

**The Influence of Founder Status on Firm Performance: Empirical
Evidence from Canadian IPO Firms**

Dan Zhang

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This is to certify that the thesis prepared

By: Dan Zhang

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originality and quality.

Signed by the final Examining Committee:

Chair

Dr. Georgios Farfaras

Examiner

Dr. Ravi Mateti

Examiner

Dr. Yuan Wang

Supervisor

Dr. Saif Ullah

Approved by _____

Chair of Department or Graduate Program Director

_____ 2016 _____

Dean of Faculty

ABSTRACT

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Dan Zhang

Concordia University, 2016

This study compares performance for founder-managed firms and professional-managed firms by analyzing 138 Canadian IPO firms which went public from 2004 to 2013. In this paper, we measure firm performance in two ways: Tobin's Q and ROA are used to measure a firm's financial performance, while firm survival status is used as a supplementary performance measure. We find that founder-managed firms underperform and underlive its counterparts when firm performance is measured by Tobin's Q and survival status. But founder status is proved to be unrelated with ROA. The negative influence of founder status can be explained by Relevant Transaction Hypothesis which states that founder-managers may act for the controlling family and are more concerned with its associated private income stream than with maximizing the value of the firm.

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I. Introduction

The role of a founder in creating and running companies is an interesting phenomenon that has attracted research interest over the years. Several research studies have examined whether founder-managed firms tend to perform differently than nonfounder-managed firms. The majority of the research studies show that the presence of a founder-CEO or founder-director is associated with better firm performance (Willard et al., 1992; Fahlenbrach, 2009; Cohen, Diether and Malloy, 2013), which can be explained that the greater financial and nonfinancial ties provide founders with both the abilities and the incentives to offer better monitoring when they are involved in firm management (Li and Srinivasan, 2011). However, the performance of professionally managed firms, in some cases, is not systematically or statistically significantly inferior to that of founder-managed firms. For instance, Brown et al. (2005) find that firms with a founder CEO have lower long-run stock returns. Jayaraman et al. (2000) study 94 founder- and nonfounder-managed firms and find that founder management has no main effect on stock returns over a 3-year holding period.

Canada and the US share a common legal ancestry and developed public equity markets. At the same time, however, a large number of publicly traded firms in Canada are controlled by family shareholders (Morck et al., 2000; Erickson et al., 2005; King and Santor, 2008). This divergence makes the application of founder-status effect in Canada market a mystery. To date, no empirical work has been done that attempts to determine whether founder status makes a difference to the firm's value for Canadian companies, let alone Canadian IPO firms. By utilizing updated data, we aim at filling the gap in Canadian IPO firms.

In this paper, we measure firm performance in two ways: market-based measure Tobin's Q and accounting measure return on assets ratio (ROA) are used to indicate firm financial performance, while firm survival status is used as a supplementary performance measure. Accordingly, this study is partitioned into two major sections. The first stage discusses the relationship between founder status and firm financial performance, while the second stage focuses on the effects of founder status on the firm's survival probability.

By employing a data sample which consists of 138 Canadian IPO firms over the period 2004 through 2013, we basically obtain the results that founder status has no influence to firm value measured by ROA, while founder-firms underperform professional-managed firms in respect of

Tobin's Q, which is very robust when founders serve as chair members. Besides, founder status is significantly negative related with survival probability, suggesting that founder-managed firms not only underperform, but also underlive their counterparts.

Two explanations of negative correlation have been proposed: Relevant Transaction Hypothesis which states that founder-managers may act for the controlling family and are more concerned with its associated private income stream than with maximizing the value of the firm, and Industry Characteristics Hypothesis which holds that professional managers' ability in managing capital and employees benefits Canadian nonfounder firms of which natural resources firms occupy a huge portion. After adding a new variable relevant transaction dummy, Relevant Transaction Hypothesis has been verified. Unfortunately, lack of observations leads to impossibility in running regressions and testing Industry Characteristics Hypothesis.

The paper outline is as follows: Section II reviews prior work. Section III and Section IV describe our hypotheses and methodology. Section V contains description of data sample. Section VI presents empirical analysis while Section VII proposes explanations. Finally, Section VIII concludes.

II. Literature Review

In recent years, several research studies have examined whether founder-managed firms tend to perform differently than nonfounder-managed firms. The findings of these studies have been inconsistent.

The majority of the research papers show that the presence of a founder-CEO or founder-director is associated with better firm performance. Willard et al. (1992) believe that many founders can and do manage growth successfully. Adams et al. (2005, 2006) find that "CEO = founder" is positively and significantly correlated both with Tobin's Q and ROA, measurement of corporate performance. Using a novel data set, Fahlenbrach (2009) demonstrates that founder-CEO firms not only have a higher valuation but also better stock market performance. By comparing non-founder-led firms to founder-led firms, Cohen et al. (2013) find marginally significant evidence that high-ability founder-led firms have larger impacts on future returns than non-founder-led firms. Besides, Anderson et al. (2003), Anderson and Reeb (2003a, 2003b), Maury (2006), Villalonga and Amit (2006, 2009) and Andres (2008) all find that family firms, particularly when founders serve as CEO or chairman of the board, tend to be associated

with better performance and higher valuation in developed economies.

The greater financial and nonfinancial ties provide founders with both the abilities and the incentives to offer better monitoring when they are involved in firm management (Li and Srinivasan, 2011). On one hand, their long involvement in the creation and management of the enterprise enables them to accumulate specific knowledge about the firm and the industry. Randall et al. (1988) suggest that founder CEOs bring innovative and value-enhancing expertise to the firm. Founders also bring contacts, prestige, and expertise from prior experiences, and the founders' network is a key antecedent to subsequent relationships, such as venture capital financing (Burton et al., 2002; Eisenhardt and Schoonhoven, 1990; Hallen, 2008; Shane and Stuart, 2002). On the other hand, Founder-CEOs often have a strong passion for the ventures they found (Chen et al., 2009), and such passion is likely to be further strengthened by the significant challenges they face in leading the ventures (Aldrich and Fiol, 1994; Stinchcombe, 1965). Founder-director companies are also associated with fewer agency problems and are better governed than nonfounder companies (Li and Srinivasan, 2011). The combination of these factors and the founder's nonpecuniary attachment (e.g., reputational and emotional) benefits in increasing firm value (Demsetz and Lehn, 1985; James, 1999; Li and Srinivasan, 2011).

However, it is also possible and not unusual to replace the initial human assets (founders) and find other people to run the firm (Kaplan et al., 2009). The performance of professionally managed firms, in some cases, is not systematically or statistically significantly inferior to that of founder-managed firms. Lauterbach and Vaninsky (1999) and Schulze et al. (2001) all demonstrate that founder/family firms underperform vis-à-vis the market. Brown et al. (2005) find that firms with a founder CEO have lower long-run stock returns. Jayaraman et al. (2000) study 94 founder- and nonfounder-managed firms and find that founder management has no main effect on stock returns over a 3-year holding period. Palia (2001) argues that the founder dummy is not statistically significantly related to firm value, represented by Tobin's Q. One explanation is that founders and founding families may be more concerned with maintaining control of a business and its associated private income stream than with maximizing the value of the firm (Chandler, 1990). To the extent that a founder's interests diverge from those of the firm's other shareholders and manifest himself in the form of excessive perquisite consumption, poor performance may result (Jensen and Meckling, 1976).

