. The quality of corporate governance during the succession period (ΔCGI) in the family succession sample is also lower compared to the non-family succession sample. While the family succession sample shows no change in the mean $\Delta FINI$, the non-family succession sample shows an increase of 3%. There is also an increase in the mean $\Delta directorship control$ and $\Delta board membership control$ in the family succession sample during the succession period, compared to a decrease in the non-family succession sample. A further contrast is found in related party sales and purchases, where there is an increase in the family succession sample and a decrease in the non-family succession sample.

Further contrasts can be found when looking at the firms where the old chairperson is the founder or a member of the founding family. There is a 79% probability of this in the family succession sample, compared to a 49% probability in the non-family succession sample. Furthermore an average of 46% of the board seats are occupied by founding family members in the family succession sample compared

to 20% in the non-family succession sample. Stronger bank relationships can also be found in the family succession sample on average (9%) compared to the non-family succession sample (7%).

Overall no significant difference in the experience and education of successors is found between both samples. There is an interesting difference, however, in terms of average age, with the average age of the outgoing chairperson in the family succession sample being nearly 70, compared to 64 in the non-family succession sample. This difference is reversed in the successors, where the average age in the family succession sample is 51 compared to 58 in the non-family succession sample.

There is a higher probability that firms in the non-family succession sample are part of a business group (54%) compared to firms in the family succession sample (38%). This is likely to be due to the fact that business groups will more often tend to train professional managers (i.e. non-family members) to be the leaders of the affiliated listed companies.

In terms of sector, only 24% of the firms in the family succession sample come from electronic industries compared to 40% in the non-family succession sample. The specialized demands of this sector make it far more likely that control of the firm will be succeeded to a qualified professional outside of the family.

<<Insert Table 4 Here>>

4.3 The Determinants of Family Succession

Turning more broadly to the determinants of family succession, the results indicate that the higher the proportion of family members serving on the board of directors the higher the likelihood of family succession. If there is a decrease in the

quality of corporate governance during the succession period, in particular a decrease in FINI and an increase in director control and related party loans, there will be an increase in the probability of family succession. In Taiwan this is particularly noticeable after 2002 and 2007, when reforms in laws and regulations markedly improved the quality of corporate governance in listed firms. This also had the effect of decreasing the probability of family succession.

If the effects of increased laws and regulations as well as the quality of corporate governance are momentarily excluded, and instead specialized assets are made the focus, the results show that firms that possess political connections and stronger bank relationships have a higher probability of family succession. This finding is in line with previous studies (Bennedsen et al., 2015; Xu et al., 2015). However, when again factoring in laws and regulations as well as the quality of corporate governance during the succession period, political connections and strength of bank relationships are found to have an insignificant impact on the probability of family succession. Only an improvement in the quality of corporate governance during the succession period (ΔCGI) significantly decreases the probability of family succession. If companies are able to improve the quality of corporate governance during the succession period, in line with legal and regulatory reforms, the influence of specialized assets of the firm will be reduced, and succession to a professional manager becomes more likely. These findings reinforce the conclusions of both Burkart et al (2003) and Franks et al (2012).

<<Insert Table 5 Here>>

4.4 The Determinants of Stock Performance during the Succession Period

In Table 6, the “law and regulations” condition is measured at the beginning of the succession period (i.e. at year $t-5$, where t is the succession year) in order to measure any effect on firm performance during this period. The variable *law and regulation* ($t-5$) is assigned a value of 1 if the succession year is between 1997-2006; a value of 2 if the succession year is between 2007-2011; and a value of 3 if the succession year is 2012.

In order to mitigate any potential effects of confounding events during the succession period, four additional indicators are used. The first indicator, *bidder*, is a dummy variable equal to 1 if the firm was a bidder in any acquisition during the succession period from year $t-5$ to year t (the succession year). The second indicator, *equity issuance*, is a dummy variable equal to 1 if the firm issued new shares during the succession period. The third indicator, *debt issuance*, is a dummy variable equal to 1 if the firm issued new company bonds during the succession period. The last indicator, *dividend*, is a dummy variable equal to 1 if the firm paid out any cash dividends during the succession period.

