Family Firms, Minority Investor Protection and Firm Performance

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Abstract

Corporate governance aims to protect (minority) shareholders from company insiders, namely managers or controlling shareholders. In this study, we investigate five relevant features of corporate governance in Switzerland: family ownership, dual class structures, voting rights restrictions, the opting-out/up clause from the duty to make a takeover offer and board independence. Our sample consists of 3,107firm-year observations (1998-2015) whereof 41 percent are family firms. Empirical evidence suggests that corporate governance, but also other firm characteristics of family firms differ widely from non-family firms. The figures also indicate that minority investor protection increased over the years. Finally, regression results suggest that dual class family firms are negatively correlated with firm performance. Family firms are also negatively related to firm performance if minority investor protection measured by an index is low. In contrast, board independence of family firms has no effect on firm performance. The results suggest that minority investor protection based on investor rights should be increased, while board independence is "in equilibrium".

Keywords: Corporate governance, family ownership, board independence, separation of ownership and control, minority investor protection, Tobin's Q

1. Introduction

The fundamental aim of corporate governance is to ensure that financial resources are used to sustain and create corporate value for all shareholders. Corporate governance has traditionally been aimed to protect shareholders from managerial misbehavior in widely-held corporations (Berle and Means, 1932; Jensen and Meckling, 1976). An example is the typical listed U.S. corporation. This classical principal-agent conflict usually occurs because (1) managers (agents) have an information advantage over shareholders (principals), (2) self-interested managers follow their own agenda, and (3) shareholders' costs of monitoring and sanctioning managers is higher than their benefits. Furthermore, these potential benefitswould have to be shared with free-riding co-shareholders. Obviously, such principal-agent problems do not occur in one-man businesses because the principal and the agent are one and the same person.This corporate form ishowever unsuitable for large and complex firms requiring substantial financial resources. Nevertheless, we can see hybrid corporate forms which are both listed and therefore open to dispersed (institutional) shareholders and in the same time closely-held by a large shareholder: listed family firms (La Porta, Lopez de Silanes, and Shleifer 1999; Claessens, Djankov, and Lang 2000; Faccio and Lang 2002). Listed family firms are especially prevalent in Asia (e.g., Samsung) and Europe (e.g., BMW in Germany or Roche in Switzerland). Also in the United States this form is not uncommon even for large corporations (e.g., Walmart).Many commentators sympathize with family firmsbecause family's time horizon (in contrast to institutional investors)is suggested to be longer and leading to superior and sustainable firm performance (see e.g.,The Economist, 2015; UBS, 2015).

In this study, we investigate corporate governance of listed family firms and its effect on firm performance in Switzerland. Specifically, we investigate five controversially discussed elements of Swiss corporate governance: family ownership, dual class structures, voting rights restrictions, the opting-out/up clause from the duty to make a takeover offer, and board independence.Using a sample of 3,107 firm-year observations, we find that corporate governance and firm characteristics differ significantly between the two sets of companies in almost all aspects. Regression results suggest that dual class family firms are negatively correlated with firm performance. Family firms are also negatively related to firm performance if minority investor protection using an index is low. In contrast, empirical evidence suggests that board independence of family firms has no effect on firm performance.

Our study contributes to corporate governance research in several ways. Firstly, lawmakers and regulators often implicitly assume that there exists one "good" corporate governance and corporate failures can thereby be prevented with new regulations (see e.g., Hertig, 2005; Enriques and Volpin, 2007; Coles, Daniel, and Naveen, 2008). However, family firms differ in their principal-agent-relationship and therefore the appropriateness of such legal rules for family firms may be questioned. Secondly, it has been argued that listed family firms circumvent agency problems associated with widely-held companies because families have incentives to actively monitor management (see e.g., Shleifer and Vishny, 1986; Anderson and Reeb, 2003). If family firms generate higher performance, free-riding investors can benefit from family's monitoring efforts. In contrast, if family firms are mainly vehicles to generate money and private benefits of control for the family, the nostalgic viewpoint of family dynasties and their presumably long-term orientation is misleading. Therefore while family firms may help circumventing moral hazard problems ex-post (monitoring by family), adverse selection ex-ante (quality of family governance) may present a significant problem for investors from an agency perspective.Furthermore, protecting family firms by politiciansand lobbyistscan hinder aspiring new companies entering markets.This is an important issue because from a societal viewpoint successful companies that generate sustainable shared value do also create jobs, pay taxes and invest in resource-saving processes.Thirdly, corporate problems or economic crisis often arise from weak corporate governance structures (see e.g., Johnson, Boone, Breach, and Friedman, 2000; Coffee, 2005). Therefore, corporate governance is an important element of risk management. We evaluate if markets anticipate and price information on potential failures in corporate governance in investigating the major features of corporate governance in Switzerland.Specifically, we shed light into corporate governance and the "checks and balances" of family firms. Furthermore, the investigation of corporate governance in family firms can deliver solutions to the improvement of corporate governance of private (non-listed) companies. This type of firm-control is prevalent worldwide.

Switzerland offers an excellent setting for this investigation for several reasons: Firstly, many studies focus on the United States where widely-held corporations dominate and therefore the principal-agent conflict concerns foremost managers and dispersed shareholders. The institutional environment (e.g., laws, norms, values, and politics) is argued to be an important determinant of ownership structures (see e.g., La Porta, Lopez-de-Silanes, and Shleifer, 1999;

Black, Gledson de Carvalho, and Gorga, 2012).Therefore, investigating a different country with a unique institutional environment can provide additional insights.Secondly, Switzerland is an interesting market to investigate because it is an advanced economy with important financial centers (Zurich and Geneva), a developed financial market, and a high market capitalization in relation to GDP. Such an economic structure is usually associated with dispersed ownership (La Porta, Lopez-de-Silanes, and Shleifer, 1999). However about 41 % of all Swiss firms can be described as family firms. Thirdly and in relation with the aforementioned point, according to Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008) Switzerland's legal environment is "extremely friendly to insiders and hostile to outside shareholders". Nevertheless, its stock market is highly valuable. The authors therefore reason that they have missed important features of investor protection which might cause this unusual relationship. Our aim is to identify the missing piece of this puzzle. Interestingly, the ongoing revision of corporate law in 2016 presumably only marginally improves minority investor protection. Fourthly,Swiss companies often protect themselves from hostile takeovers through pre-emptive defenses that are based on share characteristics stipulated in the articles of incorporation such as voting rights restrictions or dual class shares. Dual class shares are also important antitakeover provisions in the United States (see Gompers, Ishii, and Metrick, 2010).In contrast to the United States however, poison pills (shareholder rights plans), sales of crown jewels, golden parachutes or staggered boards (classified boards) are forbidden(see e.g., Bebchuk and Cohen, 2005; Faleye 2007).The board of directors is restricted in their use of defensive measures after a takeover offer is published. The target firm's board is not allowed to alter significantly its assets or liabilities without approval by shareholders meeting (e.g., sell assets of value of more than 10 per cent of balance sheet) and also staggered boards are ineffective because large shareholders may vote out directors at any ordinary or extraordinary shareholders meeting. However, voting rights restrictions and dual class shares make a hostile takeover almost impossible. As in many other countries outside the Anglo-Saxon system, the market for corporate control therefore plays a minor disciplining role in Switzerland.Fifth, corporate governance has been anespecially hotly debated topic for several years in Switzerland beginning with the corporate failure of Swissair, large pension payments promised to ABB managers in the early 2000s or excessive pay to managers of Novartis and Credit Suisse. The nature of the Swiss direct democracy has even let to the acceptanceof a corporate governance-related popular initiative

"against rip-off salaries" in 2013. The new law delegates power to the shareholders in approving salaries. Furthermore, golden parachutes or severance payments are now forbidden and directors are elected individually and annually by law. Nevertheless,Switzerland's corporate lawcan still be viewed as liberal in relation to corporate governance and debates are rarely related to the ownership structure.There is even almost consensus that family shareholders in Switzerland act in the best interest of the firm (see e.g., PwC, 2014).Sixth, companies listed on the SIX Exchange are very heterogeneous. Besides the World's largestcompanies such as Nestlé, Novartis, Roche or UBS, there are mid-sized or small-sized companies. Also, a variety of industries is represented: From health care (e.g., Galenica), to food producers (e.g., Barry Callebaut) or technology firms (e.g., OC Oerlikon).Hence, listed Swiss firms differ significantly concerning their size, industry, age, and ownership structure. Several studies show that firm's environment has an important effect on corporate governance and its effect on firm performance. Eventually we see significant differences in corporate governance practices across companies. We can therefore exploit the heterogeneity of corporate Switzerland. The paper is organized as follows. Section 2 presents the literature review and derives hypotheses. Section 3 describes data and variables. In Section 4, the empirical analysis is presented and Section 5 concludes.

2. Literature review

In case of severe and increasing agency costs and associated losses in firm value, shareholders can either sell their shares ("exit") or try to influence corporate policies through their voting rights at general assemblies ("voice") (see e.g. Hirschman 1970). Small shareholders usually follow the first option ('wall street walk'), while large shareholders usually follow the second option (see Ferreira and Matos 2008; Goergen, Martynova, and Renneboog, 2005; Parrino, Sias, and Starks, 2003). Capital markets (i.e., rather passive monitors such as stock market analysts; see Tirole 2001) punish badly managed firms, discount their share prices and, in consequence, these firms are likely to become subjects to hostile takeovers attempts (see Holmstrom and Tirole 1993; Jensen and Ruback 1983; Manne 1965). Hence, the disciplining feature corporate governance takes a variety of forms depending on firm characteristics.

