Family Firms, Minority Investor Protection, and Firm Performance

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Abstract

Minority investor protection becomes especially important within the corporate governance framework in the presence of controlling shareholders. In this study, we investigate the relationship between family ownership and four elements related to minority investor protection in Switzerland, namely dual class structures, voting rights restrictions, opting-out/up clauses from the duty to make a takeover offer, and board independence. Using a sample of 2,035 firm-year observations from 2005 to 2015, our results indicate that dual class family firms are negatively correlated with firm performance measured by Tobin's Q. In those firms, minority investors typically have substantially fewer voting rights compared to the economic ownership. Furthermore, dual class family firms significantly differ in their investment decisions. In contrast, the other elements connected to minority investor protection, such as voting rights restrictions, opting-out/up clauses, and board independence, have no significant effect on firm performance and investment decisions. The results suggest that family control obtained by dual class equity structures may influence corporate decisions that harm co-shareholders and firm value. As a result, such structures may be abolished and replaced by shareholder democracy.

Keywords: Corporate governance, family firms, minority investor protection, board independence, Tobin's Q

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1. Introduction

Minority investor protection becomes especially important within the corporate governance framework of listed companies in the presence of controlling shareholders. Many listed companies are controlled by families (e.g., Samsung in South Korea, BMW in Germany, Roche in Switzerland, or Walmart in the United States). Controlling families have enough voting rights to actively monitor the management and influence corporate decisions, and they can thereby have a positive impact on firm performance (Shleifer and Vishny, 1986; Anderson and Reeb, 2003; Miller and Le Breton-Miller, 2006; Barontini and Caprio, 2006; Villalonga and Amit, 2006; Bennedsen, Meisner Nielsen, Perez-Gonzales, and Wolfenzon, 2007). While families may hereby circumvent the classical agency problem between managers and shareholders, they may harm co-shareholders which are often dispersed institutional investors (see, e.g., La Porta, Lopez de Silanes, and Shleifer 1999; Claessens, Djankov, and Lang 2000; Faccio and Lang 2002).

Families may extract both pecuniary (e.g., the private use of corporate assets) or non-pecuniary (e.g., the mental benefits, social status, or prestige of controlling a corporation) private benefits of control to compensate their private costs of control, which, however, may offset the shared benefits of control for the (free-riding) co-shareholders (see Shleifer and Vishny, 1997; La Porta, Lopez-de-Silanes, and Shleifer, 1999; Denis and McConnell, 2003; Dyck and Zingales 2004; Thomsen, Pedersen, and Kvist, 2006). Examples of expropriation of minority investors include the appointment of family-related but unqualified persons to management positions (Faccio, Lang, and Young, 2001), related-party transactions which are not at arm's length ("tunneling") (Khanna and Rivkin, 2001; La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2002) or the pursuit of corporate strategies that fit solely the family's agenda (e.g., extraordinary dividends, excessive diversification, political donations to close parties, financing of cultural events, arts or sports, patronage, and philanthropic activities from corporate rather than personal resources) (see, e.g., Miller, Le Breton-Miller, and Lester, 2010).

These governance risks become more virulent in cases where control is obtained through a divergence of voting rights from cash flow rights (e.g., Andres, 2008; Villalonga and Amit 2009; Caprio, Croci, and Del Giudice, 2011) or where minority investors are generally less protected.

Higher firm performance of family firms is often associated with their longer time horizon in contrast to companies that must please analysts with quarterly results. However, agency costs

between families and co-shareholders may also materialize in corporate decisions that are associated with short term private benefits of control if minority investors are not protected accordingly.

In this study, we investigate minority investor protection of listed family firms and its effect on firm performance in Switzerland. The study is based on the most controversial Swiss case of dysfunctional corporate governance in family firms with the intended takeover of Sika, a chemical industrial firm, by French competitor Saint-Gobain in 2014. This case contained all major elements of corporate governance design, i.e., family ownership, dual class structures, voting rights restrictions, opting-out/up clauses from the duty to make a takeover offer, and board independence.

Using a sample of 2,035 firm-year observations, our regression results suggest that dual class family firms are negatively correlated with firm performance. We run pooled regressions with cluster-robust standard errors. We address endogeneity concerns by using an instrumental variable (IV) and conduct a battery of robustness tests controlling for various CEO, board, and ownership characteristics, different time periods, as well as by estimating random and fixed effects models. Furthermore, empirical evidence also suggests that corporate decisions related to long-term investments are impacted by dual class equity structures of family firms. The other elements of minority investor protection such as board independence of family firms do not affect firm performance or investment decisions.

Our study contributes to corporate governance research in two main ways. Firstly, while there are both positive and negative effects of family control, we evaluate the impact of minority investor protection that should mitigate or exacerbate the negative effects on firm performance. We hereby investigate dual class structures, voting rights restrictions, opting-out/up clauses from the duty to make a takeover offer, and board independence. Board independence is defined both conventionally, i.e., as the board's independence from management, and non-conventionally, i.e., also considering the board's independence from the family (e.g., by considering family members on the board). We also assess the relative importance of these mechanisms in protecting minority investors.

Secondly, we assess another main feature of family firms brought up as an advantage by both practitioners and academics, which is their longer investment horizon (see, e.g., Anderson and Reeb, 2003; Bertrand and Schoar, 2006; The Economist, 2015; UBS, 2015). We investigate the

impact of family firms and minority investor protection on the channels related to long-term investments that may influence firm performance. Not only do we investigate the impact on financial investments in R&D, tangible assets or takeovers. We also examine whether minority investor protection in the presence of family ownership has an impact on sustainability ratings. Because of families' reputational concerns about their role within the society, they may be more interested in achieving a high sustainability rating. Thereby we inquire the influence on environmental and social performance.