In terms of the determinants of stock performance during the succession period (*CMAR*), the increases in laws and regulations as well as the subsequent improvement in the quality of corporate governance have a significantly positive effect on *CMAR*. This is somewhat intuitive in the sense that these increases and improvements serve to protect the interests of investors, and also improve firm performance through the succession period, despite the performance risks associated with succession (Bennedsen et al., 2015). It is interesting to note that employee relationships, political connections, and bank relationships (i.e. specialized assets) are not found to have a significant impact on firm performance during the succession period.

In further investigating the impact of the interaction between laws and regulations and family succession, the results show that in firms where family succession occurred prior to the big bang of laws and regulations in 2002, the stock performance generally suffered during the succession period. The situation is alleviated after the introduction of improved laws and protections (i.e. post 2002).

Another important regression is found when examining the impact of the interaction between improved corporate governance and family succession on firm performance. The stock performance of firms with a relatively poor quality of corporate governance suffers during the succession period. Firms that are able to show strong improvements in corporate governance during the succession period are able to mitigate negative impacts on stock performance.

Weakly positive results on firm succession performance are found when looking at the control variables of successor experience, membership of the firm in a group, and firms with a high gross margin.

<<Insert Table 6 Here>>

An additional analysis is provided in Table 7 to provide additional robustness. Here the corporate governance index is assessed at the beginning of the 60 months over which returns are measured. This can capture the corporate governance condition at the beginning of the succession period. The first additional variable “ $\Delta CGI (t-5)$ ” measures the corporate governance change in the period of year $t-10$ to year $t-5$ (i.e.

120 months to 60 months before the succession). The second additional variable “*CGI* (*t-5*)” is defined as the level of firm’s corporate governance at the *t-5* year (60 months before the succession). Both of these variables employ the same scoring method as the original ⁴*CGI*’s. The results indicate that solid corporate governance can lead to superior performance during the succession period, especially in firms that select a family member as the successor.

<<Insert Table 7 Here>>

5. Conclusion

Succession in any firm always presents risk. Past studies have emphasized the role of specialized assets in describing the negative effects on succession performance. That is, a higher amount of specialized assets brings a higher likelihood of family succession as well as a higher probability of value loss during the succession period. The chief contribution of this paper is to provide a detailed analysis of the role of improved laws and regulations and the attendant improvements in the quality of corporate governance as determinants in the decrease of the probability of family succession. In addition this study finds that improved external and internal governance can reduce the effect of specialized assets in the maintenance of firm value during the succession period.

In the broader view family succession includes two main mechanisms: family

governance and corporate governance. Family governance relates to how the ownership structure is arranged within the family, and how family members are selected as successors or senior managers in the family firm. In reality, the overwhelming majority of family owned firms in Taiwan do not have a strong family governance arrangement in place. Even in firms that do have strong family governance plans, disputes among family members for firm control still occur (needless to say without such plans in place disputes are virtually guaranteed). Blood relationships by their very nature can often make it difficult to establish sound family governance. How to mitigate the negative influence of weak family governance on succession performance is a critical question. The policy implications of these findings underscore the importance of establishing robust external and internal mechanisms to enhance corporate governance, so that in big events, such as firm succession, the value of family firms can be maintained.

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Appendix 1 : Variable Definition

Variable	Definition
Dependent Variables	
CMAR (%)	The monthly cumulative market adjusted returns from month -60 to month -1. Month 0 of a given event is defined as the succession month.
Family succession	A dummy variable equal to one if the new chair person is a family member of the controlling shareholder.
Independent Variables	
Laws and regulations	Identified account for the legislative reforms that took place in Taiwan. The years between 1997-2001 are represented by 1; the years 2002-2006 by 2; and the years 2007-2012 by 3.
Δ CGI	A comprehensive index consisting of seven variables measuring improvements in corporate governance during the succession period. These variables are as follows:
Δ Directorship control (%) ^a	The change in the proportion of the board directorship during the succession period that is ultimately controlled by the controlling owner.
Δ Board membership control (%) ^a	The change in the proportion of the board directorship and supervisory board during the succession period that is ultimately controlled by the controlling owner.
Δ FINI (%) ^a	The change in shareholdings of foreign institutional investors over the succession period.

