The Effects of Independent Non-Executive Directors (INED) on Company Performance – A Comparison of Family and Non- Family-Controlled Business

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This study will examine the influence of and relationship between independent non-executive directors (INEDs) and the performance of family -and non-family -controlled businesses listed on the Hong Kong Stock Exchange (SEHK). It is well known and reported that family-managed businesses dominate different industrial sectors around the world and that one third of the companies listed in the Standard and Poor 500 Index in the US are managed by families, who are also the companies' major shareholders. Many previous studies argue that INEDs can improve corporate governance and firm performance. It is worthwhile to study whether the increase in the number of INEDs will affect the behaviour of major shareholders and the performance of these family-managed firms or not.

The study aims to help policymakers/regulators determine whether further revision of the current INED policy is necessary. The results can be further investigated and applied to other emerging markets/regions worldwide with family-controlled enterprises.

Keywords: independent directors, board structure, company performance, family-controlled business

INTRODUCTION

Following the last paper (Li, Ho & Poon, 2021) on the influence of and relationship between independent non-executive directors (INEDs) and the performance of firms listed on the Hong Kong Stock Exchange (SEHK), this study further aims to present the analysis of the effects of changes in corporate governance and the emergence of stringent INED requirements as requested by the SEHK regarding the family-controlled companies in Hong Kong.

Given the mixed results of the effects of independent directors on firm performance in the previous studies (no correlation, positive and negative), the effects of independent directors on the performance of different types of listed companies in Hong Kong were conducted. (Li, Ho & Poon, 2021*)*, this study will further address independent directors' effects on the performance of a specific classification of companies listed on the SEHK, focusing on the family vs non-family-controlled business. Non-State-owned vs. State Owned Enterprises (SOEs) and red chips companies will be further investigated in subsequent studies.

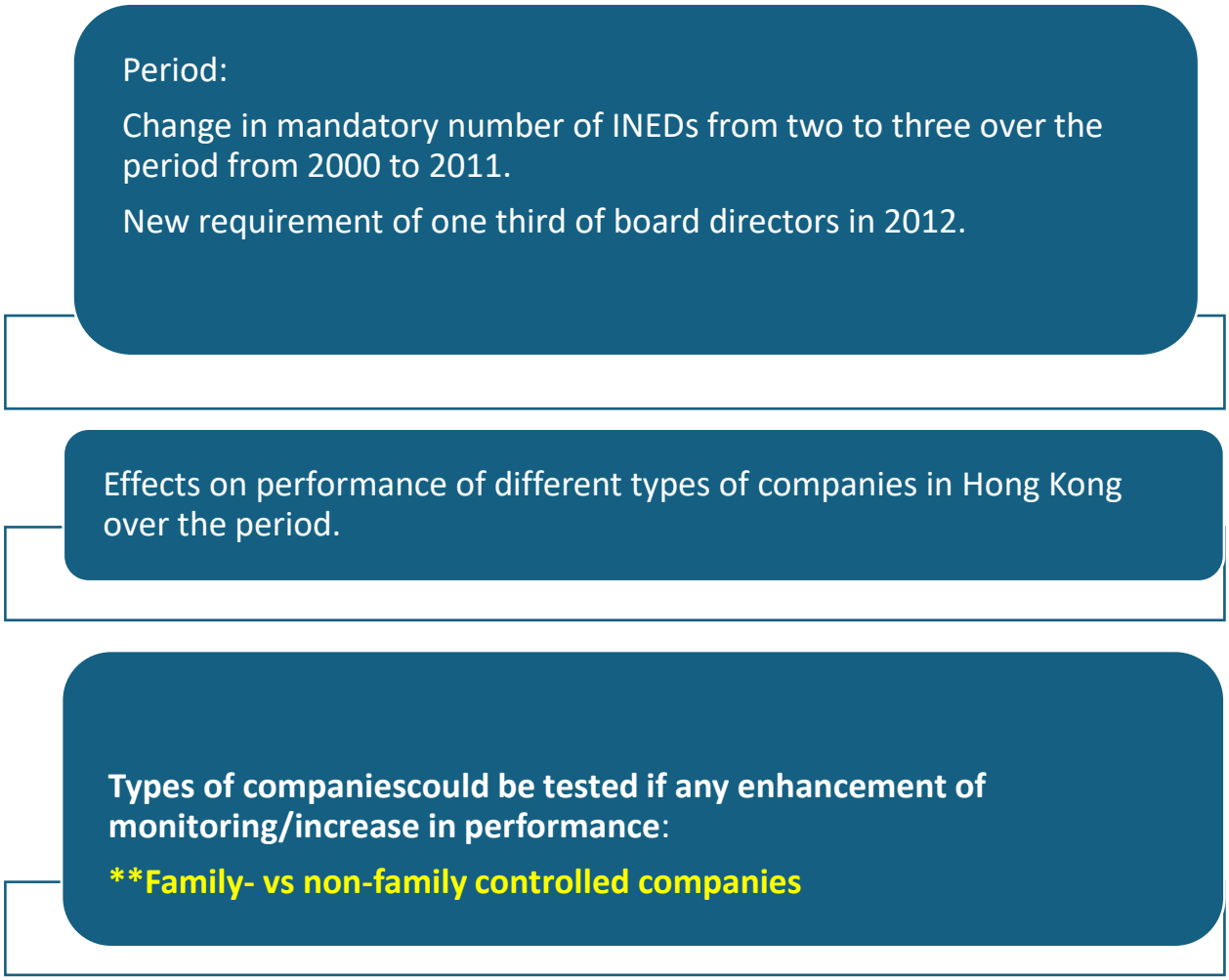
As before, the findings of the study should be important to the reform in corporate governance policy-setting process and especially the board composition regulations set forward by the Hong Kong financial authorities and SEHK particularly on the understanding of the family-controlled vs non-family-controlled business in Hong Kong and the rest of the other regions