There are three points worth noting regarding the relationship of founder-management status and firm performance. First, a founder may have an opposite effect when serving as a CEO and a director. Brown et al. (2005) find evidence that the continued involvement of the founders as members of the board has a positive impact on the long-term performance of the roll-up firm. However, the coefficient on the founder CEO dummy is negative, which helps explain why firms with a founder CEO have lower long-run stock returns. Similar conclusion of Li and Srinivasan (2011) shows a higher value with the presence of a founder-director while an insignificant coefficient on the founder-CEO variable. Villalonga and Amit (2006) believe that compared with the value of founders as CEO, “founders’ skills are almost as valuable when they bring them to the firm through a position as Chairman with a hired CEO in place.”

As the majority of founder-managed firms are family-controlled firms, we must separate the influence of founders and their heirs on firm performances. Founder descendants do have the passion and commitment to their firms. However, the lack of prestige and expertise, which must be obtained from prior working experience, may even destroy a firm. Morck et al. (1988) find that firm value tends to be lower when the firm is run by a member of the founder's family than when it is run by an officer unrelated to the founder. Anderson and Reeb (2003) conclude that market performance appears to be better only in the presence of founder CEOs and outside CEOs; founder descendants serving as CEO have no effect on market performance. Using Fortune 500 firms, Villalonga and Amit (2006) report that family ownership creates value only when the founder serves as CEO of the family firm or as chairman with a hired CEO. In contrast, firm value is destroyed when descendants serve as CEOs. Pérez-González (2006) also finds that firms with family succession underperform relative to firms that promote unrelated CEOs.

Last but not least, finding a positive relation between founder involvement and performance is not necessarily an indication that founder involvement causes future performance. Founders' impact on firm performance might be the result that poor performing firms are more likely to replace founder CEOs with professional CEOs, in other words, there is a possibility of reverse causality on founder-performance link. Brown et al. (2005), Adams et al. (2005, 2006) and He (2008) all take causality test into consideration. Adams et al. (2005, 2006) use instrumental variables methods to isolate the effects of founder-CEO status on firm performance from other sources of performance and conclude that the positive correlation is consistent with causation running from “CEO = founder” to firm performance. He (2008) takes advantage of a generalized

linear model with binomial distribution to estimate the relation between CEO succession and firm performance.

An initial public offering (IPO) represents an important milestone in the evolution of an entrepreneurial firm as it progresses from a start-up to a public corporation. The choice of founder versus non-founder managers at the time of going public represents a significant decision made by the IPO firm. However, only a few researches regarding the effect of founder status on firm performance in IPO firms. Nelson (2003) provides evidence that the presence of a founder-CEO at the time of an IPO results in higher firm valuations. He (2008) compares founder-CEOs with professional CEOs in newly public firms and concludes that founder-managed firms are associated with higher financial performance (measured by ROA) and are more likely to survive than professional managed firms. To better understand founders' role in these transitional firms, this study compares founder-managers in newly public firms with their professional counterparts in terms of firm performance.

This study is also meaningful in that we take advantage of Canadian data. The majority of existing studies draw conclusions based on the US data, while to date, no empirical work has been done that attempts to determine whether founder status makes a difference to the firm's value for Canadian companies, let alone Canadian IPO firms. A large number of publicly traded firms in Canada are proved to be controlled by family shareholders, unlike in the United States where most public companies are widely held by individual investors (Daniels and Halpern, 1996). This divergence motivated me to investigate whether the founder-status effect applies in Canada market. By utilizing an updated data, we aim at filling the gap in Canadian IPO firms.

III. Hypotheses

Referred to literature above, there exist two contradicted viewpoints: founder-managed firms statistically outperform professional-managed firms, and no obvious advantage or even worse performance for firms which founders still serve as managers. When we notice that the majority of the previous research studies show a positive effect of founder status on firm performance, we also can't ignore the fact that these studies are merely based on countries outside the US. Of the limited studies focused on other countries, Tsao et al. (2009) study 688 Taiwanese firms listed on the Taiwan Stock Exchange and conclude that "founder-CEO was found not to be associated with firm performance". Sacristan-Navarro et al. (2011) study 118 nonfinancial Spanish companies

and lead to a conclusion that “once endogeneity issues were considered, it was found that founder involvement did not influence profitability”. Regarding Canadian market, no empirical work has been done to explore founder-status effect, only few studies have been done relating controlling family to a firm’s performance. Morck et al. (2000) find a negative correlation between heir control in Canadian firms and firm performance. Markin (2004) analyzes a sample of 251 Canadian firms and demonstrates that Canadian family firms are not more profitable than non-family owned firms.

Canada and the US share a common legal ancestry, with Canadian corporate and securities laws adopted from American precedents. Similar to the United States, Canada is a country where public equity markets are well developed. At the same time, however, a large number of publicly traded firms in Canada are controlled by family shareholders (Morck et al., 2000; Erickson et al., 2005; King and Santor, 2008). Morck and Yeung (2003) propose an agency problem in family firms: in family business group firms, managers may act for the controlling family, but not for shareholders in general. They argue that some family controlled firms organized into business groups in order to obtain outside equity financing. The entrenchment of controlling families and non-arm’s-length transactions between related companies are detrimental to public investors. Chandler (1990) also hold that founders and founding families may be more concerned with maintaining control of a business and its associated private income stream than with maximizing the value of the firm. Obviously, this kind of agency problems occur more in founder-managed firms because founder-firm is a special kind of family controlled firm. On the contrary, professional hired managers in nonfounder firms are less likely to be implicated into relevant transactions, thus attracting more investors. In this light, professional-managed firms may perform better than founder-involved firms.

In addition, Canada is notable for its plenteous natural resources, including energy sources (oil, gas, natural gas and uranium), forests and mining. Accordingly, an incredibly high percentage of Canadian firms are in natural resources related industry, with 80 out of 138 belonging to mining sector in our sample (see details in Table II). While for US market, high technology firms including electric and communications take up a big portion. The operation of natural resources industry, in my point of view, relies more on effectively managing capital and employees, of which professional managers are specialists, contrasting to high technology firms of which founder’s creativity play a huge role. As a result, it is reasonable to believe professional

managers' abilities in Canada market.

Based on the arguments above, we obtain the following three hypotheses:

Hypothesis I: *In Canada market, founder-managed firms UNDERPERFORM professional-managed firms, ceteris paribus.*

Hypothesis II: *In Canada market, founder-managed firms UNDERLIVE professional-managed firms, ceteris paribus.*

Hypothesis III: *The negative relationship is caused either by relevant transaction, or by industry characteristics, or by both.*

IV. Methodology

4.1. Measurements for Firm Performance

In this paper, we measure firm performance in two ways: Tobin's Q and return on assets ratio (ROA) are used to measure firm financial performance, while firm survival status is used as a supplementary performance measure.

In the past researches, both market-based measure and accounting measure are used as indicators of firm financial performance. Tobin's Q is mostly utilized as a market-based measure and return on assets (ROA) as an accounting measure. For example, Gary and Birger (1989), John et al. (1999) all employ ROA as a proxy for firm performance. While Narayanan et al. (2000), Harold and Bele'n (2001) choose Tobin's Q value to represent firm performance. At the same time, Hamid (1995), Ronald and David (2003), and Benjamin (2006) combine the two measurements.