Δ Voting-cash deviation (%) ^a	The change in deviation in voting rights and cash flow rights held by the controlling shareholders over the succession period.
Δ RP _{SP} (%) ^a	The change in related party transactions of sales and purchases during the succession period divided by total sales.
Δ RP _L (%) ^a	The change in related party transaction of loans during the succession period divided by net worth.
Δ RP _G (%) ^a	The change in related party transaction of guarantees during the succession period divided by net worth.
Founder	A dummy variable equal to one if the old chairman is the founder of the company, otherwise zero.
Founding family	A dummy variable equal to one if the old chairperson is a founder of the company or a descendant of the founder, otherwise zero.
Family managed	The number of family members serving as executive directors at the time of succession, including the outgoing chairperson.
Employee relations (%)	The ratio of turnover rate determined by dividing the number of departed employees by the total number of employees one year prior to the succession year.
Bank relations	The ratio of long-term debt in a succeeding firm to its total assets one year before the succession event.
Political connections	A dummy variable if a firm is found to have political connections one year prior to the succession year, otherwise zero.
Experience	A dummy variable equal to one if the successor had been a senior manager or above in the firm prior to succession, otherwise zero.

Education level	The education level of the successor: a score of 1 for a high school (or below) level of education; 2 for an undergraduate degree; 3 for a master degree; and 4 for a doctoral degree.
Group	A dummy variable equal to one if the company belongs to group which consists of a minimum of two listed companies.
Electronic	A dummy variable equal to one if the firm is from an electronic industry.
Gross margin ratio	The ratio calculated as gross margin divided by sales one year before the succession event.
Total assets (in billion NTD)	Total assets of the firm one year before the succession event.

Note.^a : The changes in each of these seven variables are analyzed over the five year period prior to succession (i.e. the succession period).

Table 1 : Sample Selection Process

This table summarizes the sample selection process. According to the historical annual reports, 1,019 firms companies had a change of chairperson between 1997 and 2012. Cases of government controlled firms were excluded, as were cases arising from financial distress, mergers or acquisitions, transitory arrangements, as well as cases with insufficient data. 280 cases of family firm succession remained.

	No. of exclusion	No. of effective sample
Original sample		1,019
Selection process		
Government control	149	870
Financial distress	157	713
Merged or acquired	96	617
Transitory arrangements	181	436
Data omission	156	280
final sample		280

Table 2 : Sample Distribution by year

This table presents the sample by succession year and succession type. 'No. of CGI sample' means the number of companies that are used to measure the corporate governance index every year.

	No. of succession sample (280)	No. of family succession	Family succession/ succession sample (%)	No. of CGI sample
1997	11	10	90.91%	477
1998	5	3	60.00%	478
1999	10	8	80.00%	478
2000	13	9	69.23%	478
2001	10	5	50.00%	478
2002	14	7	50.00%	540
2003	20	12	60.00%	582
2004	27	16	59.26%	629
2005	17	8	47.06%	653
2006	27	9	33.33%	682
2007	23	9	39.13%	700
2008	19	6	31.58%	714
2009	22	13	59.09%	722

2010	16	11	68.75%	728
2011	25	12	48.00%	740
2012	21	8	38.10%	760
Total	280	146	52.14%	-

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Table 3 : Summary Statistics

This table presents the summary statistics of all samples in Panel A. According to laws and regulations, The sample is divided into three subsamples. The summary statistics of the subsamples are found in Panel B. The sample is composed of 280 succession events. ‘CMAR’ is the monthly cumulative market adjusted returns from month -60 to month -1. Month 0 of a given event is defined as the succession month. ‘Family succession’ is a dummy variable equal to one if the new chair person is a family member of the controlling shareholder. ‘Founder’ is a dummy variable equal to one if the old chairman is the founder of the company, and otherwise zero. ‘Founding family’ is a dummy variable equal to one if the old chairperson is a founder of the company or a descendant of the founder, and otherwise zero. ‘Family managed’ is the number of family members serving as executive directors at the time of succession, including the outgoing chairperson. ‘Employee relations’, ‘Bank relations’, ‘Political connections’ are variables to measure specialized assets. ‘Employee relations’ is determined by dividing the number of departed employees by the total number of employees one year prior to the succession year. ‘Bank relations’ is the ratio of long-term debt divided by total assets. ‘Political connections’ is a dummy variable if a firm is found to have political connections, and otherwise zero. ‘Laws and regulations’ is identified to take into account the series of legislative reforms that took place in Taiwan. The years between 1997-2001 are represented by 1; the years 2002-2006 by 2; and the years 2007-2012 by 3. ‘Corporate governance index’ is a comprehensive index consisting of seven corporate governance variables. ‘Experience’ is a dummy variable equal to one if the successor had been a senior manager or above in the firm prior to succession. ‘Education level’ is used to measure the education of the successor by assigning a score of 1 for a high school (or below) level of education, 2 for an undergraduate degree, 3 for a master degree, and 4 for a doctoral degree. All other variables are defined in Appendix 1.