Following the introduction in section 1 above, section 2 will revisit the literature and methodology of the research, section 3 will review the empirical model and data, section 4 will present the result of the study and finally the conclusion will be provided in the last section.

LITERATURE AND METHODOLOGY

"Based on the literature discussed previously in the last paper, the overall effects of the relationship between independent directors and firm performance are inconclusive (Bhagat & Black, 2002; Chin-Jung & Ming-Je, 2007; Dulewicz & Herbert, 2004). The effects of INEDs on the performance of companies in Hong Kong may be positive, negative or non-correlated according to these different research reports." The research framework in this paper is also summarised in the following Figure 1, which includes the period, main question and types of companies involved. (Li, Ho & Poon, 2021)

FIGURE 1
SUMMARY OF THE RESEARCH FRAMEWORK



Li, Ho & Poon, 2021

Firm Performance Measurements and Performance Indicator Selection

As in the last paper, the same set of measures adopted include stock returns, return on assets (ROA), return on equity (ROE), Tobin's q (to measure firm valuation) and other measures such as economic value added (EVA).

This paper considers the effects of INEDs on family- and non-family-controlled businesses.

It is well known and reported that family-managed businesses dominate different industrial sectors around the world and that one third of the companies listed in the Standard and Poor 500 Index in the US are managed by families, who are also the majority shareholders of the companies (W. Liu, Yang, & Zhang, 2012). Many companies in Hong Kong are controlled and managed by families (La Porta, Lopez-De-Silanes, & Shleifer, 1999). Most of the top 100 listed companies are family and group based, and 25 of the 100 highest market value companies are controlled by the 10 biggest families in Hong Kong (Lei & Song, 2012). Diagram 2 on page 11 shows that 539 of the 726 non-Chinese listed companies in the database considered in this study can be classified as family firms and provide relevant observations, accounting for 74.3% of the total number of non-Chinese firms.

Given the significant influence of controlling families on the management of firms and conglomerates around the world, it is worthwhile to investigate whether major business shareholders try to extract personal benefits at the expense of minority shareholders. It is also worthwhile to study whether the increase in the number of INEDs affects the behaviour of major shareholders and the performance of these family-managed firms.

Nature of Family-Managed Firms and Their Relationship With Agency Theory and the Resource – Based View (RBV)

There are two streams of research in the family business literature, including research focusing on the performance implications between family- and non-family-controlled firms and how specific family characteristics affect firm performance. Studies have adopted agency theory and the RBV (discussed along with resource dependence theory) as the major explanations of the family-performance relationship (W. Liu et al., 2012). The RBV states that family involvement helps develop resources and capabilities contributing to firm performance.

Some studies have shown the negative effects of appointing family members to boards. For example, according to one study conducted in Canada, analysis of stock prices indicates that the appointment of family members results in a significant loss to shareholders of −3.20% over the days after the announcement and no negative reaction to the appointment of non-family insiders and outsiders (Smith & Amoako-Adu, 1999).

According to agency theory, two problems affect the principal-agent relationship in a family-managed business: adverse selection and moral hazard. Due to the problem of asymmetric information and different interests of the principal and agent, the agent generally understands the available information better than the principal. Adverse selection occurs when a principal incorrectly enters into a contract with an inappropriate agent, and moral hazard occurs when an agent engages in activities that benefit that agent and may work against the principal (O'Boyle Jr, Pollack, & Rutherford, 2012). If family members are acting as the agents (e.g., as senior management or the directors), then their interests should normally align with the interests of the principal (the major shareholder). Hence, the moral hazard problem is largely reduced and the agency problem should be minimised accordingly (Fama & Jensen, 1983; O'Boyle Jr et al., 2012).

According to Jensen and Meckling's (1976) model, there are three reasons why family-managed firms (or at least those that are privately held) should have lower agency costs (Schulze, Lubatkin, Dino, & Buchholtz, 2001). These reasons are listed as follows.

i. The owner/management decreases the agency cost due to the natural alignment of interests between the owner and manager.
ii. Private ownership should decrease agency costs because property rights are largely restricted to 'internal decision agents' whose personal involvement ensures that managers cannot expropriate shareholder wealth by consuming perquisites and misallocating resources.

iii. Family management further decreases the agency cost because family members have advantages in monitoring and disciplining related decision agents, as described by Fama and Jensen (1983, cited in Schulze et al., 2001).