There are two important respects in which these two measures differ from each other. In time perspective, ROA is backward-looking while Tobin's Q is forward-looking; ROA focuses on firms' short-term performance while Tobin's Q concerns more about long-term firm value. The second difference is concerning which one actually measures performance. As an accounting measure, ROA is constrained by standards set by accountants' profession. Harold and Bele'n (2001) state that Tobin's Q is primarily constrained by the acumen, optimism, or pessimism of investors. In this paper, we use both Tobin's Q and ROA as proxies for firm performance. The test using Tobin's Q captures whether founder-status impacts market value, while the relation between founder-status and ROA captures the effect of power on accounting performance.

Perfect and Wiles (1994), Chung and Pruitt (1994) assert that although multiple methods have been proposed for calculating the Q ratio, the different approaches tend to yield very similar values for Tobin's Q. In this study, Tobin's Q is measured by Malmendier and Tate (2008) by the equations expressed as follows:

$$\text{Tobin's q} = \text{Market value of assets} / \text{Book value of assets},$$

where Market value of assets equals total assets plus market equity minus book equity, market equity equals common shares outstanding multiply by fiscal year closing price, book equity equals total assets minus total liability minus preferred stock plus deferred tax plus convertible debt, and Book value of assets equals total assets.

ROA is calculated as operating income before depreciation and amortization (OIBDP) scaled by the average book value of total assets. OIBDP refers to an income calculation made by adding depreciation and amortization to operating income. We believe that OIBDP is a better way in calculating ROA than net income in that OIBDP is a measure of income exclusive of the effects of a company's capital spending choices. It also does not reflect the cash used for debt service, distributions, or other non-core operating expenses. In a word, OIBDP gives investors a better sense of how efficiently a company operates purely based on its ability to create and sell its product or service.

For entrepreneurial firms facing the "liability of newness", survival is the bottom-line in market competition. Using survival status to measure performance also helps to correct for the truncation problem in the use of financial performance data (He, 2007). We define firms dropping from the public market for various reasons as having a death event and create a dummy variable survival status. Survival status equals 1 if firms still exist in the public stock market and 0 if firms have a death event.

4.2. Definition of Founder Status

As we stated in literature review, a founder may have an opposite effect when serving as a CEO and director. Therefore, we separate the impact of founders by creating two dummy variables: founder-CEO and founder-director. Founder-CEO equals 1 if the founder or co-founder is CEO and 0 otherwise, where we define CEO as the top executive of the firm. If a firm has no CEO, the chairman (or president if there is no chairman) is assumed to be the top executive of the firm. Founder-director equals 1 if the founder or co-founder is on the board (not necessarily a

chairman) and 0 otherwise. We use the method of Villalonga and Amit (2009) to define founders:

- a. Executives who are described as founders in the prospectus, proxy statement or annual statement.
- b. Executives who are identified as founders in at least two public sources and no other data source that we are aware of mentions a different person as the founder.

4.3. Control Variables

As the purpose of this paper is to examine the effect of founder status on firm performance, we control for other determinants of firm performance. A total of fourteen control variables, of which we divide into two groups, are applied here. They are either proved significantly related to firm performance in previous research or regarded related theoretically.

First, we introduce several control variables into our analysis to control for industry and firm characteristics. Total asset turnover is a financial ratio that measures the efficiency of a company's use of its assets in generating sales revenue or sales income to the company. It is computed by dividing net sales by average total asset, which is the average of current year total asset and previous year total assets. Long-term-debt-to-asset ratio measures the extent of a company's leverage. It is defined as the ratio of long-term debt (include the current portion of long-term debt) to total assets, expressed in percentage, and can be interpreted as the proportion of a company's assets that are financed by long-term debt. Firm size is the natural log of the book value of total assets, as the size alone was not normally distributed. Firm age is measured as the natural log of the number of years since the firm's inception (see Adams et al., 2009; Li and Srinivasan, 2011). Industry dummy variables are constructed based on two-digit SIC codes and adjusted on the observation numbers of different industry. The details of adjustment will be interpreted in the data part. Crisis dummy is created in consideration of the financial crisis 2007-2008. Firms went public during the financial crisis are assigned 1 to this variable and zero otherwise. Venture capital involvement is measured by a dummy variable that takes on the value of 1 if the IPO issuing firm received venture capital backing and zero otherwise (see Jain and Tabak, 2008). Besides, we take advantage of the Bloomberg Commodity Index (BCOM) change, a highly liquid and diversified benchmark for commodities investments, as a proxy of macroeconomic.

Because corporate governance mechanisms can also influence firm performance, we include

proxies for various governance devices. CEO tenure is a measure of CEOs' firm-specific human capital (see He, 2008). CEO ownership measures the percentage of firm ownership held by the CEO (see Hamid, 1995; Nelson, 2003; Adams et al., 2009; Li and Srinivasan, 2011). Board size (see Li and Srinivasan, 2011) is measured as the natural log of number of directors on the board. Principal shareholder ownership is the percentage of equity hold by principal shareholders, where we define principal shareholders as shareholders who own at least 10% of a company's common shares. Insider ownership measures by dividing the number of common stock of all nominees, directors and executive officers by the total number of common stocks outstanding. Besides, the percentage of independent board members (see Li and Srinivasan, 2011) are also utilized to control for corporate governance.

4.4. Regression Framework

This study is partitioned into two major sections. The first stage discusses the relationship between founder status and firm financial performance, while the second stage focuses on the effects of founder status on the firm's survival probability, thus comprehensively revealing how founder status influences firm performance.

4.4.1. Multiple Linear Regression Analysis

We plan to take advantage of multiple linear regressions to explore the effect of founder status on firm financial performance. Because we employ both Tobin's Q and ROA to represent financial performance, and separate the effect of founder-CEO and founder-director, a total of four functions are included. The sign, magnitude and the statistical significance of the coefficient for founder status represent its influence. If statistically significant, a positive coefficient indicates that founder-managed firms perform better than their professional counterparts; while a negative one demonstrates a relationship goes in an opposite direction.

The model is listed as below:

$$Y_i = \beta_0 + \beta_1 FOUNDER_{0i} + \beta_2 TURNOVER_i + \beta_3 DARATIO_i + \beta_4 SIZE_i + \beta_5 AGE_i + \beta_6 IND_i + \beta_7 CRISIS_i + \beta_8 VC_i + \beta_9 \Delta BCOM_i + \beta_{10} TENURE_i + \beta_{11} CEO\%_i + \beta_{12} BOARD_i + \beta_{13} PRIN_i + \beta_{14} INSIDER_i + \beta_{15} INDE_i + \varepsilon_i,$$

where Y_i represents Tobin's Q and ROA, respectively. $FOUNDER_{0i}$ refers to dummy variables founder-CEO and founder-director, respectively. $TURNOVER_i$, $DARATIO_i$, $SIZE_i$, AGE_i , IND_i , $CRISIS_i$, VC_i and $\Delta BCOM_i$ denote firm and industry determinants total asset turnover,

long-term-debt-to-asset ratio, firm size, firm age, industry dummy, crisis dummy, venture capital involvement and BCOM change respectively. $TENURE_i$, $CEO\%_i$, $BOARD_i$, $PRIN_i$, $INSIDER_i$ and $INDE_i$ represent the group of corporate governance controls, namely CEO tenure, CEO ownership, board size, principal shareholder ownership, insider ownership and independent board members. ε_i is the error term.