Panel A : Summary Statistics – All Samples						
	No.	Mean	S.D.	Q1	Median	Q3
CMAR (%)	280	28.92	70.95	-22.63	30.35	78.43
Family succession	280	0.52	0.50	0	1	1
Founder	280	0.43	0.50	0	0	1
Founding family	280	0.64	0.48	0	1	1

Family managed	280	0.33	0.25	0.14	0.29	0.43
Employee relations (%)	280	1.39	0.15	1.36	1.43	1.47
Bank relations	280	0.08	0.10	0	0.04	0.12
Political connections	280	0.49	0.50	0	0	1
Laws and regulations	280	2.28	0.74	2	2	3
Δ CGI	206	17.12	3.57	15	17	20
Δ Directorship control (%)	280	-2.03	20.52	-14.29	0	5.95
Δ Board membership control (%)	280	-1.69	18.77	-12.87	0	8.35
Δ FINI (%)	274	1.46	8.73	-1.03	0.41	3.46
Δ Voting-cash deviation (%)	280	-0.28	6.57	-0.85	0	1.06
Δ RP _{SP} (%)	211	-2.63	25.55	-12.12	-2.38	7.33
Δ RP _L (%)	280	1.00	8.01	-0.71	-0.14	0.35
Δ RP _G (%)	266	-1.00	18.19	-6.26	-1.62	4.25
Experience	280	0.63	0.48	0	1	1
Education level	271	2.32	0.76	2	2	3
Group	280	0.46	0.50	0	0	1
Electronic	280	0.31	0.47	0	0	1
Gross margin ratio	280	0.19	0.14	0.09	0.16	0.24

Total assets (in billion NTD) 280 45.73 4.11 10.29 23.96

Panel B : Summary statistic of sample period						
	1997-2001		2002-2006		2007-2012	
	(N=49)		(N=105)		(N=126)	
	Mean	Median	Mean	Median	Mean	Median
CMAR (%)	-18.42	-32.94	34.30	32.45	42.86	43.94
Family succession	0.71	1	0.50	0	0.47	0
Founder	0.47	0	0.49	0	0.36	0
Founding family	0.65	1	0.71	1	0.58	1
Family managed	0.40	0.33	0.35	0.30	0.29	0.28
Employee relations (%)	1.38	1.40	1.39	1.43	1.40	1.43
Bank relations	0.08	0.04	0.09	0.05	0.08	0.03
Political connections	0.55	1	0.54	1	0.41	0
Δ CGI	15.7	16	17.12	18	17.64	18
Δ Directorship control (%)	6.74	0	-0.22	0	-6.94	0
Δ Board membership control (%)	6.98	0	0.16	0	-6.60	-3
Δ FINI (%)	-0.95	-0.46	2.89	0.42	1.26	1.38
Δ Voting-cash deviation (%)	0.72	0	-0.68	0	-0.34	0

ΔRP_{SP} (%)	0.39	0.51	0.82	-2.38	-6.75	-5.05
ΔRP_L (%)	6.29	0.00	0.17	-0.13	-0.37	-0.29
ΔRP_G (%)	0.18	-0.30	-2.86	-3.15	0.09	-0.88
Experience	0.24	0	0.73	1	0.70	1
Education level	2.10	2	2.37	2	2.36	2
Group	0.45	0	0.48	0	0.44	0
Electronic	0.14	0	0.30	0	0.39	0
Gross margin ratio	0.17	0.15	0.17	0.15	0.22	0.18
Total assets (in billion NTD)	20.07	11.01	45.78	9.42	55.67	9.86

Table 4: Test in Means for Family Succession and Non-family Succession Firms

This table reports the test in means of each explanatory variable for family succession and non-family succession.