2.1 Family firms and firm performance

Corporate governance is about the distribution of power within corporations and has often been

investigated from the perspective of large listed firms with dispersed ownership. While in Anglo-Saxon countries corporations are mostly held by a large number of institutional investors (e.g., pension funds), in the rest of the world, however, controlled companies (e.g., by a family) dominate the corporate sector (Faccio and Lang, 2002; Claessens, Djankov, and Lang, 2000). Where the ownership structure is fragmented, incentive issues exist which have the effect that the shareholders who possess relatively few voting rights are disempowered from performing supervisory duties and remain passive (Shleifer and Vishny, 1986). Firstly, this is because the cost of acquiring and analyzing information is very high relative to the benefit that a small shareholder may gain (analysis of the underlying issues, evaluation of voting options and the exercise of voting rights). Secondly, numerous (passive) shareholders can profit from the influence exercised by active shareholders without incurring costs (free-rider issues). Small shareholders have no need to interfere with management and can focus on portfolio diversification.Moreover, high transaction costs prevent the heterogeneous group of individual shareholders from coordinating their voting behavior and acting collectively (Olson, 1971).The absence of actively exercised voting rights and an efficient shareholder democracy are accepted as being reasons for misbehaving managers and excessive remunerations resulting in bad press over the last few years (see e.g., Ertimur, Ferri, and Muslu, 2011). Listed family firms can be situated between public widely-held companies and non-listed private companies.

Controlling shareholders have both enough voting rights (voice) and a financial interest to actively influence the management (Shleifer and Vishny, 1986). This active role is often visible, for instance, in the composition of the board of directors. Family shareholders are often meant to carefully monitor the management of "their" companies (see Burkart, Panunzi, and Shleifer, 2003). In this way, the classical owner-manager conflict can be mitigated (Villalonga and Amit, 2006; Bennedsen, Meisner Nielsen, Perez-Gonzales, and Wolfenzon, 2007). Lower agency costs would result in higher firm values and benefits all shareholders. Interestingly also in the United States many firms have family ownership. Anderson and Reeb (2003) identify one-third of the S&P 500 as family-controlled companies accounting for nearly 20 percent of the outstanding equity. They find that these corporations perform better than non-family firms (see also Miller and Le Breton-Miller, 2006; Villalonga and Amit, 2006; Barontini and Caprio, 2006). Maury (2006) differentiates between active and passive family control according to whether family members have executive positions in the firm or not. While there is a positive

relationship between active family control and operating performance, there is no effect related to passive owners (see also Andres 2008).The main advantage of family firms brought forward by literature is their relatively long investment horizon and their active involvement in monitoring which leads to higher firm performance (see e.g., Anderson and Reeb, 2003; Bertrand and Schoar, 2006).

However, there might also be divergence between the idiosyncratic interests of different investor groups. Controlling shareholders may also extract private benefits of control that compensate their monitoring costs. Family's private benefits of control can be both of pecuniary (e.g., private use of corporate assets) or of non-pecuniary nature (e.g., social status or prestige of owning a corporation).These private benefits can offset the shared benefits for all shareholders, and as a result, depress firm value (see Dyck and Zingales 2004; Denis and McConnell 2003). Several studies suggest that conflicts between large shareholders and minority shareholders may be even more severe than conflicts between minority shareholders and managers (see e.g., Shleifer and Vishny, 1997; La Porta, Lopez-de-Silanes, and Shleifer, 1999;Denis and McConnell, 2003; Thomsen, Pedersen, and Kvist, 2006). Besides shared benefits of control, the costs involved with monitoring the management are also netted by the extraction of private benefits of control.Shareholders have no legal duties and there is neither a duty to act in the firm's best interests nor a duty of care. Large shareholders may therefore influence corporate decisions which are not in the sense of all shareholders. This problem becomes even more significant in cases where control is obtained through a deviation of voting rights from cash flow rights (e.g., Villalonga and Amit 2009).

2.2 Minority investor protection

Thomsen, Pedersen and Kvist(2006) and Claessens, Djankov, Fan, and (2002)demonstrate that the objection between overly powerful shareholders on the one hand and low minority investor rights on the other hand is prevalent in Continental Europe and Asia, respectively.Corporate governance arrangements that protect minority investor interests may offset the potentially negative effect of family firms. For example, the principle of one share-one vote aligns voting rights and financial risks of family firms. As a result, the interests of family shareholders and minority investors would also be more closely aligned. The removal of dual class shares and voting rights restrictions would improve minority investor rights. However, as these devices are

often voluntarily in nature, controlling shareholders must remove such mechanisms by themselves (e.g., by amending the articles of incorporation).Several empirical studies find evidence that more investor rights positively affect firm performance (see, e.g., Gompers, Ishii, and Metrick, 2003; Masulis, Wang, and Xie, 2007;Bebchuk, Cohen, and Ferrell, 2009). Similarly, in a recent paper, Cremers and Ferrell (2014) find a negative relationship between restrictions on shareholder rights and Tobin's Q. It is also commonly assumed that independent directors mitigate conflicts between shareholders and managers, and therefore safeguard the interests of the shareholders. However, empirical evidence on the effect of board independence on firm performance is mixed at best (see e.g., Dalton, Daily, Ellstrand, and Johnson 1998; Bhagat and Black, 2002; Bhagat and Bolton, 2008; Nguyen and Nielsen, 2010).Furthermore, Dahya, Dimitrov and McConnell (2008) document a trade-off for a dominant shareholder to appoint independent directors. On the one hand, independent directors reduce the value loss associated with the dominant shareholders' potential to expropriate firm wealth. On the other hand, the dominant shareholders lose exactly this possibility to extract private benefits.In addition, the board's role changes when managers behave themselves aligned with the shareholders' interests. In contrast to the agency-perspective, Davis, Schoorman, and Donaldson (1997)introduce the stewardship theory. They argue that managers act as intrinsically motivated stewards of the owners and not as self-seeking agents. Managers are likely to associate themselves with family shareholders. In these circumstances, there are no conflicts of interest between managers and shareholders. The board should then rather function as a sparring partner in strategic decisions. The interrelationship therefore between family firms, minority investor protection, and firm performance is vast and complex.

3. Data Description and Definition of Variables

3.1 The Sika case of 2014

The specifics of corporate governance in Switzerland is best described with a very prominent and actual case beginning in the end of 2014. This case is used for many commentators as a prime example of failure in corporate governance and the weak protection of minority investor rights (see e.g., Finanz und Wirtschaft, 2016). Family Burkard, the owners of Sika, a firm from the chemical industry, announced that they sell their control stake to French competitor Saint-Gobain for CHF 2,75 bn. The family should receive a premium of around 80 % while minority

investors would receive no compensation on the change of control. Within 4 days, share value of the listed share decreased by 28 percent harming minority investors. Several aspects related to corporate governance complicated this deal. The firm has a dual class structure allowing the family to control 53 % of the voting rights (via unlisted shares which they intended to sell) with only 16 % of the cash flow rights. The articles of incorporation included also voting rights restrictions ("Vinkulierung") which allowed the board of directors to cap the voting rights of a shareholder to a maximum of 5 %. The articles also included an opting-out clause excepting the acquirer to make an offer to all shareholders as stipulated by Swiss takeover law. The board of directors was composed by 6 independent directors and 3 representatives of the family. Because the majority of the board are independent, the board restricted the family's voting rights (according the articles of incorporation) to prevent a change in the composition of the board.The family therefore unsuccessfully tried to appoint new board members at the following general meeting. In this case, the family, as they introduced the voting rights restriction, harmed itself. As the example shows, corporate insiders may install provisions that lower minority investor protection and impede hostile takeovers.The combination of various elements of Swiss corporate governance has been called an «explosive mixture» (proxy advisor Ethos, Sonntagszeitung, 2014) or «[The] Burkard-Schenker-Code» named after the family name (TagesAnzeiger, 2015).We summarize the mechanisms related to minority investor protection in Switzerland.

Dual class shares. Companies may issue different classes of shares, such as super voting shares or non-voting shares. Super voting shares have the right to one vote per share, however, their nominal value which relates to their capital investments is lower. Hence, those shares have more voting rights in relation to their cash flow rights. The maximum ratio allowed is 1:10. Furthermore, companies can issue non-voting shares (e.g., certificates of participation). These shares grant full economic rights but no voting rights. In both cases voting rights are decoupled from cash flow rights. As an example, Richemont, a luxury goods holding company, has two classes of shares outstanding: listed 'A' and unlisted 'B' shares. Because the par value of 'B' shares is ten times lower than the par value of 'A' shares, the 'Compagnie Financière Rupert' which holds all 'B' shares controls 50 percent of voting rights, but only 9.1 percent of cash flow rights. Google, Linkedin, Groupon, and Facebook in the United States have all created two classes of shares which Gompers et al. (2010) define as the most 'extreme example of

antitakeover protection'.

Voting rights restrictions[1]. Many company's articles of incorporation stipulate that a shareholder is only allowed to make use of their voting rights up to a certain threshold (often 5 %). Hence, also an ownership stake of 15 % would only allow 5 % of voting rights at the general meeting which makes it almost impossible to initiate changes. For instance, the British hedge fund Laxey had to stop his takeover ambitions because Implenia's board, a construction firm, only registered 4.8 percent of their shares even though the fund's ownership amounted to 38 percent and minority investors opposed Laxey at an extraordinary meeting to remove the voting restriction. Similarly, voting rights restrictions at Georg Fischer, an industrial concern, averted the private investor Giorgio Behr from extending his voting stake.

*Opting out/up.*In 1998 the Stock Exchange Act (SESTA) introduced to duty to make a public offer if shareholders passed the threshold of 33 percent of voting rights. However, the law also allows firms (or more precisely its shareholders at general meetings) to opt out of the obligation that a shareholder has to make a tender offeror to opt up the threshold to 49 percent. In this case, minority shareholders are not able to tender their shares if they do not want to stay invested when the control structure changes significantly.