There are three points noteworthy regarding the regression. First, firm financial performance is measured one year after IPO to investigate manager's ability during this year. The subscript 0 in variable $FOUNDER_{0i}$ reflects this consideration. Second, we will build three sub-models within each of the four regressions, with the first model adding firm and industry variables only, the second including corporate governance variables only, and the third taking both groups into consideration. The last point is inspired by McConnell and Servaes (1990), who found a strong evidence of a curvilinear relation between insider ownership and Tobin's Q. It makes sense because the influence may be nonlinear in the whole range. Therefore, we may add CEO ownership squared and insider ownership squared in case of a curvilinear relationship.

4.4.2. Logistic Regression Analysis

In this part, we investigate the impact of founder involvement on firm's survival status, i.e. whether a firm still survives or not. A cross-sectional logistic regression is used here because the dependent variable, survival status, is a binary variable. The logistic model, which will be estimated by maximum likelihood method, can be set as following:

$$\log \left(\frac{\pi_i}{1 - \pi_i} \right) = \beta_0 + \beta_1 FOUNDER_{0i} + \beta_2 TURNOVER_i + \beta_3 DARATIO_i + \beta_4 SIZE_i + \beta_5 AGE_i \\ + \beta_6 IND_i + \beta_7 CRISIS_i + \beta_8 VC_i + \beta_9 \Delta BCOM_i + \beta_{10} TENURE_i + \beta_{11} CEO\%_i \\ + \beta_{12} BOARD_i + \beta_{13} PRIN_i + \beta_{14} INSIDER_i + \beta_{15} INDE_i + \varepsilon_i,$$

where π_i represents the probability that a firm still exists and $FOUNDER_{0i}$ represents founder-CEO and founder-director, respectively. Two groups of fourteen control variables are exactly the same as in the multiple linear regressions. If statistically significant, a positive coefficient of founder status will indicate that founder-involved firms are more likely to survive and vice versa.

V. Data Description

The data used in the analysis are a sample of firms going public in Canada market from 2004 to 2013. We collect sample firms that issued initial public offerings from the Securities Data Corporation (SDC) New Issues Database. Consistent with the vast majority of IPO studies, we exclude financial companies, real estate investment trusts, reverse LBOs, equity carve-outs, foreign issuers, and unit offerings as their institutional characteristics are fundamentally different from that of a typical IPO firm. We also delete firms that change their CEOs during the first year after IPO. Further, we require that IPO prospectuses are available for each firm and that financial data is available from COMPUSTAT database.

The financial information used in calculating firm performances and firm characteristics controls is obtained from COMPUSTAT database. Information on founder status, CEO tenure, ownership, board characteristics and other corporate governance controls is not available in public compensation databases, and is manually collected from these firms' prospectuses and annual proxy statements reported to Canadian Securities Administrators (CSA) using CSA's SEDAR filling system. Besides, the data concerning venture capital involvement is available in SDC database and BCOM data is collected from Bloomberg. Specific descriptions and data source are shown in Table I in Appendix.

Finally we obtain a data sample which consists of 138 IPO firms in total over the period 2004 through 2013. In investigating the data, we find some extreme values for Tobin's Q and ROA. Those outliers are processed on 90% winsorisation, which means all data below the 5th percentile set to the 5th percentile, and data above the 95th percentile set to the 95th percentile.

Table II summarizes the observation numbers classified by year and industry. Table II shows that Year 2007 witnessed a booming initial public while 2013 went through a shrinking IPO market. Generally speaking, IPO numbers decrease at the latter five years when comparing to the former five years. For industry classification, mining occupies more than half of the IPO firms, and manufacturing also takes over a big percentage. According to this particular case, we make an adjustment about industry classification that combines the remaining industry into "other industries" (31 observations in total) and set "other industries" as the base in industry dummies.

Table III reveals the summary statistics of all the variables, grouped in firm performance, founder status, firm and industry characteristics and governance structure. Five basic statistics are

listed. Table III shows that the mean value of Tobin's Q varies from its median while for ROA, mean and median are close to each other, with a much smaller standard deviation. The mean value of founder-CEO and founder-director shows a higher percentage of founder-involvement in directors, even though these two dummies are similar fluctuated.

Table IV provides comparative descriptive data for the sub-samples of founder-CEOs and nonfounder-CEOs, founder-directors and nonfounder-directors, respectively. P-value from the ANOVA F-test is presented to reject the null hypothesis of equal mean across comparative two groups. Of the 138 IPO firms between 2004 and 2013, 75 firms (54.35%) are managed by founder-CEOs and 92 firms (66.67%) are managed by founder-directors.

Table IV shows that when firm performances are measured by Tobin's Q and survival probability, founder-managed firms underperform professional-managed firms, which is even robust for comparisons regarding directors. For ROA, no significant differences are observed. In addition, founder-CEOs have longer tenure and hold more stocks than non-founder CEOs. The average insider ownership for founder-CEO firms 20.21% is significantly higher than that of the nonfounder firms, which is almost 7% less.

The phenomenon that CEO owns more common shares also exists in founder-director firms, of which CEOs on average own 10.12% of the firm, in comparative with 4.67% in nonfounder-director firms. Meanwhile, founder-director firms are significantly bigger than its counterparts, although the difference in magnitude is negligible. Founder firms are also about 6.5 years younger.

VI. Empirical Results

As mentioned in the methodology part, this paper will first investigate the impact of founder status on firm financial performance, indicated by market-based measure Tobin's Q and accounting measure ROA, and then focus on the effects of founder status on the firm's survival probability. Table V to Table IX show the empirical results of multiple linear regression as well as logistic regression.

6.1. Multiple Linear Regression Analysis

Table V to Table VIII reveal the empirical results of the regressions which study the effect of founder status on firm financial performance. More specifically, firm performance is measured by Tobin's Q in Table V and VI, and by ROA in Table VII and VIII; Founder-CEO effects list in

Table V and VII, and founder-director effects in Table VI and VIII. In each table, Column 1, 2 and 3 show the regression results controlled by firm and industry characteristics only, by corporate governance structure only, and by both of the two groups, respectively. Estimates of coefficients for founder status and other control variables, values of t-statistics which demonstrate significant level, values of F-statistics which represent overall significance of each regression, and values of adjusted R² which illustrate whether regressions fit well, are listed.

Table V shows that founder-CEO firms are associated with poor performance measured by Tobin's Q. However, this negative relationship is only robust when adding governance structure as control variables. The coefficient estimate of founder-CEO is -0.7191, suggesting that the average of Tobin's Q value for founder-CEO firms is 0.7191 lower than that of nonfounder-CEO firms. The absolute value of corresponding t-statistics is 2.21, showing that the effect is statistically significant.

Regarding the control variables, coefficients of firm size, financial crisis, BCOM change, CEO ownership and insider ownership are statistically significant, which means these control variables do help explain firm performance well. The consideration of a curvilinear relationship between ownership and firm performance and the improvement of adding CEO ownership squared and insider ownership squared works in our data. All values of F-statistics are larger than critical values, suggesting that all the regressions have nice overall significance. The values of adjusted R² also verify the good fit for each regression.