Definitions of Family- and Non-Family-Controlled Firms

As Miller et al. (2007) note, there is no consensus on the definition of a family-controlled firm. The typical family business has been characterised as an organisation controlled and usually managed by multiple family members and across multiple generations (Miller et al., 2007). The details of the definition of family business according to Miller et al. (2007) could be found in the **Appendix**. These definitions are based on percentage of equity ownership, voting rights and the appointment of family members to boards as directors and/or CEOs and/or officers.

A base definition must be chosen with so many different definitions from different regions and sources. This study uses the fractional equity ownership of a family as a measure of its ownership control concentration. Its working definition of family-controlled firms follows the ownership percentage threshold of **20%** (R. C. Anderson & Reeb, 2003; Jaggi et al., 2009; La Porta et al., 1999).

Another US study conducted by (R. C. Anderson & Reeb, 2003) shows that family-controlled firms can perform better than non-family-controlled firms. The authors show that the relationship between family holdings and company performance is nonlinear, and that firm performance improves when family members rather than outsiders serve as the CEOs. This suggests that family ownership is an effective organisational structure.

Effectiveness of INEDs in Family-Controlled Companies

To evaluate the effectiveness and independence of INEDs, one must answer a simple question: how independent are they? Jaggi, Leung and Gul (2009) observe the following:

> *The corporate governance structure of Hong Kong firms is characterized by a personal networking system or personal relationships between related parties (guanxi), which revolves around informal relationships rather than formal written contracts. As a result, family ownership concentration in firms and the appointment of family members to corporate boards are common. The independence of boards by appointing more INEDs is a positive step toward improving earnings quality but at the same time, the monitoring effectiveness of independent directors is moderated in family-controlled firms.*

The authors also mentioned that due to family ownership concentration, market control mechanisms are not strong in Hong Kong, and hostile takeovers and mergers and acquisitions are almost non-existent: there are also questions on the quality of appointment of independent directors and the question of the independence. **The monitoring effectiveness of INED's is reduced in family-controlled** firms, proxied by family ownership concentration or the presence of family members as board directors. **These results suggest that an increase in the proportion of outside directors to strengthen board monitoring is unlikely to be effective in family-controlled firms. (Jaggi, Leung, & Gul, 2009)**

Jaggi, Leung and Gul (2009) examine whether family control moderates the monitoring effectiveness of independent boards. They indicate that there are two opposing theoretical viewpoints related to the effect of family control on earnings management. Families are expected to monitor managerial behaviour and actions effectively, decreasing the possibility of a company's management managing its earnings. The authors also indicate that in accordance with stewardship theory, earnings are less likely to be manipulated because controlling families align their interests more closely with the firm's wealth. Furthermore, less pressure is placed on management to meet short-term earnings expectations because controlling families focus more on the long term. As discussed below, a Type II agency problem arises between majority and minority shareholders. Determining how to monitor and align shareholder interests cannot be ignored when monitoring is discussed.

According to Jaggi, Leung and Gul (2009), it is difficult to determine the existence of effective controls due to the complex ownership structures of most firms:

> *Because of interlocking relationships among firms and insufficient disclosure in annual reports about director ownership via corporate pyramids, effective ultimate ownership and the ratio of family voting control over ultimate ownership are not determinable. Therefore, we use the appointment of controlling family members on corporate boards as an additional proxy for family control.*

Hence, finding a common definition of the family-controlled business is difficult. This study is based on the situation in Hong Kong.

Two Main Agency Problems Associated With Family-Controlled Businesses

According to Leung et al. (2012), two different agency relationships exist.

i. Type 1 agency relationship: the separation of ownership and control.
ii. Type 2 agency relationship: the differences in incentives between family and external investors.

According to the agency theorists, these two agency relationships create two types of conflicts/agency problems: principal-agent (Type I) and principal-principal (Type II) problems (W. Liu et al., 2012). The Type I problem should be much lower in family firms than in non-family firms and vice versa for the Type II problem, as large family shareholders may expropriate benefits from minority shareholders. According to a similar argument, family-controlled businesses usually experience fewer Type I agency conflicts. As family investors act as either entrepreneurs or managers, they monitor their actions directly, decreasing the separation between ownership and control. This direct monitoring also decreases the moral hazard and manipulation of financial reporting by management (Leung, Srinidhi, & Lobo, 2012).

However, family-controlled businesses would experience fewer Type II agency problems when they seek outside equity capital rather than using debt financing as a major source of funds. As insider family shareholders and managers tend to protect their private control benefits, controlling insiders may discourage openness, make a firm less transparent, and prefer private debt over equity funding. According to this logic, only those family-controlled businesses that seek equity financing are more transparent to assure potential external investors of the safety of their invested capital. In conclusion, '*family firms that seek outside equity capital are likely to provide more firm-specific information to investors and highly leveraged family firms are likely to be less transparent*' (Leung et al., 2012).