All variables are defined in Appendix 1. ***, ** and * denote significance at 1%, 5% and 10% level, respectively.

	Family Succession		Non-family Succession		
	(146)		(134)		
	Mean	S.D.	Mean	S.D.	T
CMAR (%)	25.82	69.73	32.31	72.37	-0.76
Founder	0.39	0.49	0.46	0.50	-1.2
Founding family	0.79	0.41	0.49	0.50	5.54***
Family managed	0.46	0.25	0.20	0.16	10.26***
Employee relations (%)	1.40	0.15	1.39	0.14	0.46
Bank relations	0.09	0.10	0.07	0.10	2.35**
Political connections	0.50	0.50	0.47	0.50	0.5
Laws and regulations	2.16	0.79	2.40	0.67	-2.63***
Δ CGI	16.60	3.45	17.71	3.64	-2.24**
Δ Directorship control (%)	0.94	18.61	-5.25	22.04	2.55**
Δ Board membership control(%)	0.58	16.99	-4.17	20.30	2.13**
Δ FINI (%)	0.00	6.92	3.02	10.12	-2.9***

Δ Voting-cash deviation(%)	-0.03	4.81	-0.56	8.06	0.67
Δ RP _{SP} (%)	1.65	25.16	-7.67	25.21	2.68***
Δ RP _L (%)	1.55	8.64	0.40	7.25	1.2
Δ RP _G (%)	0.34	22.26	-2.54	11.86	1.29
Experience	0.65	0.48	0.61	0.49	0.67
Education level	2.35	0.77	2.28	0.75	0.79
Group	0.38	0.49	0.54	0.50	-2.6***
Electronic	0.24	0.43	0.40	0.49	-2.84***
Gross margin ratio	0.19	0.13	0.20	0.16	-0.56
Total assets (in billion NTD)	26.53	53.87	66.65	206.59	-2.18**

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Table 5 : The Determinants of Family Succession

This table reports the results of logistic regression of successor choice. The dependent variable is 'Family succession', defined to be 1 if the new chair person is a family member of the controlling shareholder. Panel A represents how each corporate governance variable impacts family succession. Panel B shows the impact of laws and regulations, the variables of the corporate governance index and specialized assets on succession choice. In Panel A, column (1) and (2) reports how the founder or founding family affect the succession decision. Column (3) to Column (9) evaluate if each of the seven corporate governance variables influence the family succession. In Panel B, column (1) evaluates if the 'Laws and regulations' and all the corporate governance variables influence the succession decision simultaneously. Specialized assets are considered elements of family succession in column (2) and (3). All variables are defined in Appendix 1. ***, ** and * denote significance at 1%, 5% and 10% level, respectively.

	Family succession								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	-2.88 (0.112)	-2.65 (0.147)	-2.43 (0.193)	-2.33 (0.210)	-2.49 (0.194)	-2.19 (0.234)	-2.50 (0.295)	-2.59 (0.168)	-3.73* (0.066)
Founder	0.02 (0.956)								
Founding family		0.53 (0.105)	0.59* (0.079)	0.54 (0.105)	0.45 (0.185)	0.51 (0.120)	0.39 (0.327)	0.59* (0.080)	0.48 (0.167)
Family managed	6.56*** (0.000)	6.04*** (0.000)	5.96*** (0.000)	5.97*** (0.000)	6.06*** (0.000)	6.04*** (0.000)	5.81*** (0.000)	6.30*** (0.000)	6.11*** (0.000)
Laws and			-0.33	-0.38*	-0.41*	-0.42*	-0.27	-0.32	-0.51**

regulations			(0.148)	(0.098)	(0.064)	(0.052)	(0.277)	(0.158)	(0.026)
Δ Directorship			0.02						
control			(0.04)**						
Δ Board			0.01						
membership control			(0.272)						
Δ FINI					-0.04**				
					(0.032)				
Δ Voting-cash						0.00			
deviation						(0.998)			
Δ RP _{SP}							0.02**		
							(0.046)		
Δ RP _L								0.04**	
								(0.044)	
Δ RP _G									0.01
									(0.151)
Experience	-0.02	-0.02	0.13	0.14	0.21	0.18	-0.24	0.26	0.23
	(0.955)	(0.943)	(0.690)	(0.667)	(0.522)	(0.586)	(0.537)	(0.439)	(0.501)
Education level	0.22	0.17	0.15	0.16	0.13	0.19	0.20	0.24	0.17
	(0.253)	(0.410)	(0.466)	(0.427)	(0.520)	(0.352)	(0.390)	(0.250)	(0.415)