Table VI differs Table V only in the founder status. When focused on the founder-director effect, we find a significantly negative relationship between founder-director and Tobin's Q, which is supported by the negative coefficient and the absolute value of corresponding t-statistics. The values of F-statistics and adjusted R² again verify an overall significance and a good fit for each model. The negative effects of founder-CEO and founder-director are consistent with Lauterbach and Vaninsky (1999), Schulze et al. (2001) and Dittmar and Servaes (2005), who demonstrate that the performance of founder-managed firms is inferior to that of professionally managed firms.

Unlike founder-CEO effect, this negative relationship is robust at least at a 5% confidence level no matter which group of control variables are included. Brown et al. (2005) also find such a distinct effect. To further explore the explanation of the difference, we investigate our sample

and find that all the founder-CEOs are founder-directors. In other words, founder-director is actually founder-involvement in our specific case, and that's why founder-director effect should be more significant.

Table VII and VIII are the regression results when firm performance is measured by ROA. Although the values of F-statistics support overall significances, t-values of founder status which are all smaller than threshold suggest that firm performance is unrelated to founder-CEO and founder-director, no matter which group of control variables are added. The research of Villalonga and Amit (2009) also demonstrates an inconsistent conclusion between Tobin's Q and ROA.

Since ROA measures short-term performance while Tobin's Q is based on a long-term view, we can summarize the results as that in the short term, founder status has no influence to firm value, but in a long run, founder-firms underperform professional-managed firms, which is very robust when founders serve as chair members. Hence, *Hypothesis I* is partly verified when firm performance is measured by Tobin's Q.

6.2. Logistic Regression Analysis

Table IX shows the empirical results of the logistic regressions which study the effect of founder status on firm survival probability. Column 1 and 2 list the regression results of founder-CEO and founder-director effect, respectively. Estimates of coefficients for founder status and other control variables, values of Chi-square which demonstrate significant level, values of likelihood ratio which represent overall significance of each regression, are listed.

Founder-managed firms are associated with smaller survival probabilities in Table IX. The coefficient estimate of founder-CEO is -0.9987, means that the average log(odds) of survival for founder-CEO firms is 0.9987 lower than professional-CEO firms. This relationship is significant with a Wald Chi-square value 3.60. Similarly, founder-director effect is also negative and robust. The likelihood ratios are 29.96 and 29.68, with P-values of 0.0182 and 0.0197, suggesting that the regressions have nice overall significance. Therefore, *Hypothesis II* that founder-managed firms underlive nonfounder-managed firms is supported.

To conclude the results, founder-managed firms underperform and underlive its counterparts in the long term. But in the short term, founder status is proved to be unrelated with firm

performance. The effects of founder-CEO and founder-director diversify when firm performance is measured by Tobin's Q.

VII. Discussion and Interpretation

In empirical results part, we conclude a long run poor performance for founder firms, so we want to take a step further and investigate what is the mechanism through which founder status affects firm value. Two explanations have been proposed: Relevant Transaction Hypothesis which states that founder-managers may act for the controlling family and are more concerned with its associated private income stream than with maximizing the value of the firm, and Industry Characteristics Hypothesis which holds that professional managers' ability in managing capital and employees benefits Canadian nonfounder firms of which natural resources firms occupy a huge portion.

Relevant Transaction Hypothesis can be tested by adding a new variable relevant transaction, which equals 1 if founders (for founder-managed firms) or CEOs (for professional-managed firms) serve as CEO or control more than 10% ownership of another firm, or if the sample firm belongs to a business family, and 0 otherwise. Data of relevant transaction are manually collected from firms' prospectuses and annual proxy statements in SEDAR filling system.

Before testing this hypothesis, we compare relevant transaction percentage between founder- and nonfounder-controlled firms. Of the 75 founder-CEO firms, 51 or 68% are related to relevant transaction, compared to 18/63 or 28.57% in professional-managed firms. Similar results are found for directors, with 60/92 (65.22%) in founder-directors and 9/46 (19.57%) in its counterparts. Hence, the assumption that relevant transaction is more involved in founder-firms, thus damaging firm value, seems possible.

Table X shows the tests results for Relevant Transaction Hypothesis, of which Panel A measured firm performance by Tobin's Q and Panel B by survival probability. For each table, Column 1 and 3 lists the regression results before adding relevant transaction dummy, of founder-CEO and founder-director effect, respectively. Column 2 and 4 is the corresponding comparative results after controlling relevant transaction. If Relevant Transaction Hypothesis does helpful in explaining the negative relationship, we expect the absolute value of founder-status coefficient decreases and even insignificant. Relevant Transaction Hypothesis is more reasonable if the coefficient of relevant transaction dummy is significant and negative.

Relevant Transaction Hypothesis is attested in Table X. In Panel A when firm performance is measured by Tobin's Q, relevant transaction dummies are significantly negative while founder-status coefficients become insignificant, with absolute values of t-statistics declines sharply. More specifically, the coefficient estimate of relevant transaction is -0.6226 in founder-CEO samples and -0.5313 in founder-director samples, with a significant level 5% and 10%, respectively. When firm performance measured by survival status in Panel B, we can also see that founder-status coefficients turn into insignificant, although relevant transaction dummies are also not related. Therefore, Relevant Transaction Hypothesis explains at least part of the negative correlation between founder status and firm value. *Hypothesis III* has been proved.

Regarding the Industry Characteristics Hypothesis, we planned to test founder-status effect mainly on high technology industry. If this hypothesis holds, we expected founders' creativity benefits in increasing firm value and a positive relationship exists. Unfortunately, due to the limitation of observation number, only 11 firms are in the transportation, communications, electric, gas and sanitary service industry, of which only 5 firms in communications and electric. Lack of observations leads to impossibility in running regressions and testing Industry Characteristics Hypothesis. We hope further researches to fill the gap in explaining negative founder-status effect.

VIII. Conclusion

In this paper, we explore the impacts of founder status on firm value. Although this topic has been largely investigated, no empirical work has been done based on Canadian IPO market. Therefore, we pioneer investigating such effects.

The primary findings are that founder status has no influence on firm value measured by ROA, while founder-firms underperform professional-managed firms in respect of Tobin's Q, which is very robust when founders serve as chair members. Besides, founder status is significantly negative related with survival probability, suggesting that founder-managed firms underlie its counterparts. The negative effects of founder-CEO and founder-director are consistent with Lauterbach and Vaninsky (1999), Schulze et al. (2001) and Dittmar and Servaes (2005), who demonstrate that the performance of founder-managed firms is inferior to that of professionally managed firms. The negative relationship is proved to be explained by Relevant Transaction Hypothesis which states that founder-managers may act for the controlling family

and are more concerned with its associated private income stream than with maximizing the value of the firm.

The results of this research are meaningful to several groups of organizational stakeholders. Financial investors can make better decisions from knowing that founder-managed firms generally underperform professional-managed firms. The prospective employees of founder-managed firms who will sometimes receive compensation tied to the firms' market performance may also attract by our results. Finally, the differential performance between founder- and nonfounder-managed firms may be of interest to the founders themselves for reasons of personal curiosity and succession planning.

The findings and implications of this research should be considered in light of its limitations. Three limitations are most noteworthy. First, due to information unavailability of Canada stock market, only 138 observations are collected in our sample. Lack of observations leads to impossibility in running regressions and testing Industry Characteristics Hypothesis. Second, although this paper finds that founder-managed firms are associated with poor performance in one year after IPO, it is unclear whether such an effect will last in the long run. Finally, possibility of reverse causality that poor performance makes outsider managers reluctant to take over the firm is not tested. Usually, instrumental variable regression is the method of conducting a causality test. However, data concerning some most frequently employed instrumental variables, such as number of founders and dead founders, are unobtainable for Canadian firms. Further researches can focus more on Canadian firms and make improvements according to these limitations.