EMPIRICAL MODEL AND DATA

Procedures for Choosing Panel Data Regression Methods

In this study all the available companies in the sample from SEHK listed companies are included (i.e., not a random sample). Hence, the fixed effects model was chosen and used for analysis.

The effects of the main independent variable (INED) on the dependent variable (performance) are considered in the following panel regression model under the two group of classifications (family controlled vs non- family controlled).

$$Performance_{it} = \alpha + u_{it} + \beta_1 INEDR_{it} + \beta_2 FA_{it} + \beta_3 BS_t + \beta_4 DE_t + \beta_5 \log TA_{it} + \beta_6 \log Mkt_{it} + \beta_7 \log Debt_{it} + \beta_8 \log Equity_{it} + \varepsilon_{it} \quad (1)$$

where i = 1, 2, …,N and t = 1, 2, …, T. N is the total number of companies and T is the total number of periods.

The individual-specific intercept u_{it} controls for any combination of cross-section invariant variables that have been omitted (unobserved effects), knowingly or otherwise, from the regression model. $Performance_{it}$ is one of the four commonly used performance variables, including stock return, Tobin's q, ROA and ROE. The INED ratio (INEDR) is the main independent variable considered. The other variables

(board size, debt to equity ratio, total asset book value, market value of shares, total debt and equity values) are control variables.

Sample Selection and Data Collection Procedures

> *"The sample consists of Hong Kong firms incorporated and listed on the SEHK. A panel dataset is used, covering 2000-2011 inclusively. Therefore, the data cover a period before and after the mandate made at the end of the year 2004 requiring the presence of three INEDs on boards in Hong Kong. The minimum number of years of data for each firm is seven years with a maximum of twelve years. The mean is 11.4 years, generating a balanced panel dataset. After adjustments, the dataset provides 10,524 firm-year observations from 827 companies. The data were taken from several different sources. Company annual reports in the HKEx provided details for non-executive director representation. The reports also provided information related to board and institutional ownership. All the other performance data and control variables were taken from DataStream."* (Li, Ho & Poon, 2021)

Variable Definitions

All variables are identified and defined in the following table.

TABLE 1
VARIABLE DEFINITIONS

Variable	Definitions
Year	Year of the data
FA	Firm age of listing
P	Share price
STRN	Stock return
T	Tobin's q
TC	Change in Tobin's q
INEDR	Ratio of independent directors
INEDN	Number of independent directors
BS	Board size
ROE	Return on equity
ROA	Return on asset
DE	Debt to equity ratio
Mkt	Market value of shares
TA	Total asset book value
Debt	Total debt book value
Equity	Total equity book value
RIp	Percentage change of stock return index (with capital gains and reinvestment of dividends)
logTA	Total asset book value, logarithm
logMkt	Market value of shares, logarithm
logDebt	Total debt book value, logarithm
logEquity	Total equity book value, logarithm

Li, Ho & Poon, 2021

Grouping and Classification of Companies

This study considered 877 companies covering 2000-2011 available in the database, including 151 Chinese companies and 726 non-Chinese companies.

All the companies are divided into two main groups/categories according to their Chinese/non-Chinese status. The non-Chinese companies are further divided into family- and non-family-controlled firms for study in details in this paper. Diagram 2 illustrates the grouping arrangements.

Given the classification of family- and non-family-controlled firms in the total population, the hypotheses must test whether and how INEDs could influence firm performance of family-controlled businesses.

In this paper, we have proposed the following hypotheses According to the literature review:

1. The Hypothesis (H1) applies to all Hong Kong family-controlled companies in general.

The Null Hypothesis (H0): *Increasing the number of INEDs has no effect on firm performance.*

The Alternative Hypothesis (HA): *Increasing the number of INEDs affects firm performance.*