*Board independence.*The board's independence is one of the most widely investigated element of corporate governance (see e.g., Dalton, Daily, Ellstrand, and Johnson 1998; Bhagat and Black, 2002; Bhagat and Bolton, 2008; Nguyen and Nielsen, 2010). The Swiss Code of Best Practice defines directors as independent if they are not actual or former executives (within 3 years) and if they have no material business relationships with the company. According to this definition however, the directors of Sika would all qualify as independent.In practice, three directors were not independent from the family underlining the importance to also take into consideration directors' links to large shareholders or their own ownership.

We would expect that equity prices reacted to the drastic news of the Sika case. Interestingly however, the share prices of similar stocks did not react to the announcement of this very strong

[1] From a passive minority shareholder's perspective, strong shareholders who follow their own agenda may also be regarded as a risk element and thereby voting rights restrictions may seem rather positive. Traditional transfer restrictions (or limitations) are in place for about 75 percent of companies in our sample with registered shares (e.g., for nominees). However, transfer limitations without explicit voting rights restrictions have no real protective character in terms of takeover risk. Typically, nominees do not provide personal information about the indirect owners and therefore are only allowed up to a maximum of 3 percent of voting rights.

case of bad corporate governance. At the end of 2014, only three firms had the same corporate governance characteristics as Sika (i.e. family ownership, dual class share structure, voting rights restrictions, and opting-out/up clause): Metall Zug, Schindler, and Swatch. In contrast to Sika, Schindler and Swatch had both type of share classes listed which makes it tempting to analyze the effect of the Sika case on their shares' returns. However, Figure 1 shows that there was no strong market reaction. After all, the class of shares that would lose in a similar case (Schindler PS, Swatch I) was lower on the 12th of December than the stock that would potentially win (Schindler N, Swatch N). Furthermore, when comparing Family firms with opting-out/up-clauses to Non-family firms the stock price even moved diametrically to what could have been expected (see Figure 2).

[Insert Figure 1 about here]

[Insert Figure 2 about here]

3.2 Legal minority investor protection

Swiss corporate law of course also includes fundamental legal minority investor protection (see e.g., Müller, Lipp, and Plüss, 2011). For example, the directors' duty of care and duty of loyalty provides basic legal protection to shareholders. Directors are responsible that the company is adequately ran and that all shareholders are equally treated. Shareholders can suit directors for their responsibility if they breach their duties ("Verantwortlichkeitsklage"). Shareholders have the right to be informed by the company (e.g. annual report, ad-hoc publicity). Furthermore, shareholders have the possibility to request a special audit on the board's decisions ("Sonderprüfung"). In addition, shareholders have the right of the annulment of general meeting decisions if these violate the law or the articles of incorporation ("Anfechtungsklage"). Shareholders also have fundamental non-transferable competencies (e.g., election of board members, change articles of incorporation) and decisions at general meetings are mostly based on a majority vote. Shareholders who have at least 10 percent of share capital may request an extraordinary shareholders meeting or request to include an agenda item at the general meeting. The request of an agenda item requires usually less than 3 percent. Shareholders' own

statements on their requested items, however, must not be communicated by the board of directors. An important potential problem lies in the fact that shareholders and therefore family shareholders themselves have neither a duty of care nor a duty of loyalty.[2]

3.3 Data

We gather information on all firms from the Swiss Performance Index (SPI) from 1998 to 2015. Our sample consists of3,107 firm-year observations. Corporate governance data has been hand-collected from annual reports. Financial data has been obtained from *Thomson Reuters Datastream*.

3.4 Definition of Variables

3.4.1 Firm governance variables

We define *Family firms* as firms that are controlled by families or individuals having 20 percent or more of voting rights (see Faccio and Lang, 2002). We use this definition because (1) 20 percent are commonly enough to exercise control and (2) it is often difficult to differentiate between families and individuals.*Dual class* takes the value of 1 if the firm has two (or more) classes of equity outstanding (and 0 otherwise). Dual class shares undermine a group of shareholders' voting rights (see La Porta, Lopez-de-Silanes, and Shleifer, 1999; Bebchuk, Kraakman, and Triantis, 2000; Cronqvist and Nilsson, 2003). *Opting-out/up* is 1 if the firm has opted out/up from the requirement that shareholders have to make a public offer to all shareholders if they pass the threshold of 33,3 % of voting rights. *Voting rights restrictions* is 1 if the board of directors can restrict the voting rights of shareholders if they pass a certain threshold (most commonly 5 %).

The board of directors is one of the most important mechanisms of corporate governance. We use a number of variables describing board independence. In particular, we define board independence in two ways: (1) *Board independence* is the proportion of board members who are not actual or former executives of the company and who have no material business relationships with the firm. This is the most commonly used definition of board independence (see e.g., Economiesuisse, 2014). (2) *Full independence* is the proportion of board members

[2] Shareholders of public corporations in Switzerland primarily have two duties: first, the duty to disclose significant shareholdings (Federal Act on Stock Exchanges and Securities Trading SESTA, Art. 20), and second, the duty to make a (public tender) offer when exceeding a specific threshold (SESTA Art. 32). The two principles protect minority shareholders who may not remain invested in the company when new shareholder groups acquire control (e.g., without this regulation a party could obtain a voting majority without tender offer).

defined as independent as in (1). In addition, they are neither a *Shareholder representative* nor a *Family representative* (i.e., they can be associated to a family or an individual blockholder that has more than 3 percent of voting rights), nor a *Blockholding director* (i.e., owner of more than 3 percent of voting rights) and have no *Long tenure* (i.e., over 9 years of board membership).

3.4.2 Firm performance

We use *Tobin's Q* as a proxy for firm performance. Tobin's Q is calculated as total assets plus market value of equity minus total equity divided by total assets which we use as anapproximation of replacement value (see Agrawal and Knoeber 1996; Loderer and Peyer 2002). The market value of equity is the average share price 5 days before and 5 days after the last trading day of the year multiplied by the number of outstanding shares. In this study, all classes of equity are considered, not only the traded stocks. The market value of non-listed stock is estimated according to the listed stock price adjusted for different face values as stipulated by the Swiss Tax Conference.The consideration of all equity types is important since valuation differs significantly if only the listed class is considered and family firms often issue two classes of equity.

3.4.3 Control variables

Both corporate governance and firm performance depend on a number of firm characteristics. To mitigate omitted variable bias, we therefore include a number of control variablescommonly used in the literature (see e.g., Demsetz and Villalonga 2001; Bebchuk, Cohen, and Ferrell 2009; Aggarwal, Erel, Stulz, and Williamson 2010; Knyazeva, Knyazeva, and Masulis 2013). *Size* is the natural logarithm of total assets and is our measure of firm size. Diversification is 1 if the company reports more than one significant business segment. *Sales growth* is computed as the median yearly sales growth over 4 periods.*Firm age* is the natural logarithm of the number of years of the firm's existence.*Profitability* is the ratio of EBITDA to past years' total assets.*Liquidity* is the ratio of cash holdings to total assets.*Investments* is the ratio of capital expenditures to total assets.*Tangibility* is the ratio of property, plant and equipment to total assets.*R&D* is a dummy variable and equals 1if the company discloses expenditures in Research and Development. *Leverage* is total debt to total assets.Furthermore, we employ 15 *Industry dummy* variables to capture time-invariant industry characteristics (e.g., regulation, competition or growth opportunities) and *Time fixed effects*that account for time trends such as recessions

and expansions.

The definitions of variables and descriptive statistics are summarized in Table 1 and Table 2. As Table 2 shows 41 percent of all listed firms in Switzerland are controlled by a family. Figure 3 demonstrates that family firms remain a stable component of Swiss firms and its proportion even increased lately. Meanwhile, minority investor protection improved over the last 18 years. The overall Minority Investor Protection Index (see 4.2) increased, dual class shares and voting rights restrictions decreased. The proportion of firms using multiple classes of shares decreased since 1998 mainly due to a simplification of share structure using only registered shares. Furthermore, conventionally defined director independence increased, while fully defined director independence remained stable.

[Insert Table 1 about here]

[Insert Table 2 about here]

[Insert Figure 3 about here]

4. Empirical Analysis

Our study aims to investigate differences in corporate governance between family firms and non-family firms, and how these differences affect firm performance. Our main model is as follows:

$$\text{Tobin's } Q_i = \alpha_0 + \beta_1 \text{Family firm}_i + \beta_k \text{Firmgovernance}_{i,k} + \beta_k \text{Controlvariables}_{i,k} + \varepsilon_i$$

4.1 Hypotheses and empirical results

4.1.1 Family firms and corporate governance

The principal-agent relationship in family firms is very different from widely-held companies. Family shareholders have incentives to actively monitor management and therefore the classical agency problem between managers and shareholders is likely to be not severe.

However, conflicts between family shareholders and minority shareholders may exist. Family shareholders may extract private benefits of control at the cost of minority investors. As a result, corporate governance is likely to differ significantly between family firms and non-family firms.

Hypothesis 1: Corporate governance of family firms differs significantly from non-family firms

[Insert Table 3 about here]

As is already apparent from summary statistics, family firms differ from non-family firms in almost all aspects. Regression results in Table 3 indicate that family firms have a significant impact on minority investor protection. Family ownership has a significant positive relationship with dual class structures and optingout/up, and a negative effect on the overall Minority Investor Protection Index. In contrast, family firms are negatively related to voting rights restrictions and board independence using both definitions. We therefore cannot reject Hypothesis 1.