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Appendix

Table I Description of Variables

Variable	Description	Source
Tobin's Q	Tobin's Q is measured by dividing market value of assets by book value of assets, where market value of assets = total assets + market equity - book equity, market equity = common shares outstanding*fiscal year closing price, book equity = total assets - total liability - preferred stock + deferred tax + convertible debt, and Book value of assets = total assets.	Compustat
ROA	ROA is calculated as operating income before depreciation (OIBDP) scaled by the average book value of total assets.	Compustat
Survival Status	Survival status equals 1 if firms still exist in the public stock market and 0 if firms have a death event.	Compustat
Founder-CEO	Founder-CEO equals 1 if the founder or co-founder is CEO and 0 otherwise.	SEDAR, google
Founder-director	Founder-director equals 1 if the founder or co-founder is on the board (not necessarily a chairman) and 0 otherwise.	SEDAR, google
Relevant Transaction	Relevant transaction equals 1 if founders (for founder-managed firms) or CEOs (for professional-managed firms) serve as CEO or control more than 10% ownership of another firm, or if the sample firm belongs to a business family, and 0 otherwise.	SEDAR
Total Asset Turnover	Total asset turnover is calculated by dividing net sales by average total asset which is the mean of current year total asset and previous year total assets.	Compustat
Long-Term-Debt-to-Asset Ratio	Long-term-debt-to-asset ratio is the ratio of long-term debt (include the current portion of long-term debt) to total assets.	Compustat
Firm Size	Firm size is the natural log of the book value of total assets.	Compustat
Firm Age	Firm age is measured as the natural log of the number of years since the firm's inception.	SEDAR
Industry Dummies	Industry dummies are constructed based on two-digit SIC codes and adjusted on the observation numbers of different industry.	Compustat
Financial Crisis Dummy	Firms went public during the financial crisis 2007-2008 are assigned 1 to this variable and zero otherwise	—
Venture Capital Involvement	Venture capital involvement equals 1 if the IPO issuing firm received venture capital backing and 0 otherwise.	SDC

BCOM Change	The Bloomberg Commodity Index (BCOM) change during the year after IPO.	Bloomberg
CEO Tenure	CEO tenure measures how long CEO is nominated.	SEDAR
CEO Ownership	CEO ownership measures the percentage of firm ownership held by the CEO.	SEDAR
Board Size	Board size is the natural log of number of directors on the board.	SEDAR
Principal Shareholder Ownership	Principal shareholder ownership is the percentage of equity hold by principal shareholders, where we define principal shareholders as shareholders who own at least 10% of a company's common shares.	SEDAR
Insider Ownership	Insider ownership measures as dividing the number of common stock of all nominees, directors and executive officers by the total number of common stocks outstanding.	SEDAR
Independent Board Members	Independent board members measures the percentage of independent board members.	SEDAR

Table II IPO Numbers by Year and Industry

Year	No. of IPO	Industry	No. of IPO
2004	11	Agriculture, Forestry and Fishing	0
2005	22	Mining	80
2006	13	Construction	0
2007	29	Manufacturing	27
2008	12	Transportation, Communications, Electric, Gas and Sanitary service	11
2009	3	Wholesale Trade	1
2010	19	Retail Trade	3
2011	15	Finance, Insurance and Real Estate	2
2012	10	Services	14
2013	4	Public Administration	0
Total	138	Total	138

Table III Summary Statistics

	Variable	Mean	Median	Standard deviation	Min	Max
Firm performance	Tobin's Q	2.00	1.38	1.81	0.43	7.92
	ROA	-0.14	-0.06	0.36	-1.25	0.25
	Survival status	0.71	1.00	0.46	0.00	1.00
Founder status	Founder-CEO	0.54	1.00	0.50	0.00	1.00
	Founder-director	0.67	1.00	0.47	0.00	1.00
Firm and industry characteristics	Total asset turnover	0.36	0.14	0.50	0.00	2.42
	Long-term-debt-to-asset ratio	0.13	0.01	0.24	0.00	1.94
	Firm size	4.17	4.47	2.07	-2.40	9.38
	Firm age	8.95	3.71	16.76	1.17	119.00
	Mining	0.58	1.00	0.50	0.00	1.00
	Manufacturing	0.20	0.00	0.40	0.00	1.00
	Financial crisis	0.39	0.00	0.49	0.00	1.00
	Venture capital involvement	0.10	0.00	0.30	0.00	1.00
	BCOM change (%)	-9.13	-2.71	18.74	-50.82	27.08
	CEO tenure	3.83	2.50	3.26	0.33	19.00
Governance structure	CEO ownership (%)	8.31	4.15	10.96	0.00	57.47
	Board size	1.80	1.79	0.28	1.10	2.57
	Principal shareholder ownership (%)	27.85	24.58	24.15	0.00	92.82
	Insider ownership (%)	17.14	12.28	16.15	0.04	74.51
	Independent board member (%)	66.24	66.67	15.89	0.75	88.89

Table IV Comparisons between Founder-firms and Nonfounder-firms

	Variables	Founder	Non-founder	ANOVA	Founder	Non-founder	ANOVA
		CEO	CEO	P-value	director	director	P-value
Firm performance	Tobin's Q	1.78	2.26	0.12	1.69	2.62	0.00
	ROA	-0.10	-0.19	0.15	-0.11	-0.20	0.13
	Survival status	0.65	0.78	0.11	0.66	0.80	0.09
Firm and industry characteristics	Total asset turnover	0.39	0.33	0.46	0.38	0.33	0.54
	Long-term-debt-to-asset ratio	0.16	0.10	0.17	0.15	0.09	0.21
	Firm size	4.35	3.95	0.26	4.42	3.67	0.04
	Firm age	6.94	11.34	0.12	6.81	13.22	0.03
	BCOM change (%)	-9.61	-8.56	0.74	-9.52	-8.35	0.73
Governance structure	CEO tenure	4.49	3.04	0.01	4.10	3.29	0.17
	CEO ownership (%)	12.01	3.89	0.00	10.12	4.67	0.01
	Board size	6.15	1.81	0.51	1.80	1.79	0.79
	Principal shareholder ownership (%)	26.45	29.53	0.46	25.74	32.08	0.15
	Insider ownership (%)	20.21	13.49	0.01	18.31	14.81	0.23
	Independent board member (%)	67.88	64.28	0.19	66.77	65.17	0.58