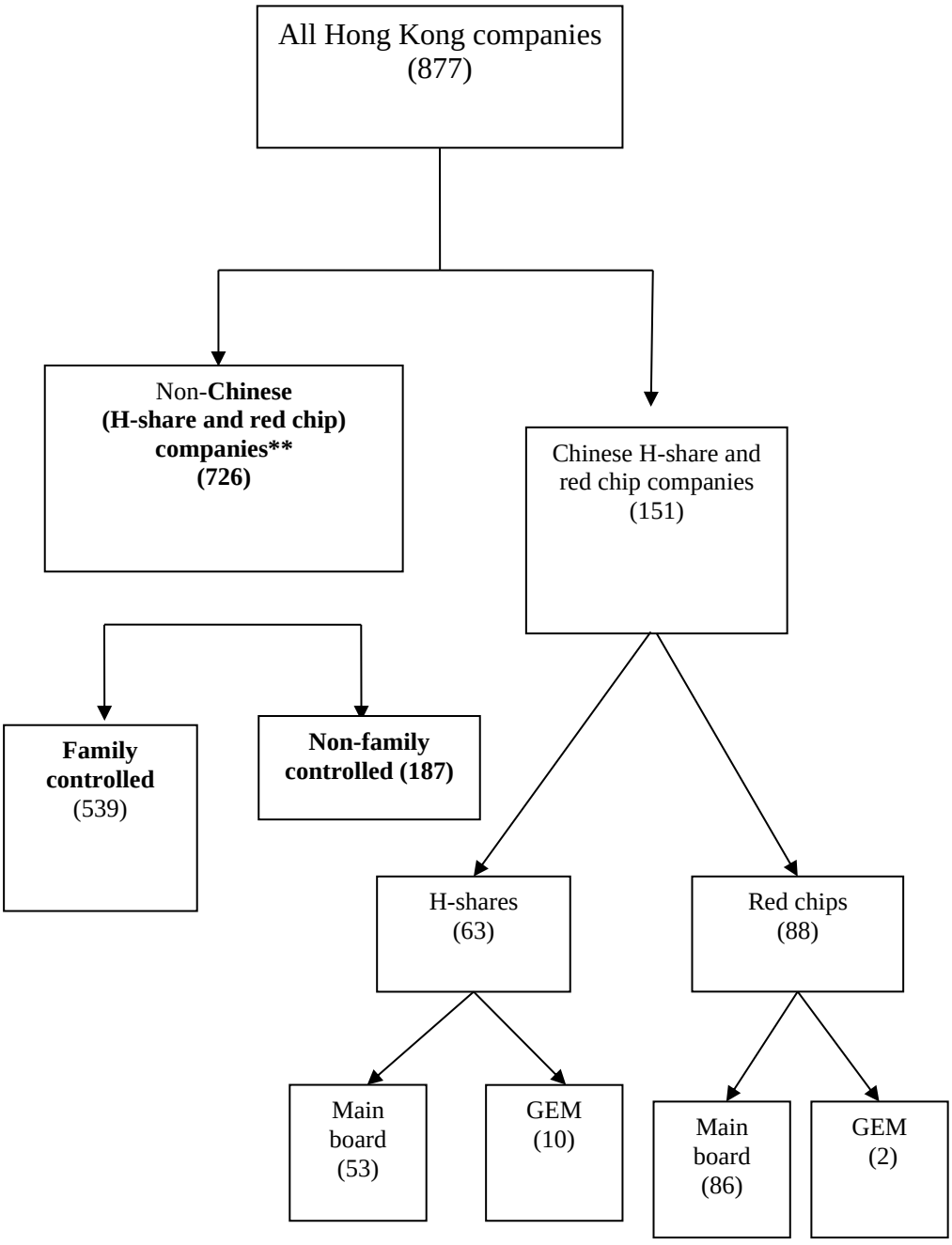
These hypotheses follow the understanding that an increase in the proportion of outside directors to strengthen board monitoring is unlikely to be effective in family-controlled firms. (Jaggi, Leung, & Gul, 2009) based on the literature review.

2. The second Hypothesis (H2) applies to all Hong Kong non- family-controlled companies in general.

The Null Hypothesis (H0): *Increasing the number of INEDs has positive effects on the performance of non- family-controlled companies.*

The Alternative Hypothesis (HA): *Increasing the number of INEDs has no effect on the performance of non- family-controlled companies.*

FIGURE 2
"DIFFERENT TYPES OF COMPANIES LISTED IN HONG KONG: CLASSIFICATION I"



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RESULTS

Effects of INEDs on the Performance of Family- and Non-Family-Controlled Business

According to **Diagram 2**, the samples (firm-year observations) of family- and non-family-controlled firms are not considered random but contain all available data from the populations. Hence, the fixed effects panel regression should be used as before. A random effects regression is also performed to ensure the correct procedure is used, and the Hausman test is conducted to determine any significant differences in the coefficients. If so, then the fixed effects model should be used. If not, then the random effects model should be used provisionally.

Excluding H-share and red chip companies (The Chinese companies), the remaining companies can be classified as family-controlled firms or, in the case of those firms with INEDs comprising less than 20% of their boards, non-family-controlled firms as discussed previously.

In the years under consideration (2000-2011), the mean number of INEDs increased from 1.29 to 3.58 and the mean INEDR increased from 26.5% to 40.3%, indicating that most of the firms fulfilled the new requirement of changing the numbers of INEDs on their boards from two to three in 2004 and met the new requirement of boards comprising one-third INEDs in 2012.