4.1.2 Family firms, minority investor protection, and firm performance

Family shareholders with substantial voting rights have the possibility to direct the company to their preferences. Assuming that these preferences are related to higher firm performance, all shareholders benefit from family's monitoring efforts. We formulate the following hypothesis.

Hypothesis 2: Family firms are associated with higher firmperformance

Figure 4illustrates the relationship by comparing family ownership in percentage and Tobin's Q. The figure illustrates that a higher family ownership stake goes along with lower Tobin's Qs. However, this relationship may stem from general differences in corporate governance or firm characteristics. We therefore run regression models that control for these differences. Table 4 shows that neither family ownership nor minority investor protection has a significant effect on firm performance. We therefore reject Hypothesis 2. However, the results in Table 4

Columns VII and VIII show that dual class family firms have a negative effect on firm performance. To investigate this relationship more precisely, we run separate regressions with super voting shares, their voting leverage (e.g., 2 equals 1 voting right per 0.5 cash flow rights), and non-voting shares. The empirical evidence confirms that family firms in relationship with dual classes (both super voting shares and non-voting shares) have a negative effect on firm performance. These results also suggest that markets sanction family control if control is obtained by disentangling voting rights from cash flow rights.

[Insert Table 4 about here]

[Insert Table 5 about here]

4.1.3 Minority Investor Protection Index (MIPI)

For systemizing the prevailing system of minority investor protection, we develop a 'Minority Investor Protection Index' (MIPI). The MIPI allows to indicate the possibility for minority (outside) shareholders to raise their voice in order to influence corporate decision-making at general meetings vis-à-vis of family shareholders (or board of directors). The degree to which minority investors are included in the decision-making process is mostly determined by the specifications in the articles of incorporation. Namely, the prevalence of dual classshares (e.g., non-voting shares) and voting rights restrictions. The construction of the index requires analyzing the equity structure, the types of equity securities, and potential voting rights restrictions.

[Insert Table 6 about here]

The interaction between different levels of MIPI and family ownership creates four main constellations of firm control:

1. MIPI high/no family firm: A high MIPI and no family firm is symbolic for Anglo-Saxon markets. Voting rights correspond to cash flow rights (one share-one vote [-one class]), and 'active' large shareholder control is likely to be missing. Without voting rights restrictions and

if shareholders vote with their 'feet', the market for corporate control may unfold its potential because outside shareholders may attempt to take over control because of deflated equity prices.

*2. MIPI high/family firm:*A high MIPI and family firm implies that 'active' shareholders are likely to control managers: firstly, because large voting rights positions create incentives for monitoring; secondly, voting rights correspond to cash flow rights and therefore shareholders are exposed to congruent financial risk. In this situation, family shareholders are fully affected by a loss of firm value. Additionally, high MIPI signifies that minority shareholders can use their voice to influence firm decisions, as well, i.e., the 'voice' of the second largest shareholder may count. The expropriation of private benefits is therefore less likely to occur.

*3. MIPI low/no family firm:*A low MIPI and no family firm portents that there is a lack of 'active' as well asminority shareholder control. This constellation is very rare, as for example two classes of shares typically go along with a consolidation of voting rights within the hands of one shareholder.

*4. MIPI low/family firm:*A low MIPI and family firm is a situation where large shareholders benefit from dual class structures and minority shareholders therefore have little influence at general meetings. Hence, minority shareholders depend on the reliability of large shareholders. Because large shareholders do not bear the corresponding financial risk, the expropriation of private benefits of control is likely to occur. These conditions typically occur in Continental Europe or Asia.

The MIPI systematically describes the degree of corporate control that is affected by the articles of incorporation. We suppose that family firms positively affect Tobin's Q if minority investor protection is high. Therefore, we formulate two hypotheses:

Hypothesis 3a: High minority investor protection and family firms are positively associated with firm performance

Hypothesis 3b: Low minority investor protection and family firms are negatively associated with firm performance

[Insert Table 7 about here]

Table 7 provides empirical evidence that an interaction between minority investor protection

and family firms has a positive effect on firm performance. The result however is again driven by a negative impact of low investor protection (e.g., dual class) and family firms. In Table 8 in addition to minority investor provisions as stipulated in the articles of incorporation, we add board independence as a potential important element of minority investor protection. However, these results provide no evidence of a positive effect of board independence. In contrast, conventionally defined independent directors appear to have a negative impact on firm performance.

[Insert Table 8 about here]

Family shareholders may extract private benefits of control, and therefore the interests of family shareholders and minority shareholders may not be aligned. If these private benefits of control are large, they might offset the potential monitoring benefits. Therefore, family firms may have a negative effect on firm performance. Minority investor protection, namely dual class shares, voting rights restrictions, opting out/up, and board independence mitigate the potentially negative effect on firm performance in family firms. We therefore formulate the following hypothesis:

> *Hypothesis 4:* Minority investor protection is positively related with firm performance in family firms

To investigate the impact of minority investor protection and family firms on firm performance, we run regressions on subsamples of family firms and non-family firms. The results in Table 9 show no significant relationship between minority investor protection and firm performance in both family firms and non-family firms. Interestingly however, dual class and board independence have a counterintuitive impact on firm performance. The results can be interpreted that while board composition is "in equilibrium" in family firms (there is no significant impact on firm performance), board composition in non-family firms may be "out-of-equilibrium". Hence the argument that board independence may be more important in widely-held companies than in family firms because the traditional agency conflicts that board independence is aimed to solve cannot be confirmed. We therefore reject Hypothesis 4.

[Insert Table 9 about here]

4.1.4 Robustness

Our definitions of family firms or board independence may not be appropriate or we may omit other controlling factors such as ownership of the second largest shareholder or the number of large shareholders. We investigate the robustness of our definitions. The results are presented in Table 10. The new specifications of our variables and the additional control variables have no impact on the relationship between family firms and firm performance.

[Insert Table 10 about here]

4.1.5 Investment policies

One reason why family firms are expected to generate superior long-term returns is their longer time horizon. Families typically hand over control of a company from one generation to another. In order to sustain control within the company, family firms are meant to be long-term oriented and therefore invest long run. However, as families are often not diversified, they might be inclined to pursue risk-averse investment policies. Anderson, Duru, andReeb (2012) find that while family firms are positively related to investing in physical assets (capex), they are negatively related to riskier R&D projects. We therefore formulate the following hypothesis:

Hypothesis 5: Family firms are positively related tolong-term investments

[Insert Table 11 about here]

Table 11 provides empirical evidence that family firms have an impact on investment policies. Family firms are negatively related to R&D investments. However, there is no significant relationship between capital investments or the number of takeovers. The results are in line with the findings of Anderson, Duru, and Reeb (2012). We therefore reject Hypothesis 5.

5. Conclusions

Understanding the effect of different corporate governance arrangements is crucial. Functioning corporate governance increases trust of capital market participants and therefore facilitates access to capital which can be used to develop innovative products, create jobs and growth (see e.g.,Claessens and Yurtoglu, 2013). Thereby optimal corporate governance is essential for any economy. In consequence, corporate governance has been a hotly debated topic for years.However, the optimality of specific corporate governance arrangements is affected by the firm's principal-agent relationships and the firm's environment. Our study shows that corporate governance differs significantly between family firms and non-family firms. We also find that low minority investor protection, especially dual class shares, have a significant negative effect on firm performance. Our results suggest that "one share-one vote" remains a very important topic and corporate governance reforms should be aimed to improve shareholder democracy. For example, as a counterweight to family shareholders, minority investors with a long-term focus could be granted double voting rights after 5 yearsfor example such as in France. However, such arrangements should be firm-specific and stipulated in the articles of incorporations rather than being included in corporate law. Reforms most commonly implicitly assume that there exists one optimal solution to corporate governance and there is evidence that this is not the case.