Table V Founder-CEO Effect on Firm Performance Measured by Tobin's Q

Intercept	4.1946 (7.89)***	4.6988 (3.80)***	4.2637 (3.25)***
Founder-CEO	-0.2786 (-1.00)	-0.7191 (-2.21)**	-0.4308 (-1.35)
Total asset turnover	0.3344 (1.01)	—	-0.0306 (-0.08)
Long-term-debt-to-asset ratio	0.2548 (0.40)	—	0.2900 (0.45)
Firm size	-0.4347 (-5.72)***	—	-0.3087 (-3.21)***
Firm age	-0.0038 (-0.40)	—	-0.0075 (-0.77)
Mining	-0.0238 (-0.06)	—	0.0692 (0.16)
Manufacturing	0.2165 (0.47)	—	0.6950 (1.48)
Financial crisis	-0.6180 (-2.01)**	—	-0.6418 (-2.08)**
Venture capital involvement	0.0865 (0.17)	—	0.2305 (0.43)
BCOM change (%)	0.0162 (1.99)**	—	0.0178 (2.21)**
CEO tenure	—	-0.0175 (-0.36)	-0.0243 (-0.46)
CEO ownership (%)	—	0.1303 (2.48)**	0.1328 (2.60)**
CEO ownership squared	—	-0.0033 (-3.03)***	-0.0032 (-2.94)***
Board size	—	-1.1578 (-1.97)*	-0.0612 (-0.09)
Principal shareholder ownership (%)	—	0.0069 (1.00)	0.0089 (1.34)
Insider ownership (%)	—	-0.0531 (-1.47)	-0.0613 (-1.78)*
Insider ownership squared	—	0.0014 (2.33)**	0.0012 (2.11)**
Independent board member (%)	—	-0.0099 (-1.05)	-0.0097 (-1.07)
F-value	5.36	3.82	3.90
Adj. R ²	0.24	0.16	0.28

Note: The value of t-statistics is in parentheses following coefficient estimates.

* ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively.

Table VI Founder-director Effect on Firm Performance Measured by Tobin's Q

Intercept	4.4434 (8.21)***	4.8574 (3.98)***	4.5327 (3.47)***
Founder-director	-0.6211 (-2.06)**	-0.9241 (-2.91)***	-0.6535 (-2.08)**
Total asset turnover	0.3124 (0.95)	—	-0.0354 (-0.10)
Long-term-debt-to-asset ratio	0.2544 (0.41)	—	0.2656 (0.42)
Firm size	-0.4100 (-5.38)***	—	-0.2928 (-3.06)***
Firm age	-0.0074 (-0.78)	—	-0.0102 (-1.04)
Mining	-0.1141 (-0.28)	—	-0.0182 (-0.04)
Manufacturing	0.1767 (0.39)	—	0.6367 (1.36)
Financial crisis	-0.5827 (-1.96)*	—	-0.6301 (-2.07)**
Venture capital involvement	0.1043 (0.21)	—	0.2762 (0.52)
BCOM change (%)	0.0162 (2.01)**	—	0.0176 (2.21)**
CEO tenure	—	-0.0249 (-0.52)	-0.0282 (-0.55)
CEO ownership (%)	—	0.1178 (2.36)**	0.1274 (2.62)***
CEO ownership squared	—	-0.0030 (-2.83)***	-0.0030 (-2.90)***
Board size	—	-1.0329 (-1.77)*	-0.0254 (-0.04)
Principal shareholder ownership (%)	—	0.0056 (0.82)	0.0079 (1.21)
Insider ownership (%)	—	-0.0478 (-1.35)	-0.0599 (-1.76)*
Insider ownership squared	—	0.0013 (2.18)**	0.0012 (2.07)**
Independent board member (%)	—	-0.0111 (-1.20)	-0.0107 (-1.19)
F-value	5.82	4.30	4.12
Adj. R ²	0.26	0.18	0.29

Note: The value of t-statistics is in parentheses following coefficient estimates.

* ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively.

Table VII Founder-CEO Effect on Firm Performance Measured by ROA

Intercept	-0.5900 (-7.35)***	-0.7130 (-2.87)***	-0.1160 (-0.58)
Founder-CEO	0.0439 (1.04)	0.0717 (1.10)	0.0285 (0.58)
Total asset turnover	0.1939 (3.86)***	—	0.2088 (3.62)***
Long-term-debt-to-asset ratio	-0.4297 (-4.50)***	—	-0.4335 (-4.40)***
Firm size	0.1181 (10.29)***	—	0.1358 (9.20)***
Firm age	-0.0018 (-1.27)	—	-0.0013 (-0.87)
Mining	-0.0644 (-1.05)	—	-0.0584 (-0.90)
Manufacturing	-0.0726 (-1.04)	—	-0.0892 (-1.23)
Financial crisis	-0.0054 (-0.12)	—	-0.0099 (-0.21)
Venture capital involvement	-0.0252 (-0.33)	—	0.0183 (0.22)
BCOM change (%)	0.0008 (0.64)	—	0.0009 (0.71)
CEO tenure	—	0.0178 (1.82)*	-0.0004 (-0.05)
CEO ownership (%)	—	0.0005 (0.05)	0.0004 (0.05)
CEO ownership squared	—	0.0002 (0.96)	0.0000 (0.29)
Board size	—	0.3374 (2.86)***	-0.2529 (-2.54)**
Principal shareholder ownership (%)	—	-0.0001 (-0.10)	-0.0003 (-0.28)
Insider ownership (%)	—	-0.0031 (-0.43)	-0.0006 (-0.11)
Insider ownership squared	—	-0.0001 (-0.81)	-0.0000 (-0.16)
Independent board member (%)	—	-0.0011 (-0.58)	-0.0012 (-0.88)
F-value	18.75	3.57	11.15
Adj. R ²	0.56	0.14	0.57

Note: The value of t-statistics is in parentheses following coefficient estimates.

* ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively.

Table VIII Founder-director Effect on Firm Performance Measured by ROA

Intercept	-0.5697 (-6.85)***	-0.7228 (-2.90)***	-0.1096 (-0.54)
Founder-director	-0.0007 (-0.02)	0.0568 (0.88)	-0.0234 (-0.48)
Total asset turnover	0.1958 (3.88)***	—	0.2052 (3.56)***
Long-term-debt-to-asset ratio	-0.4223 (-4.41)***	—	-0.4204 (-4.30)***
Firm size	0.1194 (10.19)***	—	0.1387 (9.35)***
Firm age	-0.0021 (-1.42)	—	-0.0016 (-1.03)
Mining	-0.0675 (-1.09)	—	-0.0592 (-0.91)
Manufacturing	-0.0731 (-1.05)	—	-0.0892 (-1.23)
Financial crisis	-0.0016 (-0.03)	—	-0.0058 (-0.12)
Venture capital involvement	-0.0281 (-0.37)	—	0.0155 (0.19)
BCOM change (%)	0.0008 (0.64)	—	0.0009 (0.72)
CEO tenure	—	0.0188 (1.94)*	0.0009 (0.11)
CEO ownership (%)	—	0.0026 (0.26)	0.0024 (0.32)
CEO ownership squared	—	0.0002 (0.80)	0.0000 (0.13)
Board size	—	0.3342 (2.81)***	-0.2504 (-2.51)**
Principal shareholder ownership (%)	—	-0.0002 (-0.11)	-0.0004 (-0.44)
Insider ownership (%)	—	-0.0038 (-0.53)	-0.0010 (-0.20)
Insider ownership squared	—	-0.0001 (-0.72)	-0.0000 (-0.09)
Independent board member (%)	—	-0.0010 (-0.52)	-0.0012 (-0.86)
F-value	18.49	3.51	11.13
Adj. R ²	0.56	0.14	0.57

Note: The value of t-statistics is in parentheses following coefficient estimates.

* ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively.