Empirical Results for Family-Controlled Businesses

TABLE 2
FIXED EFFECTS MODEL RESULTS FOR FAMILY-CONTROLLED BUSINESSES IN HONG KONG

	Dependent variables			
	Stock return with reinvestment of dividend (RI)	Change in Tobin's q	Return on equity (ROE)	Return on assets (ROA)
Ratio of independent directors (INEDR)	-0.175	-0.194***	0.031	0.081***
	(0.211)	(0.007)	(0.166)	(0.000)
Firm age (FA)	-0.027***	-0.005	-0.001	-0.006***
	(0.000)	(0.130)	(0.158)	(0.000)
Leverage ratio (DE)	0.000	0.000**	0.000***	0.000
	(0.757)	(0.040)	(0.010)	(0.192)
Board size (BS)	0.033	-0.004	0.001	0.002
	(0.000)	(0.317)	(0.630)	(0.155)
Book value of equity, logarithm (logEquity)	-0.077*	-0.122***	-0.114***	0.081***
	(0.070)	(0.000)	(0.000)	(0.000)
Book value of debt, logarithm (logDebt)	0.020	0.013*	-0.004**	-0.009***
	(0.152)	(0.066)	(0.044)	(0.000)
Book value of total assets, logarithm (logTA)	-0.453***	-0.210***	0.069***	-0.038***
	(0.000)	(0.000)	(0.000)	(0.000)
Market value of equity, logarithm (logMkt)	0.710***	0.319***	0.056***	0.025***
	(0.000)	(0.000)	(0.000)	(0.000)

(***, ** and * represent significance at the 1%, 5% and 10% levels, respectively)

Results for Non-Family-Controlled Businesses

TABLE 3
FIXED EFFECTS MODEL RESULTS FOR NON-FAMILY-CONTROLLED BUSINESSES IN HONG KONG

	Dependent variables			
	Stock return with reinvestment of dividend (RI)	Change in Tobin's q	Return on equity (ROE)	Return on assets (ROA)
Ratio of independent directors (INEDR)	0.870***	0.105	-0.064	0.163***
	(0.001)	(0.410)	(0.166)	(0.006)
Firm age (FA)	-0.032**	0.013*	0.000	-0.010***
	(0.020)	(0.063)	(0.917)	(0.001)
Leverage ratio (DE)	0.000	0.000	0.000	0.000
	(0.223)	(0.198)	(0.104)	(0.874)
Board size (BS)	0.009	0.002	0.001	-0.004
	(0.453)	(0.716)	(0.528)	(0.194)
Book value of equity, logarithm (logEquity)	-0.175*	-0.157***	-0.134***	0.017
	(0.061)	(0.001)	(0.000)	(0.419)
Book value of debt, logarithm (logDebt)	-0.019	0.008	-0.005	-0.012**
	(0.454)	(0.509)	(0.196)	(0.029)
Book value of total assets, logarithm (logTA)	-0.313**	-0.281***	0.068**	0.069***
	(0.006)	(0.000)	(0.023)	(0.008)
Market value of equity, logarithm (logMkt)	0.749***	0.363***	0.059***	0.008
	(0.000)	(0.000)	(0.000)	(0.440)

(***, ** and * represent significance at the 1%, 5% and 10% levels, respectively)

Although the effects of the increases in the number and ratio of INEDs on the performance of family-controlled firms can be classified as inconsistent in general (a mix of both positive and negative effects and with two other insignificant results), **the results for the non-family-controlled firms are positive in general (and with a higher magnitude).**

The results indicate that when the fixed effects panel regression is used, there is a 0.081% increase in ROA but a 0.19% decrease in Tobin's q (both significant at the 1% level) when INEDR increases by 1% for family firms. **However, the magnitudes (both positive) increase to 0.87% and 0.16% (stock return and ROA, respectively) for non-family-controlled firms in the fixed effects panel regression (both significant at the 1% levels).** ***These results indicate that increasing the ratio of INEDs positively affects the performance of non-family-controlled firms but not on the performance of family-controlled firms.***

CONCLUSION

This paper considers the nature of the family business, the types of agency cost (Types I and II) involved and the effects of INEDs on the performance of family- and non-family-controlled firms. **The results suggest that INEDs positively affect the performance of non-family-controlled firms but inconsistent effects on family-controlled firms.**

Family firms are subject to the control of family members serving on their boards of directors. Hence, the effects of the appointment of INEDs to these boards in a monitoring or resource provider role are probably reduced by almost 50.3% (assuming INEDR is regressed on ROA) when compared with the results of non-family-controlled firms. These results follow the estimation made in the initial conjecture/hypothesis that INEDs cannot help improve family-controlled businesses' performance. Indeed, the magnitude of the effects of INEDs is even lower than those of non-family-controlled businesses.

The effects of information costs may explain these results. As reported by Duchin et al. (2010), the effectiveness of outside directors depends on the costs of acquiring information about a family business controlled by the major shareholder and his or her family, one can imagine that inside information about a business is not easily made available to an INED.

Similar to the information costs argument, it is not surprising to interpret that the information costs are high in family-controlled firms in Hong Kong. The data from the IBEX database (provided by the analysts) could not even be easily extracted to construct the information cost index, as only about 20% of family-controlled firms reported these data. Duchin et al. (2010) observe the following:

> *When the cost of acquiring information is low, performance increases when outsiders are added to the board. When the cost of information is high, performance worsens when outsiders are added to the board. The estimates provide some of the cleanest estimates to date that board independence matters, and the finding that board effectiveness depends on information cost supports a nascent theoretical literature emphasizing information asymmetry.*

Given the level of firm transparency and high costs of acquiring information in Hong Kong, the effect of adding INEDs on the performance of family-controlled firms is lower than that of non-family-controlled firms, as confirmed by the panel regression results.