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Figures

Figure 1

Stock price reaction of Schindler, Swatch, and Metall Zug

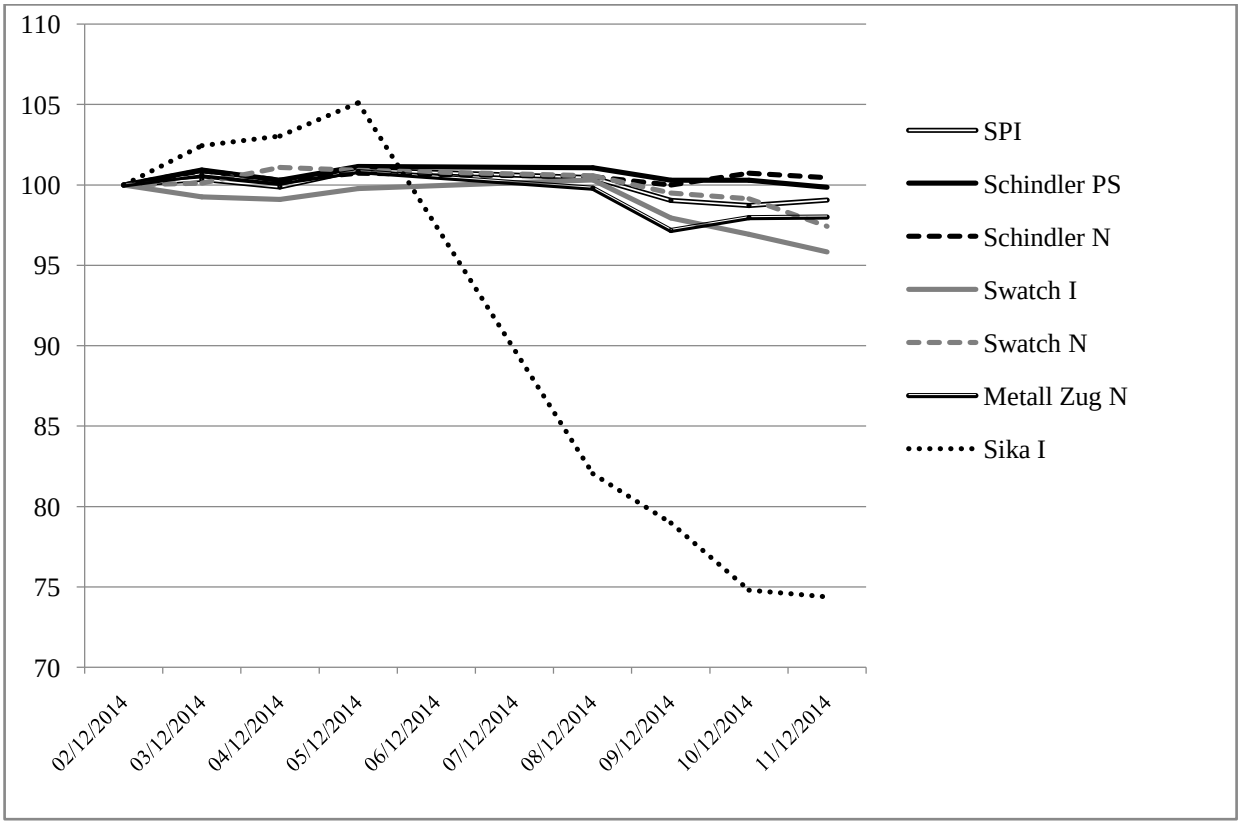


Figure 2

Stock price reaction of Non-family firms and Family-firms with opting-out/up-clauses

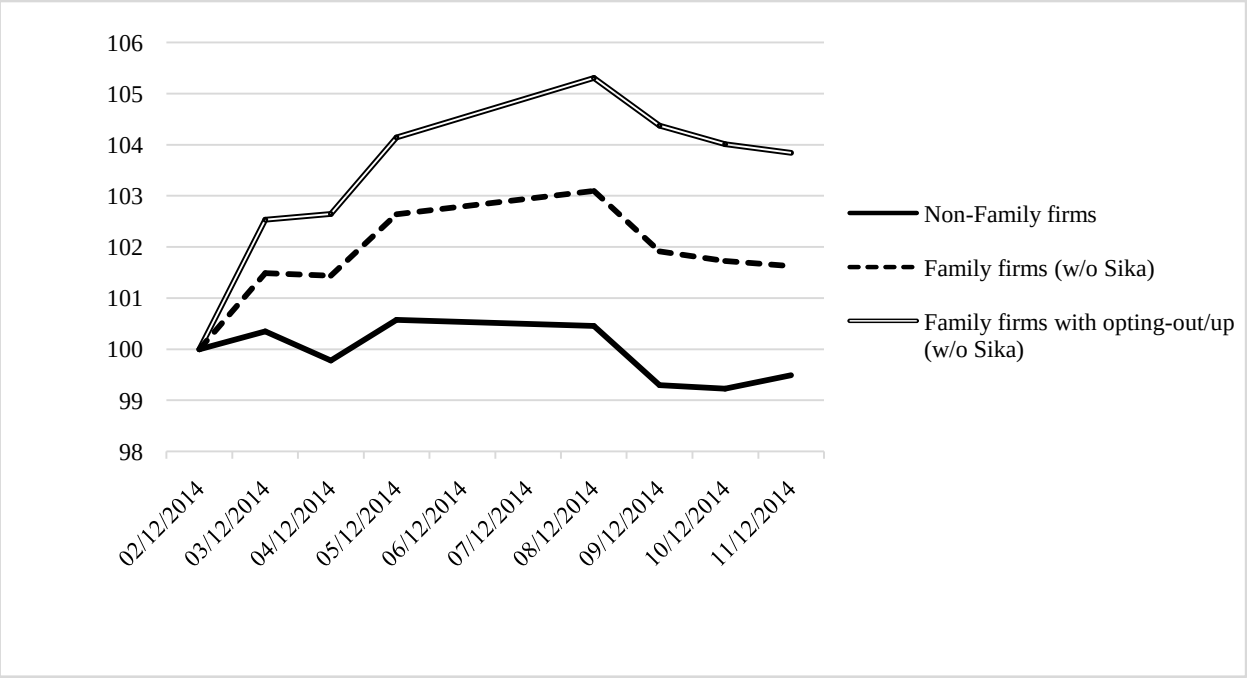


Figure 3

Family firms, minority investor protection and Tobin's Q

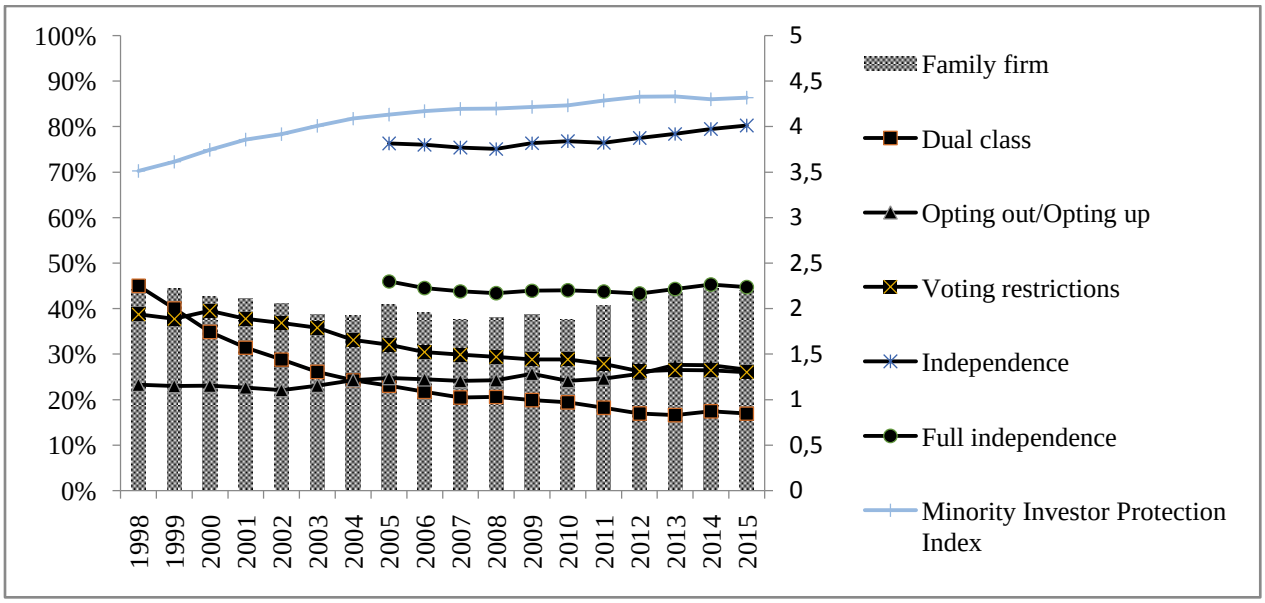
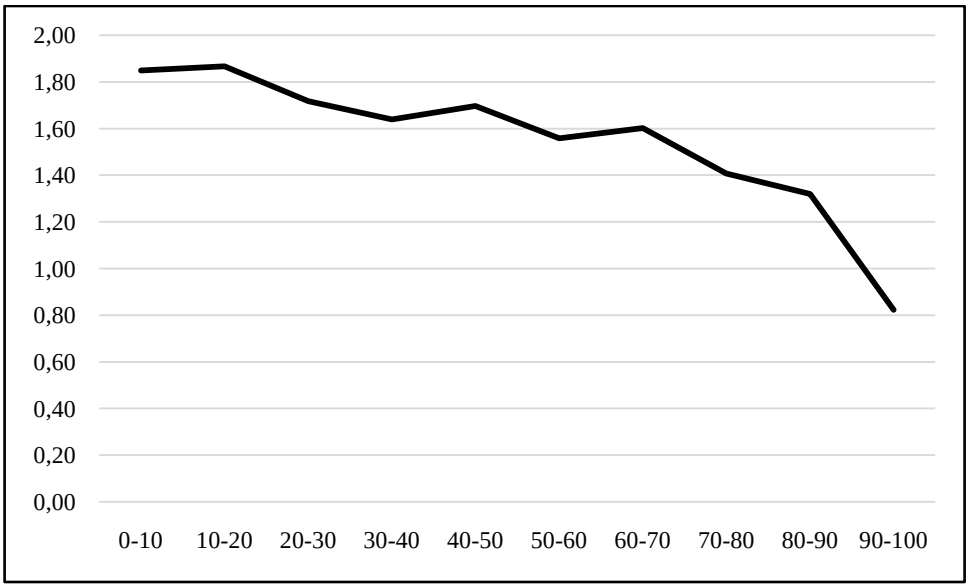


Figure 4

Family ownership in percentage and Tobin's Q



Tables

Table 1
Definition of variables

Panel A: Firm governance	
Family firm	1 if family has more than 20 percent of voting rights
Dual class	1 if family has more than 1 class of share outstanding
Opting out/Optingup	1 if the company has opted out or up to the duty to make a public offer
Votingrightsrestrictions	1 if voting rights are restricted
Minority Investor Protection Index	Minority Investor Protection Index
Board independence	Proportion of independent directors on the board
Fullindependence	Proportion of fully independent directors on the board
Shareholder representative	Proportion of shareholder representatives on the board
Family representative	Proportion of family representatives on the board
Blockholding director	Proportion of directors with significant shareholdings over 3 percent
Long tenure (> 9 years)	Proportion of directors with long tenure (> 9 years)
Panel B: Firm performance	
Tobin's Q	Total assets plus market value of equity minus book value of total equity divided by total assets, winsorized at 5% and 95%
Panel D: Firm characteristics	
Size	Total liabilities and total shareholders' equity
Diversification	1 if the company has more than one significant business segments
Salesgrowth	Geometric mean of annual net sales growth over 4 periods, winsorized at 5% and 95%.
Firm age	Year of the firm’s establishment minus the current year plus 1
Profitability	Ratio of EBITDA to lagged total assets, winsorized at 5% and 95%.
Liquidity	Ratio of cash and equivalents to total assets
Investments	Ratio of capital expenditures to total assets
Tangibility	Ratio of property, plant and equipment to total assets
R&D	1 if R&D expenditures disclosed
Leverage	Ratio of total liabilities to total assets

Table 2

Summary statistics

The table provides summary statistics for the variables in the full sample. The sample is based on 3,107 firm-year observations from 1998 to 2015.