Group	0.09	0.16	0.06	0.06	0.08	0.10	0.15	0.22	0.14
	(0.791)	(0.648)	(0.859)	(0.859)	(0.821)	(0.770)	(0.726)	(0.528)	(0.699)
Electronic	-0.12	-0.18	-0.07	-0.07	-0.06	-0.07	-0.17	-0.01	-0.06
	(0.713)	(0.591)	(0.844)	(0.843)	(0.853)	(0.827)	(0.645)	(0.977)	(0.853)
Gross margin ratio	0.17	0.38	0.78	0.63	0.27	0.65	1.85	0.74	1.24
	(0.874)	(0.727)	(0.493)	(0.576)	(0.814)	(0.562)	(0.207)	(0.515)	(0.308)
LN (Total assets)	0.03	0.01	0.03	0.03	0.06	0.02	0.04	0.01	0.13
	(0.803)	(0.945)	(0.771)	(0.781)	(0.621)	(0.823)	(0.800)	(0.938)	(0.318)
No.	271	271	271	271	265	271	203	271	257
Adj. R ²	0.285	0.292	0.308	0.304	0.315	0.302	0.297	0.313	0.311

Panel B :

	Family succession		
	(1)	(2)	(3)
Intercept	-4.94*	-3.52	-2.73
	(0.075)	(0.119)	(0.328)
Founding family	0.64	0.64*	0.47
	(0.159)	(0.065)	(0.264)

Family managed	6.66***	6.07***	6.26***
	(0.000)	(0.000)	(0.000)
Employee relations		1.36	1.56
		(0.229)	(0.212)
Bank relations		2.66*	1.33
		(0.071)	(0.452)
Political connections		0.74**	0.57
		(0.037)	(0.176)
Laws and regulations	-0.06		-0.16
	(0.835)		(0.517)
ΔCGI			-0.13**
			(0.034)
Δ Directorship control	0.04**		
	(0.046)		
Δ Board membership control	-0.03		
	(0.213)		
Δ FINI	-0.04*		
	(0.068)		
Δ Voting-cash deviation	-0.02		

	(0.606)		
ΔRP_{SP}	0.02*		
	(0.092)		
ΔRP_L	0.06*		
	(0.052)		
ΔRP_G	0.01		
	(0.206)		
Experience	-0.16	-0.02	-0.21
	(0.708)	(0.943)	(0.601)
Education level	0.14	0.12	0.01
	(0.592)	(0.566)	(0.982)
Group	0.31	-0.03	0.05
	(0.503)	(0.943)	(0.921)
Electronic	-0.03	0.06	0.03
	(0.947)	(0.872)	(0.946)
Gross margin ratio	2.86*	0.69	1.63
	(0.091)	(0.564)	(0.312)
LN (Total assets)	0.12	-0.09	-0.01
	(0.479)	(0.446)	(0.948)

No.	198	271	198
Adj. R ²	0.358	0.314	0.318

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Table 6 : The Determinants of Stock Performance during the Succession Period

Table 6 shows the impact of improved corporate governance and family succession on firm performance. The dependent variable is CMAR. 'CMAR' is the monthly cumulative market adjusted returns from month -60 to month -1. Month 0 of a given event is defined as the succession month. All variables are defined in Appendix 1. ***, ** and * denote significance at 1%, 5% and 10% level, respectively.

	CMAR			
	(1)	(2)	(3)	(4)
Intercept	-123.92 (0.109)	-66.90 (0.349)	25.61 (0.644)	-35.69 (0.629)
Family succession	10.27 (0.320)	10.98 (0.289)	-41.92* (0.061)	-77.93* (0.099)
Employee relations	40.77 (0.183)			
Bank relations	-54.37 (0.267)			
Political connections	10.83 (0.336)			
Laws and regulations (t-5)	15.23* (0.089)	15.38* (0.086)	3.02 (0.750)	
Δ CGI	2.56* (0.065)	2.11 (0.121)		0.25 (0.902)