Finally, the dilution of independence resulting from appointing family members to boards provides another strong possible reason for the unexpected and inconsistent results of family-controlled businesses. New INEDs do not go against the wishes of the board, and they risk failing to gain re-appointment when they voice their own views (Jaggi, Leung, & Gul, 2009).

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APPENDIX: FAMILY FIRMS AS DEFINED IN THE LITERATURE WORLDWIDE, REPRODUCED FROM A STUDY

#	*Author(s)*	*Study time line*	*Data source*	*Data location*	*Family firm definition(s) used*
1	*Allen and Panian (1982)*	*1971–1980*	*250 largest firms in terms of sales for 1974 or 1975*	*U.S.*	*Family firm whenever the members of a descendent group and their affiliates owned or controlled at least 5 percent of* ***the voting stock*** *in a corporation and were represented on board of directors. Other definitions used: Direct family control when the CEO is a member of the controlling family.*
2	*Anderson and Reeb (2003)*	*1992–1999*	*1992 S&P 500*	*U.S.*	*Family firm if there exist fractional equity ownership of the founding family and / or the presence of family members* ***serving on the board*** *of directors. Other definitions used: Ratio of board seats held by family members to board seats held by independent directors / CEO founder indicates a founding family firm when the CEO is the founder of the firm / CEO descendent indicates a founding family firm when the CEO is a descendent of the founder during the past decade.*
3	*Anderson and Reeb (2004)*	*1992–1999*	*1992 S&P 500*	*U.S.*	*Family firm if there exists fractional equity ownership of the founding family and/or the presence of family members serving on the board of directors. Other definitions used: Ratio of board seats held by family members to board seats held by independent directors/If family board control exceeds independent director control.*
4	*Anderson, Mansi, and Reeb (2003)*	*1993–1998*	*Firms in both the Lehman Brothers Bond Database and the S&P 500*	*U.S.*	*Family firm if there exists fractional equity ownership of the founder and his/her immediate family. Other definitions used: Fractional equity ownership of the founder and his/her*

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
					immediate family & board of directors membership/Fractional equity ownership of the founder and his/her immediate family and size of the family's ownership stake relative to other block holders/Fractional equity ownership of the founder and his/her immediate family and family equity holdings as a fraction of outstanding shares.
5	*Ang, Cole, and Lin (2000)*	*1992*	*Federal Reserve Board's National Survey of Small Business Finances*	*U.S.*	*Family firm when a single family controls more than 50% of the firm's shares.*
6	*Barontini and Caprio (2005)*	*1999*	*Large publicly traded firms greater than 300 million euros in assets. 675 firms.*	*Continental Europe (11 countries)*	*Family firm if the largest shareholder owns at least 10% of ownership rights and either family or largest shareholder controls more than 51% of direct voting rights or controls more than the double of the direct voting rights of the second largest shareholder. Other definitions used: Firm run by family COO/Firm run by non family COO but one family member is on board/Family firm when founder or descendent of founder runs firm.*
7	*Barth et al. (2005)*	*1996*	*Survey of firms associated with the Confederation of Norwegian Business and Industry*	*Norway*	*Family firm if at least 33% of the shares of the firm are owned by one person or one family.*
8	*Bennedsen et al. (in press)*	*1994–2002*	*Limited liability public and private firms which underwent a CEO succession*	*Denmark*	*Family firm whenever an incoming CEO is related by blood or marriage to the outgoing CEO.*
9	*Claessens et al. (2000)*	*1996*	*WorldScope*	*9 East Asian Countries*	*Family groups are those that control more than 5% of the company's votes. Family group is identified through published family trees in each country and may consist of one family or a group of families.*
10	*Claessens et al. (2002)*	*1996*	*WorldScope*	*8 East Asian Countries*	*Family firm when there is the presence of a group of people related*

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
					by blood or marriage with large ownership stakes.
11	*Cronqvist and Nilsson (2003)*	*1991–1997*	*Stockholm Stock Exchange*	*Sweden*	*Founder families may include only a single individual or a closely knit group of individuals who do not belong to the same family. Other definitions used: Founder family ownership is ownership by the founder or descendants of the founder and families/individuals affiliated with the founder.*
12	*Denis and Denis (1994)*	*1985*	*Value Line Investment Survey*	*U.S.*	*Family firm if 2 or more family members are present as officers/directors or if founders are officers.*
13	*Faccio and Lang (2002)*	*1996–1999*	*WorldScope plus various country specific reference data bases*	*13 Western European countries*	*Family firm if a family or an individual or unlisted firm on any stock exchange is considered as the ultimate owner (greater than 20% of either cash flow or control rights).*
14	*Fahlenbrach (2006)*	*1992–2002*	*2327 publicly traded firms listed in IRCC for all years, firms drawn from S&P 500, Fortune, Forbes, Business Week*	*U.S.*	*Family firm if the CEO is the founder or co-founder.*
15	*Gomez-Mejia et al. (in press)*	*1944–1998*	*Spanish government registry*	*Spain*	*Family firm if the company is owned and operated by the founding family. Other definitions used: Owned and operated by non-founding extended family/Owned and operated by non-founding extended family members but managed by hired professionals.*
16	*Gomez-Mejia et al. (2003)*	*1995–1998*	*Random sample culled from Compustat*	*U.S.*	*Family controlled firm under two conditions: two or more directors had a family relationship, and family members owned or controlled at least 5% of the voting stock. Family relationship included father, mother, sister, brother, son, daughter, spouse, in-laws, aunt, uncle, niece, nephew, cousin. Other definitions used: Family controlled and CEO is family member/Percentage of family equity ownership/Family controlled*