	Full sample		Sample		Family firm	Non-family firm	
Years	1998-2015				2005-2015		
Numberofobservations	3,107		2,035		828	1,207	t-test /
	Mean	s.d.	Mean	s.d.	Mean	Mean	(Wilcoxon-test)
Panel A: Firm governance							
Family firm	0.41	0.49	0.41	0.49	—	—	
Dual class	0.23	0.42	0.19	0.39	0.33	0.09	*** / (***)
Opting out/Optingup	0.25	0.43	0.25	0.44	0.46	0.11	*** / (***)
Votingrightsrestrictions	0.31	0.46	0.28	0.45	0.20	0.34	*** / (***)
Minority Investor Protection Index	4.10	1.36	4.24	1.28	3.96	4.44	*** / (***)
Board independence			0.77	0.21	0.73	0.80	*** / (***)
Fullindependence			0.44	0.26	0.38	0.48	*** / (***)
Shareholder representative			0.13	0.23	0.08	0.18	*** / (***)
Family representative			0.08	0.16	0.17	0.02	*** / (***)
Blockholding director			0.08	0.14	0.12	0.05	*** / (***)
Long tenure (> 9 years)			0.28	0.25	0.34	0.25	*** / (***)
Panel B: Firm performance							
Tobin's Q	1.56	0.80	1.61	0.82	1.64	1.59	— / (**)
Panel D: Firm characteristics							
Size	25,270	141,971	26,150	148,759	3,419	41,739	*** / (***)
Diversification	0.72	0.45	0.70	0.46	0.83	0.61	*** / (***)
Salesgrowth	0.04	0.11	0.03	0.11	0.03	0.03	— / (—)
Firm age	76	63	75	63	69	79	*** / (*)
Profitability	0.10	0.09	0.09	0.09	0.11	0.09	*** / (***)
Liquidity	0.16	0.16	0.17	0.17	0.18	0.16	* / (***)
Investments	0.03	0.04	0.03	0.04	0.04	0.03	*** / (***)
Tangibility	0.24	0.22	0.22	0.21	0.24	0.20	*** / (***)
R&D	0.43	0.49	0.46	0.50	0.55	0.39	*** / (***)
Leverage	0.57	0.24	0.56	0.25	0.51	0.59	*** / (***)

Table 3

Logit, orderedlogitandfractionallogitregressions: familyfirms, minorityprotectionandboardindependence

The sample isbased on 3,107 firm-yearobservationsfrom 1998 to 2015 and 2,035 firm-yearobservationsfrom 2005 to 2015. White standarderrorsarereported in parentheses, andsignificance at the 1, 5, and 10 percentlevelsisindicatedby ***, **, and * respectively.

	Dependent variable											
	(I)		(II)		(III)		(IV)		(V)		(VI)	
Independent variables	Dual class		Opting out/up		Votingrightsrestrictions		MinorityProtection Index		Board independence		Fullboardindependence	
(Intercept)	-15.04868	(***)	-16.81441	(***)	-2.57329	(***)			0.30693		-0.47205	
	(0.730)		(0.845)		(0.631)				(0.355)		(0.301)	
Size	0.03110		-0.18666	(***)	0.15958	(***)	-0.14997	(***)	0.08756	(***)	0.07990	(***)
	(0.036)		(0.032)		(0.027)		(0.024)		(0.017)		(0.015)	
Diversification	0.22228		-0.38509	(***)	0.18290		-0.32569	(***)	0.11036		-0.08093	
	(0.138)		(0.142)		(0.119)		(0.093)		(0.067)		(0.057)	
Salesgrowth	-1.24150	(**)	0.52973		0.56926		0.31310		-1.00125	(***)	-0.74909	(***)
	(0.591)		(0.496)		(0.452)		(0.336)		(0.253)		(0.228)	
Firm age	0.31806	(***)	0.02378		0.08846	(**)	-0.16019	(***)	0.02461		-0.09289	(***)
	(0.067)		(0.054)		(0.045)		(0.033)		(0.027)		(0.025)	
Profitability	-0.00211		-0.18703		2.76719	(***)	-0.86128	(*)	0.19757		0.13232	
	(0.776)		(0.687)		(0.597)		(0.461)		(0.330)		(0.306)	
Liquidity	1.41807	(***)	0.70886	(**)	-1.26144	(***)	-0.36717		-0.03801		-0.09413	
	(0.506)		(0.344)		(0.339)		(0.249)		(0.173)		(0.159)	
Investments	1.66987		-5.31530	(***)	-3.98849	(**)	2.21444	(**)	-0.64667		-1.92162	(**)
	(1.602)		(1.950)		(1.575)		(1.097)		(0.957)		(0.951)	
Tangibility	-1.31230	(***)	1.85596	(***)	1.04760	(***)	-0.56647	(**)	0.26666		-0.14740	
	(0.368)		(0.404)		(0.346)		(0.234)		(0.193)		(0.187)	
R&D	-0.34065	(**)	0.05052		0.08695		0.28567	(***)	-0.30582	(***)	0.20792	(***)
	(0.140)		(0.125)		(0.119)		(0.082)		(0.062)		(0.057)	
Leverage	-0.71543	(*)	1.14253	(***)	0.16883		0.28803		0.53374	(***)	0.76665	(***)

	(0.404)		(0.295)		(0.274)		(0.219)		(0.150)		(0.139)	
Family firm	2.98340	(***)	2.14946	(***)	-0.90659	(***)	-0.80266	(***)	-0.13901	(***)	-0.42174	(***)
	(0.163)		(0.114)		(0.101)		(0.073)		(0.053)		(0.048)	
Fixed effects	Industry, Years		Industry, Years		Industry, Years		Industry, Years		Industry, Years		Industry, Years	
McFadden	0.29		0.25		0.13		0.07		0.10		0.09	
Method	Logit		Logit		Logit		OrderedLogit		FractionalLogit		FractionalLogit	
Sample size	3,107		3,107		3,107		3,107		2,035		2,035	

Table 4

Family firms, minority investor protection, and firm performance

The table presents OLS regression coefficient estimates for Tobin's Q. The sample is based on 3,107 firm-year observations from 1998 to 2015. Cluster-robust Huber/White standard errors are reported in parentheses, and significance at the 1, 5, and 10 percent levels is indicated by ***, **, and * respectively.

	Dependent variable: Tobin's Q															
Independent variables	(I)		(II)		(III)		(IV)		(V)		(VI)		(VII)		(VIII)	
(Intercept)	1.40605	(***)	1.40992	(***)	1.41338	(***)	1.41738	(***)	1.40791	(***)	1.41830	(***)	1.33179	(***)	1.32930	(***)
	(0.397)		(0.394)		(0.393)		(0.394)		(0.391)		(0.390)		(0.395)		(0.396)	
Size	-0.01659		-0.01683		-0.01668		-0.01788		-0.01755		-0.01840		-0.01307		-0.01292	
	(0.020)		(0.020)		(0.020)		(0.019)		(0.020)		(0.019)		(0.019)		(0.019)	
Diversification	-0.12437	(*)	-0.11985	(*)	-0.11888	(*)	-0.12205	(*)	-0.12067	(*)	-0.12193	(*)	-0.14577	(**)	-0.14603	(**)
	(0.067)		(0.070)		(0.070)		(0.070)		(0.070)		(0.070)		(0.069)		(0.069)	
Salesgrowth	0.39133	(**)	0.39149	(**)	0.38789	(**)	0.39427	(**)	0.38922	(**)	0.38889	(**)	0.39202	(**)	0.39226	(**)
	(0.188)		(0.189)		(0.188)		(0.190)		(0.187)		(0.188)		(0.186)		(0.187)	
Firm age	-0.04069		-0.03912		-0.03819		-0.03890		-0.03947		-0.03844		-0.03613		-0.03612	
	(0.027)		(0.027)		(0.027)		(0.027)		(0.027)		(0.028)		(0.027)		(0.027)	
Profitability	3.55165	(***)	3.55419	(***)	3.55432	(***)	3.55250	(***)	3.54502	(***)	3.54394	(***)	3.53055	(***)	3.53141	(***)
	(0.415)		(0.415)		(0.414)		(0.414)		(0.418)		(0.417)		(0.413)		(0.412)	
Liquidity	0.87391	(***)	0.87170	(***)	0.87707	(***)	0.87519	(***)	0.87569	(***)	0.88359	(***)	0.87444	(***)	0.87610	(***)
	(0.204)		(0.202)		(0.200)		(0.203)		(0.202)		(0.200)		(0.198)		(0.197)	
Investments	1.96598	(***)	1.96710	(***)	1.96839	(***)	1.93689	(***)	1.98167	(***)	1.95264	(***)	1.93447	(***)	1.93561	(***)
	(0.607)		(0.611)		(0.610)		(0.612)		(0.609)		(0.609)		(0.599)		(0.600)	
Tangibility	-0.89682	(***)	-0.89842	(***)	-0.90324	(***)	-0.88844	(***)	-0.90294	(***)	-0.89720	(***)	-0.88481	(***)	-0.88422	(***)
	(0.154)		(0.153)		(0.152)		(0.154)		(0.152)		(0.152)		(0.158)		(0.159)	
R&D	0.18068	(**)	0.17869	(**)	0.17796	(**)	0.17896	(**)	0.17839	(**)	0.17803	(**)	0.17861	(**)	0.17939	(**)
	(0.086)		(0.086)		(0.086)		(0.085)		(0.086)		(0.086)		(0.085)		(0.088)	
Leverage	0.23682		0.23648		0.23415		0.24373		0.23577		0.24083		0.22043		0.21967	
	(0.153)		(0.153)		(0.154)		(0.149)		(0.152)		(0.150)		(0.147)		(0.148)	
Family firm			-0.02867		-0.01872		-0.01575		-0.02448		-0.00340		0.08814		0.08669	
			(0.054)		(0.061)		(0.057)		(0.054)		(0.064)		(0.076)		(0.080)	