Table IX Founder Status Effect on Firm Performance
Measured by Survival Status

Intercept	3.7885 (2.72)*	4.2109 (3.26)*
Founder-CEO	-0.9987 (3.60)*	—
Founder-director	—	-1.0018 (3.25)*
Total asset turnover	-1.0214 (3.43)*	-1.0536 (3.70)*
Long-term-debt-to-asset ratio	0.6358 (0.37)	0.4881 (0.23)
Firm size	-0.1044 (0.43)	-0.0911 (0.34)
Firm age	0.0704 (3.02)*	0.0725 (2.88)*
Mining	-0.2898 (0.18)	-0.4188 (0.38)
Manufacturing	-1.1651 (2.36)	-1.2039 (2.54)
Financial crisis	-0.4839 (0.98)	-0.4945 (1.04)
Venture capital involvement	0.3728 (0.19)	0.4730 (0.31)
BCOM change (%)	-0.0360 (7.26)***	-0.0370 (7.68)***
CEO tenure	-0.0385 (0.17)	-0.0612 (0.47)
CEO ownership (%)	0.1037 (6.80)***	0.0972 (6.36)**
Board size	-0.2760 (0.06)	-0.2480 (0.05)
Principal shareholder ownership (%)	-0.0113 (1.24)	-0.0128 (1.38)
Insider ownership (%)	-0.0305 (2.17)	-0.0308 (2.21)
Independent board member (%)	-0.0161 (1.05)	-0.0181 (1.41)
Likelihood ratio	29.96	29.68

Note: The value of Wald Chi-Square is in parentheses following coefficient estimates.

* , ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively.

Table X Tests of Relevant Transaction Hypothesis

Panel A Firm Performance Measured by Tobin's Q

	4.2637 (3.25)***	4.0897 (3.15)***	4.5327 (3.47)***	4.2879 (3.29)***
Intercept				
Founder-CEO	-0.4308 (-1.35)	-0.1674 (-0.49)	—	—
Founder-director	—	—	-0.6535 (-2.08)**	-0.4338 (-1.29)
Relevant transaction	—	-0.6226 (-2.01)**	—	-0.5313 (-1.73)*
Total asset turnover	-0.0306 (-0.08)	0.0855 (0.23)	-0.0354 (-0.10)	0.0590 (0.16)
Long-term-debt-to-asset ratio	0.2900 (0.45)	0.2618 (0.41)	0.2656 (0.42)	0.2752 (0.44)
Firm size	-0.3087 (-3.21)***	-0.2995 (-3.15)***	-0.2928 (-3.06)***	-0.2860 (-3.01)***
Firm age	-0.0075 (-0.77)	-0.0105 (-1.08)	-0.0102 (-1.04)	-0.0122 (-1.25)
Mining	0.0692 (0.16)	0.0644 (0.15)	-0.0182 (-0.04)	0.0113 (0.03)
Manufacturing	0.6950 (1.48)	0.7008 (1.51)	0.6367 (1.36)	0.6649 (1.44)
Financial crisis	-0.6418 (-2.08)**	-0.6783 (-2.23)**	-0.6301 (-2.07)**	-0.6585 (-2.18)**
Venture capital involvement	0.2305 (0.43)	0.1296 (0.24)	0.2762 (0.52)	0.1668 (0.31)
BCOM change (%)	0.0178 (2.21)**	0.0170 (2.13)**	0.0176 (2.21)**	0.0170 (2.15)**
CEO tenure	-0.0243 (-0.46)	-0.0370 (-0.7)	-0.0282 (-0.55)	-0.0352 (-0.69)
CEO ownership (%)	0.1328 (2.60)**	0.1214 (2.39)**	0.1274 (2.62)***	0.1236 (2.56)**
CEO ownership squared	-0.0032 (-2.94)***	-0.0028 (-2.64)***	-0.0030 (-2.90)***	-0.0028 (-2.74)***
Board size	-0.0612 (-0.09)	0.1731 (0.27)	-0.0254 (-0.04)	0.1647 (0.25)
Principal shareholder ownership (%)	0.0089 (1.34)	0.0082 (1.26)	0.0079 (1.21)	0.0075 (1.15)

Insider ownership (%)	-0.0613 (-1.78)*	-0.0591 (-1.73)*	-0.0599 (-1.76)*	-0.0594 (-1.76)*
Insider ownership squared	0.0012 (2.11)**	0.0011 (2.00)**	0.0012 (2.07)**	0.0011 (2.02)**
Independent board member (%)	-0.0097 (-1.07)	-0.0099 (-1.1)	-0.0107 (-1.19)	-0.0104 (-1.17)
F-value	3.90	4.00	4.12	4.12
Adj. R ²	0.28	0.29	0.29	0.30

Note: The value of Wald Chi-Square is in parentheses following coefficient estimates.

*,** and *** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively.

Table X Tests of Relevant Transaction Hypothesis

Panel B Firm Performance Measured by Survival Status

Intercept	3.7885 (2.72)*	3.6047 (2.41)	4.2109 (3.26)*	3.9768 (2.82)*
Founder-CEO	-0.9987 (3.60)*	-0.8923 (2.63)	—	—
Founder-director	—	—	-1.0018 (3.25)*	-0.8845 (2.30)
Relevant transaction	—	-0.3352 (0.42)	—	-0.3238 (0.40)
Total asset turnover	-1.0214 (3.43)*	-0.9695 (3.02)*	-1.0536 (3.70)*	-0.9999 (3.24)*
Long-term-debt-to-asset ratio	0.6358 (0.37)	0.6803 (0.39)	0.4881 (0.23)	0.5310 (0.26)
Firm size	-0.1044 (0.43)	-0.0926 (0.38)	-0.0911 (0.34)	-0.0812 (0.26)
Firm age	0.0704 (3.02)*	0.0664 (2.58)	0.0725 (2.88)*	0.0683 (2.49)
Mining	-0.2898 (0.18)	-0.2955 (0.18)	-0.4188 (0.38)	-0.4101 (0.35)
Manufacturing	-1.1651 (2.36)	-1.148 (2.27)	-1.2039 (2.54)	-1.1807 (2.42)
Financial crisis	-0.4839 (0.98)	-0.5086 (1.07)	-0.4945 (1.04)	-0.5259 (1.15)
Venture capital involvement	0.3728 (0.19)	0.306 (0.13)	0.4730 (0.31)	0.3928 (0.21)
BCOM change (%)	-0.0360 (7.26)***	-0.0364 (7.40)***	-0.0370 (7.68)***	-0.0372 (7.77)***
CEO tenure	-0.0385 (0.17)	-0.0432 (0.21)	-0.0612 (0.47)	-0.0639 (0.50)
CEO ownership (%)	0.1037 (6.80)***	0.1074 (6.98)***	0.0972 (6.36)**	0.1011 (6.57)**
Board size	-0.2760 (0.06)	-0.1021 (0.01)	-0.2480 (0.05)	-0.0882 (0.01)
Principal shareholder ownership (%)	-0.0113 (1.24)	-0.0115 (1.27)	-0.0128 (1.38)	-0.0121 (1.35)
Insider ownership (%)	-0.0305 (2.17)	-0.0326 (2.39)	-0.0308 (2.21)	-0.0327 (2.42)

Independent board member (%)	-0.0161 (1.05)	-0.0164 (1.10)	-0.0181 (1.41)	-0.0180 (1.39)
Likelihood ratio	29.96	30.39	29.68	30.07

Note: The value of Wald Chi-Square is in parentheses following coefficient estimates.

*, ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels, respectively.