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
					and family member(s) are on the compensation committee.
17	*Gomez-Mejia et al. (2001)*	*1966–1993*	*Registry of Newspapers, Media Guide of Spain, Oficina de Justificacion de la Difusion—All daily newspapers*	*Spain*	*Family firm if in this newspaper sample there were family ties between the newspaper's CEO and editor.*
18	*Holderness and Sheehan (1988)*	*1980–1984*	*114 randomly chosen publicly traded firms — data source Spectrum 5*	*U.S.*	*Family firm if an individual majority shareholder or entity owns at least 50.1% of the stock: may include trusts and foundations.*
19	*La Porta et al. (1999)*	*1995–1997*	*World scope-27 countries represented*	*Worldwide*	*Family firm if a person is the controlling shareholder (ultimate owner) whose direct and indirect voting rights exceed 20%.*
20	*Luo and Chung (2005)*	*1973–1996*	*Directory business groups in Taiwan*	*Taiwan*	*Firm created by entrepreneurs. Other definitions used: Firm's key leader has inner circle members who are immediate family members/Firm's key leader has inner circle members with prior social relationships — distant relatives, in-laws, friends, classmates, colleagues, business partners.*
21	*Maury (2006)*	*1996–2003*	*Faccio and Lang, 2002 data plus WorldScope 2003*	*13 Western European countries*	*Family firm if the largest controlling shareholder who holds at least 10% of the voting rights is a family, an individual, or an unlisted firm (unlisted firms are often closely held and therefore considered under family control). Other definitions used: The controlling shareholder is from an unlisted firm/The largest controlling shareholder is an identified family or individual/The controlling shareholder is a family or an individual holding the title of CEO, Honorary Chairman, Chairman, or Vice Chairman.*
22	*McConaughy et al. (1998)*	*1987*	*Business Week CEO 1000*	*U.S.*	*Family founder controlled firm — A public corporation whose CEO is either the founder or a member of the founder's family.*

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
23	*Morck et al. (1988)*	*1980*	*Fortune 500*	*U.S.*	*Family firm if a member of the founding family is among the top two officers.*
24	*Perez-Gonzalez (2006)*	*1980–2001*	*Compustat 1994*	*U.S.*	*Sample firms met the following requirements: (1) founded prior to 1971; (2) exhibited at least one of the following (a) two or more individuals related by blood were directors, officers, or shareholders (b) an individual had at least 5% ownership (c) a founder was an executive or director, and (3) a CEO change occurred during the time window. Further a family succession was coded within this sample of firms when the new CEO was related by blood or marriage to : (1) the departing CEO, (2) the founder, or (3) a large shareholder.*
25	*Schulze et al. (2001)*	*1995*	*Survey of American family businesses conducted by the Arthur Anderson Center for Family Business.*	*U.S.*	*Family firm if privately held, greater than $5 m annual sales, and listed by Arthur Anderson as a family business.*
26	*Schulze et al. (2003)*	*1995*	*Survey of American family businesses conducted by the Arthur Anderson Center for Family Business.*	*U.S.*	*Family firm if privately held, greater than $5 m annual sales and listed by Arthur Anderson as a family business.*
27	*Smith and Amoako-Adu (1999)*	*1962–1996*	*Toronto Stock Exchange companies*	*Canada*	*Family firm if a person or a group related by family ties holds the largest voting block and at least 10% of the total votes.*
28	*Villalonga and Amit (2006b)*	*1994–2000*	*Fortune 500*	*U.S.*	*Family firm if the founder or a member of the family is officer, director or owns > 5% of the firm's equity. Other definitions used: 1 or more family members are officers directors or block holders/At least 1 family officer and 1 family director/Family is largest vote holder/Family is largest shareholder/1 or more family members from 2nd generation or*

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
					later are officers, directors, or block holders / Family is largest vote holder and has at least one family officer and 1 family director/Family is largest shareholder and has at least 20% of the votes/1 or more family members are directors or block holders but there are no family officers/Family is largest vote holder, has at least 20% of votes, one family officer and 1 family director and is in 2nd or later generation.

Miller et al., 2007