Dual class			-0.02815							-0.02461		0.15787		0.15808	
			(0.068)							(0.068)		(0.096)		(0.096)	
Opting out/up				-0.04039						-0.03935		0.05637		0.05661	
				(0.063)						(0.062)		(0.092)		(0.092)	
Votingrightsrestrictions						0.02458				0.02336		0.03589		0.03579	
						(0.051)				(0.051)		(0.063)		(0.063)	
Family firm												-0.28126	(**)	-0.28029	(**)
×Dual class												(0.114)		(0.114)	
Family firm												-0.14427		-0.14269	
×Opting out/up												(0.121)		(0.123)	
Family firm												-0.02045		-0.01685	
×Votingrightsrestrictions												(0.122)		(0.135)	
Family firm × Dual class														-0.01357	
× Opting out/up × Voting rights restrictions														(0.233)	
Fixed Effects	Industry, Years		Industry, Years		Industry, Years		Industry, Years		Industry, Years		Industry, Years		Industry, Years		Industry, Years			
Multiple R^2	53.1%		53.2%		53.2%		53.2%		53.2%		53.2%		53.7%		53.7%			
AdjustedR^2	52.5%		52.5%		52.5%		52.5%		52.5%		52.5%		53.0%		52.9%			
F-statistic	78.9	***	77.2	***	75.5	***	75.6	***	75.5	***	72.5	***	69.6	***	68.2	***		

Table 5

Family firms, minority investor protection, and firm performance

The table presents OLS regression coefficient estimates for Tobin's Q. The sample is based on 3,107 firm-year observations from 1998 to 2015. Cluster-robust Huber/White standard errors are reported in parentheses, and significance at the 1, 5, and 10 percent levels is indicated by ***, **, and * respectively.

	Dependent variable: Tobin's Q					
Independent variables	(I)		(II)		(III)	
(Intercept)	1.47818	(***)	1.37553	(***)	1.36844	(***)
	(0.392)		(0.390)		(0.392)	
Size	-0.01793		-0.01229		-0.01153	
	(0.020)		(0.019)		(0.019)	
Diversification	-0.12239	(*)	-0.13414	(*)	-0.13649	(**)
	(0.069)		(0.068)		(0.069)	
Salesgrowth	0.35913	(*)	0.35417	(*)	0.35049	(*)
	(0.188)		(0.185)		(0.184)	
Firm age	-0.04122		-0.03708		-0.03661	
	(0.027)		(0.027)		(0.027)	
Profitability	3.54226	(***)	3.54891	(***)	3.54324	(***)
	(0.409)		(0.405)		(0.405)	
Liquidity	0.87740	(***)	0.88287	(***)	0.88508	(***)
	(0.203)		(0.200)		(0.201)	
Investments	2.00634	(***)	1.95930	(***)	1.95949	(***)
	(0.604)		(0.596)		(0.595)	
Tangibility	-0.93038	(***)	-0.90248	(***)	-0.89666	(***)
	(0.152)		(0.151)		(0.152)	
R&D	0.17522	(**)	0.17647	(**)	0.17522	(**)
	(0.085)		(0.085)		(0.085)	
Leverage	0.21446		0.20765		0.20278	
	(0.156)		(0.148)		(0.149)	
Family firm	0.01218		0.05419		0.05629	
	(0.060)		(0.060)		(0.060)	
Super votingshares	-0.14302	(*)	0.07011		0.07186	
	(0.077)		(0.145)		(0.145)	
Non-votingshares	0.05474		0.20907		0.20921	
	(0.102)		(0.129)		(0.128)	
Family firm			-0.26900	(*)	-0.33178	(**)
× Super votingshares			(0.151)		(0.167)	
Family firm			-0.29919	(*)	-0.32235	(*)
× Non-votingshares			(0.166)		(0.177)	
Family firm × Super voting shares					0.00997	
× Super votingleverage					(0.019)	

Fixed Effects	Industry, Years		Industry, Years		Industry, Years	
Multiple R^2	53.5%		53.9%		53.9%	
AdjustedR^2	52.8%		53.2%		53.2%	
F-statistic	74.9	***	73.0	***	71.6	***

Table 6

Minority Investor Protection Index (MIPI)

Description	MIPI value
One class of equity securities	
Bearer shares	6
Registered shares without voting restrictions	5
Registered shares with voting restrictions	4
Two classes of equity securities	
Two classes with equal nominal values	3
Two classes with unequal nominal values	2
Two classes with non-voting shares	1

Table 7

Family firms, minority investor protection index, and firm performance

The table presents OLS regression coefficient estimates for Tobin's Q. The sample is based on 3,107 firm-year observations from 1998 to 2015. Cluster-robust Huber/White standard errors are reported in parentheses, and significance at the 1, 5, and 10 percent levels is indicated by ***, **, and * respectively.

	Dependent variable: Tobin's Q							
Independent variables	(I)		(II)		(III)		(IV)	
(Intercept)	1.36677	(***)	1.38172	(***)	1.51521	(***)	1.36106	(***)
	(0.432)		(0.431)		(0.429)		(0.401)	
Size	-0.01604		-0.01641		-0.01070		-0.01221	
	(0.020)		(0.020)		(0.020)		(0.020)	
Diversification	-0.12238	(*)	-0.11906	(*)	-0.13787	(*)	-0.12728	(*)
	(0.068)		(0.070)		(0.070)		(0.069)	
Salesgrowth	0.38890	(**)	0.38976	(**)	0.37316	(**)	0.36870	(*)
	(0.189)		(0.189)		(0.188)		(0.191)	
Firm age	-0.03945		-0.03846		-0.03702		-0.03402	
	(0.027)		(0.027)		(0.027)		(0.027)	
Profitability	3.55471	(***)	3.55601	(***)	3.54438	(***)	3.55586	(***)
	(0.416)		(0.415)		(0.411)		(0.409)	
Liquidity	0.87715	(***)	0.87428	(***)	0.87283	(***)	0.88931	(***)
	(0.203)		(0.201)		(0.201)		(0.206)	
Investments	1.96229	(***)	1.96435	(***)	1.94027	(***)	1.97652	(***)
	(0.605)		(0.609)		(0.590)		(0.600)	
Tangibility	-0.89750	(***)	-0.89868	(***)	-0.90781	(***)	-0.91531	(***)
	(0.153)		(0.153)		(0.155)		(0.154)	
R&D	0.17930	(**)	0.17799	(**)	0.17012	(**)	0.17506	(**)
	(0.087)		(0.087)		(0.085)		(0.085)	
Leverage	0.23595		0.23592		0.22367		0.22335	
	(0.154)		(0.153)		(0.152)		(0.153)	
Family firm			-0.02481		-0.38121	(***)		
			(0.057)		(0.141)			
Minority Investor Protection Index	0.00738		0.00520		-0.04067	(*)		
	(0.019)		(0.020)		(0.024)			
Family firm					0.08709	(***)		
×Minority Investor Protection Index					(0.033)			
Family firm							0.03875	
× High Minority Investor Protection Index							(0.070)	
Family firm							-0.13678	(**)
× Low Minority Investor Protection Index							(0.070)	
Fixed Effects	Industry, Years		Industry, Years		Industry, Years		Industry, Years	
Multiple R^2	53.1%		53.2%		53.6%		53.2%	

Adjusted R^2	52.5%		52.5%		52.9%		52.5%	
F-statistic	77.2	***	75.5	***	75.3	***	77.4	***

Table 8

Family firms, minority investor protection, board independence and firm performance

The table presents OLS regression coefficient estimates for Tobin's Q. 2,035 firm-year observations from 2005 to 2015. Cluster-robust Huber/White standard errors are reported in parentheses, and significance at the 1, 5, and 10 percent levels is indicated by ***, **, and * respectively.