Laws and regulations (t-5) *			29.69**	
Family succession			(0.026)	
Δ CGI * Family succession			4.17**	
				(0.036)
Experience	15.54	16.54	7.49	24.26**
	(0.130)	(0.106)	(0.393)	(0.021)
Education level	-4.73	-3.93	-8.38	-2.13
	(0.479)	(0.552)	(0.143)	(0.752)
Group	12.05	14.36	12.91	12.24
	(0.318)	(0.203)	(0.169)	(0.291)
Electronic	-0.40	-0.61	2.90	11.26
	(0.971)	(0.954)	(0.756)	(0.295)
Gross margin ratio	46.73	42.64	54.55*	66.06*
	(0.237)	(0.263)	(0.073)	(0.090)
LN (Total assets)	-0.27	-0.18	-1.58	2.31
	(0.958)	(0.968)	(0.651)	(0.595)
Equity issuance	3.02	1.42	1.53	-1.66
	(0.813)	(0.910)	(0.882)	(0.892)
Debt issuance	-14.64	-13.43	-1.74	-21.93*

	(0.278)	(0.318)	(0.878)	(0.077)
Dividend	3.02	20.35*	22.80**	26.11**
	(0.813)	(0.078)	(0.024)	(0.022)
Bidder	4.59	-2.59	-6.09	2.92
	(0.845)	(0.911)	(0.726)	(0.900)
No.	193	193	265	198
Adj. R ²	0.069	0.063	0.069	0.067

Table 7 : The Determinants of Stock Performance during the Succession Period**with corporate governance index (t-5)**

Table 7 shows robustness check on the impact of improved corporate governance and family succession on firm performance. The dependent variable is CMAR. 'CMAR' is the monthly cumulative market adjusted returns from month -60 to month -1. Month 0 of a given event is defined as the succession month. All variables are defined in Appendix 1. ***, ** and * denote significance at 1%, 5% and 10% level, respectively.

	CMAR			
	(1)	(2)	(3)	(4)
Intercept	-92.53 (0.313)	-132.48* (0.090)	-87.02 (0.269)	-5.22 (0.932)
Family succession	15.09 (0.211)	10.18 (0.378)	-105.37 (0.120)	-94.39* (0.052)
Employee relations	-44.33 (0.279)			
Bank relations	-23.49 (0.694)			
Political connections	-17.40 (0.182)			
Laws and regulations (t-5)	16.37* (0.097)	14.60 (0.136)		

Δ CGI (t-5)	3.61*	3.40*	0.47	
	(0.056)	(0.071)	(0.848)	
Δ CGI (t-5) * Family succession			6.56*	
			(0.083)	
CGI (t-5)				-2.60
				(0.180)
CGI (t-5) * Family succession				5.20*
				(0.052)
Experience	-6.88	-4.09	-4.47	7.85
	(0.600)	(0.751)	(0.726)	(0.412)
Education level	-2.50	-1.99	-1.81	-6.27
	(0.754)	(0.802)	(0.819)	(0.304)
Group	14.77	9.11	28.73**	-0.33
	(0.262)	(0.459)	(0.037)	(0.975)
Electronic	-25.78*	-18.94	-14.02	1.42
	(0.057)	(0.142)	(0.268)	(0.887)
Gross margin ratio	39.21	39.82	44.37	48.77
	(0.289)	(0.278)	(0.226)	(0.114)
LN (Total assets)	4.78	3.05	4.62	3.88

	(0.318)	(0.505)	(0.314)	(0.287)
Equity issuance	5.28	9.38	4.61	1.52
	(0.787)	(0.597)	(0.797)	(0.891)
Debt issuance	-22.64	-27.01*	-40.46***	-26.5**
	(0.153)	(0.084)	(0.004)	(0.022)
Dividend	16.33	19.27	28.73**	25.95**
	(0.271)	(0.185)	(0.037)	(0.014)
Bidder	-20.61	-16.52	-21.59	-8.34
	(0.477)	(0.563)	(0.452)	(0.636)
No.	116	116	116	234
Adj. R ²	0.101	0.100	0.107	0.053

Research highlights

- Improved laws and regulations reduce the probability of family succession.
- Attendant improvements in internal corporate governance decrease family succession.
- Government is crucial in establishing mechanisms to enhance corporate governance.

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