	Dependent variable: Tobin's Q					
Independent variables	(I)		(II)		(III)	
(Intercept)	1.58744	(***)	1.46112	(***)	1.77401	(***)
	(0.433)		(0.439)		(0.438)	
Size	-0.02570		-0.03038		-0.03522	
	(0.022)		(0.023)		(0.022)	
Diversification	-0.15011	(*)	-0.15567	(**)	-0.13176	(*)
	(0.077)		(0.079)		(0.077)	
Salesgrowth	-0.00012		0.04489		0.02943	
	(0.210)		(0.205)		(0.208)	
Firm age	-0.01736		-0.02221		-0.00927	
	(0.034)		(0.036)		(0.034)	
Profitability	3.59867	(***)	3.58683	(***)	3.63558	(***)
	(0.531)		(0.533)		(0.509)	
Liquidity	0.91193	(***)	0.90529	(***)	0.92893	(***)
	(0.222)		(0.226)		(0.221)	
Investments	2.92299	(***)	2.93699	(***)	2.86410	(***)
	(1.020)		(1.009)		(1.009)	
Tangibility	-1.01230	(***)	-1.03524	(***)	-0.99178	(***)
	(0.176)		(0.182)		(0.171)	
R&D	0.17311	(*)	0.18735	(*)	0.17130	(*)
	(0.101)		(0.101)		(0.092)	
Leverage	0.31458	(*)	0.30745		0.30657	(*)
	(0.189)		(0.188)		(0.185)	
Family firm	-0.02210		-0.03041		-0.06600	
	(0.078)		(0.083)		(0.086)	
Dual class	-0.03088		-0.02876		-0.03107	
	(0.085)		(0.088)		(0.085)	
Opting Out	-0.02561		-0.00958		-0.02744	
	(0.069)		(0.071)		(0.069)	
Votingrightsrestrictions	0.04541		0.03325		0.04536	
	(0.058)		(0.059)		(0.057)	
Independence	-0.31026	(**)			-0.34466	(**)
	(0.157)				(0.155)	
Fullindependence			-0.07259			
			(0.126)			
Shareholder					0.00997	

representative						
					(0.107)	
Family representative					0.40904	
					(0.304)	
Blockholding director					-0.01357	
					(0.203)	
Long tenure					-0.12081	
					(0.107)	
Fixed effects	Industry, Years		Industry, Years		Industry, Years	
Multiple R^2	52.9%		52.5%		53.6%	
AdjustedR^2	51.9%		51.5%		52.5%	
F	53.3	***	52.3	***	49.9	***

Table 9

OLS Regression for Tobin's Q

2,035 firm-year observations from 2005 to 2015. Cluster-robust Huber/White standard errors are reported in parentheses, and significance at the 1, 5, and 10 percent levels is indicated by ***, **, and * respectively.

	Dependent variable: Tobin's Q							
Independent variables	(I)		(II)		(III)		(IV)	
(Intercept)	0.47841		0.44855		1.46674	(***)	1.36901	(***)
	(0.493)		(0.499)		(0.470)		(0.450)	
Size	-0.01095		-0.01575		-0.00893		-0.00966	
	(0.040)		(0.038)		(0.023)		(0.024)	
Diversification	-0.29642	(*)	-0.36448	(**)	-0.17708	(**)	-0.18547	(**)
	(0.164)		(0.166)		(0.077)		(0.078)	
Salesgrowth	-0.17564		-0.06587		0.14430		0.16852	
	(0.304)		(0.315)		(0.280)		(0.273)	
Firm age	-0.07392		-0.07037		-0.00017		-0.00070	
	(0.064)		(0.066)		(0.036)		(0.036)	
Profitability	3.09283	(***)	3.00327	(***)	3.93788	(***)	3.88198	(***)
	(0.753)		(0.707)		(0.594)		(0.596)	
Liquidity	0.93652	(***)	0.92526	(***)	1.17423	(***)	1.16620	(***)
	(0.301)		(0.303)		(0.272)		(0.269)	
Investments	5.35922	(***)	5.26533	(***)	0.90237		0.93287	
	(1.301)		(1.229)		(0.717)		(0.721)	
Tangibility	-1.23601	(***)	-1.19356	(***)	-0.71582	(***)	-0.78401	(***)
	(0.250)		(0.258)		(0.212)		(0.224)	
R&D	0.14478		0.15026		0.25335	(*)	0.27607	(**)
	(0.140)		(0.136)		(0.139)		(0.141)	
Leverage	0.46310	(*)	0.39473		0.23035		0.20474	
	(0.252)		(0.246)		(0.247)		(0.244)	
Dual class	-0.16003		-0.12178		0.25344	(**)	0.24620	(*)
	(0.105)		(0.108)		(0.119)		(0.129)	
Opting Out	-0.07734		-0.09299		0.13481		0.12841	
	(0.096)		(0.090)		(0.108)		(0.112)	
Votingrightsrestrictions	0.02970		0.01602		0.02144		0.00880	
	(0.107)		(0.110)		(0.065)		(0.065)	
Independence	-0.02654				-0.38111	(**)		
	(0.248)				(0.189)			
Fullindependence			0.35730				-0.21491	(**)
			(0.253)				(0.100)	
Sample	Family firm				Non-Family firm			
Numberofobservations	828				1,207			
Multiple R^2	48.2%		48.9%		62.1%		61.8%	

Adjusted R^2	45.6%		46.4%		60.8%		60.5%	
F	18.8	***	19.4	***	47.7	***	47.2	***

Table 10

Robustnesstests

The table presents OLS regression coefficient estimates for Tobin's Q. The sample is based on 2,035 firm-year observations from 2005 to 2015. Cluster-robust Huber/White standard errors are reported in parentheses, and significance at the 1, 5, and 10 percent levels is indicated by ***, **, and * respectively.

	Dependent variable: Tobin's Q							
Independent variables	(I)		(II)		(III)		(IV)	
(Intercept)	1.42886	(***)	1.46407	(***)	1.49424	(***)	1.43397	(***)
	(0.438)		(0.444)		(0.445)		(0.442)	
Size	-0.03057		-0.02864		-0.02818		-0.02989	
	(0.023)		(0.023)		(0.022)		(0.023)	
Diversification	-0.15927	(**)	-0.16330	(**)	-0.15979	(**)	-0.15940	(**)
	(0.077)		(0.076)		(0.077)		(0.078)	
Salesgrowth	0.06309		0.07865		0.04486		0.05714	
	(0.201)		(0.196)		(0.208)		(0.206)	
Firm age	-0.02068		-0.02787		-0.01675		-0.02142	
	(0.034)		(0.034)		(0.033)		(0.035)	
Profitability	3.58918	(***)	3.60078	(***)	3.61077	(***)	3.58531	(***)
	(0.526)		(0.522)		(0.525)		(0.526)	
Liquidity	0.89608	(***)	0.88633	(***)	0.89731	(***)	0.89662	(***)
	(0.233)		(0.229)		(0.230)		(0.233)	
Investments	2.93667	(***)	2.84976	(***)	2.87341	(***)	2.92721	(***)
	(0.980)		(0.978)		(1.006)		(0.987)	
Tangibility	-1.01814	(***)	-1.03270	(***)	-0.99497	(***)	-1.02068	(***)
	(0.183)		(0.186)		(0.177)		(0.184)	
R&D	0.18451	(*)	0.17658	(*)	0.18604	(*)	0.18762	(*)
	(0.102)		(0.100)		(0.102)		(0.100)	
Leverage	0.29309		0.26982		0.29393		0.29658	
	(0.189)		(0.186)		(0.190)		(0.190)	
Family firm (> 50 %)	-0.05638				-0.05944		-0.06012	
	(0.080)				(0.079)		(0.082)	
Family ownerhip			-0.11016					
			(0.122)					
Ownership secondlargest shareholder			0.03071					
			(0.437)					
Numberof large shareholders			-0.01613					
			(0.015)					
Majorityofindependentdirector					-0.12207			
					(0.107)			
Majority of fully independent director							-0.02045	
							(0.054)	
Fixed effects	Industry, Years		Industry, Years		Industry, Years		Industry, Years	

Multiple R^2	52.4%		52.5%		52.5%		52.4%	
AdjustedR^2	51.5%		51.5%		51.6%		51.5%	
F	57.8	***	55.1	***	56.6	***	56.3	***

Table 11

OLS andLogitregressions: familyfirmsandinvestmentpolicies

The sample isbased on 3,107 firm-yearobservationsfrom 1998 to 2015. Cluster-robust Huber/White and White standarderrorsarereported in parentheses, andsignificance at the 1, 5, and 10 percentlevelsisindicatedby ***, **, and * respectively.

	Dependent variables							
Independent variables	(I) R&D/Assets		(II) R&D		(III) Investments		(IV) M&A	
(Intercept)	0.10442	(***)	-3.37268	(***)	0.03754	(***)	-2.21450	(***)
	(0.037)		(0.769)		(0.013)		(0.610)	
Size	-0.00738	(**)	0.27265	(***)	-0.00059		0.18552	(***)
	(0.003)		(0.036)		(0.001)		(0.025)	
Diversification	0.00578		0.12767		0.00005		0.09448	(*)
	(0.008)		(0.140)		(0.002)		(0.054)	
Salesgrowth	-0.03055		-2.85217	(***)	0.01039		0.14934	
	(0.030)		(0.539)		(0.009)		(0.165)	
Firm age	-0.00521	(**)	0.01391		-0.00031		0.00842	
	(0.003)		(0.056)		(0.001)		(0.039)	
Profitability	-0.07851	(**)	1.03439		0.07474	(***)	0.98092	
	(0.036)		(0.647)		(0.015)		(0.729)	
Liquidity	0.13245	(***)	-0.84578	(**)	-0.00597		-0.03037	
	(0.041)		(0.403)		(0.005)		(0.206)	
Tangibility	-0.01151		-3.23196	(***)	0.08963	(***)	-0.63353	(***)
	(0.017)		(0.344)		(0.008)		(0.154)	
Leverage	0.05748	(*)	-0.40167		-0.00005		0.25735	(**)
	(0.031)		(0.288)		(0.006)		(0.125)	
Family firm	-0.01041	(*)	-0.35349	(***)	0.00002		-0.08738	
	(0.006)		(0.110)		(0.002)		(0.082)	
Fixed effects	Industry, Years		Industry, Years		Industry, Years		Industry, Years	
Multiple R^2	22.1%		0.44		41.0%		16.1%	
AdjustedR^2	21.0%		N.A.		40.2%		14.9%	
F	20.3		N.A.		49.6		13.6	