Switzerland offers an excellent setting for this investigation, for two main reasons: Firstly, while many studies focus on the United States, Switzerland is an interesting market to investigate as 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. 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 valued. The authors therefore reason that they have missed important features of minority investor protection which might cause this unusual relationship. In this regard, the institutional environment (e.g., laws, norms, values, and politics) has been 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). In addition to its specific ownership structure, the Swiss market contains the world's largest companies such as Nestlé, Novartis, Roche or UBS as well as 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.

Secondly, minority investor protection (and pre-emptive defense measures) are mostly stipulated in the articles of incorporation. Examples are dual class shares, voting rights restrictions or opting-out/up clauses. Hence, their removal must be approved by the controlling shareholders. In contrast to the United States, poison pills, sales of crown jewels, golden parachutes or staggered boards are forbidden (see, e.g., Bebchuk and Cohen, 2005; Faleye 2007). Corporate law thus gives substantial leeway related to minority investor protection to the company's board of directors and the shareholders. Even though corporate governance has been an especially hotly debated topic in

Switzerland (after scandals such as the failure of Swissair, large pension payments promised to ABB managers in the early 2000s, and excessive pay particularly to managers of Novartis and Credit Suisse) and the nature of the Swiss direct democracy has even led to the acceptance of a corporate governance-related popular initiative "against rip-off salaries" in 2013, law amendments regarding ownership structure and minority investor protection are less pronounced. There seems to even exist a consensus that family shareholders in Switzerland act in the best interest of the firm (see, e.g., PwC, 2014). Furthermore, important exponents of family firms have been argued to affect legal reforms such as to preserve their companies' structures in their respective countries (see, e.g., Pagano and Volpin, 2001; Pargendler, 2019). This contribution is also important in the light of the renaissance of dual class IPOs in the United States (e.g., Google, Linkedin, Groupon or Facebook).

The paper is organized as follows. Section 2 presents the literature review on minority investor protection as well as the case of Sika and derives hypotheses. Section 3 describes the data and variables. In Section 4, the empirical analysis is presented, and Section 5 concludes.

2. Minority investor protection and the case of Sika

The fundamental purpose of corporate governance is to ensure that financial resources are used to sustain and create corporate value for all shareholders. Controlled companies (e.g., by a family) dominate the corporate sector around the World (Faccio and Lang, 2002; Claessens, Djankov, and Lang, 2000). In contrast to small dispersed shareholders where relatively high monitoring costs and transaction costs often prevent individual shareholders from monitoring efforts, coordinating their voting behavior and acting collectively (Olson, 1971), families are typically long-standing large shareholders with incentives to actively monitor management and influence corporate governance (see, e.g., Burkart, Panunzi, and Shleifer, 2003). However, families may extract private benefits of control at the cost of minority investors. Given the power of families, minority investor protection is important to reduce the agency costs arising from the potential conflict of interests between family shareholders and minority investors.

Thomsen, Pedersen and Kvist (2006) and Claessens, Djankov, Fan, and Lang (2002) demonstrate that the discrepancy 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. Bebchuk, Kraakman, and Triantis (2000) and Masulis, Wang, and Xie (2009) show that agency

costs increase with the divergence of voting rights and cash flow rights (e.g., in situations, where the principle of one-share-one-vote is violated). Several empirical studies provide evidence that investor rights positively affect firm performance (see, e.g., Gompers, Ishii, and Metrick, 2003; Masulis, Wang, and Xie, 2007; Bebchuk, Cohen, and Ferrell, 2009; Cremers and Ferrell, 2014).

Also, independent directors may mitigate agency costs (see, e.g., Bhagat and Bolton, 2008; Nguyen and Nielsen, 2010). However, the active role of families in a firm's governance often becomes evident in the appointment of family representatives on the board of directors, hereby reducing the board's independence from controlling shareholders. Dahya, Dimitrov and McConnell (2008) show that on the one hand, independent directors reduce the value loss associated with the dominant shareholder's potential to expropriate firm wealth. On the other hand, the dominant shareholder loses exactly this possibility to extract private benefits.

By providing smaller co-shareholders adequate investor rights and protection of their interests from an independent board of directors, minority investor protection becomes especially important in the presence of controlling family shareholders.

2.1 Corporate governance in Switzerland: The Sika case of 2014

The peculiarities of corporate governance in Switzerland are best described by means of a very prominent and recent case. This case has been used by 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).

Sika, a chemical industrial firm, was founded in 1910 by Kaspar Winkler. Since 1930, it is indirectly controlled (via the Schenker-Winkler Holding, SWH) by the Burkard family. The firm had its IPO in 1968. On Friday evening, 5 December 2014, the family decided (without informing the company's board of directors) to sell SWH (and thus their control over Sika) to the French competitor Saint-Gobain for CHF 2,75 bn.

The following points need to be considered: (1) The firm has a dual class structure of non-listed registered shares with one voting right for CHF 1.5 of nominal value and listed bearer shares with one voting right for CHF 9 of nominal value, allowing the family to control 53 % of the voting rights (via unlisted shares in SWH—which are the ones they intended to sell) with only 16 % of the cash flow rights. According to the deal, the family should receive a premium of around 80 %, while minority investors would receive no compensation upon the change of control (see point 3).

Within 4 days after the announcement, the value of the listed shares decreased by 28 percent, hereby harming minority investors. Several additional aspects related to corporate governance, however, complicate this deal:. (2) The articles of incorporation also included voting rights restrictions ("Vinkulierung") which allowed the board of directors to cap the voting rights of a shareholder at 5 %. The voting rights restriction was introduced in order to restrict outside shareholders' influence. The family's shares were once listed too, and at a time, they controlled only 42.6 % of the voting rights. Although, in the transaction of 2014, the family did not sell shares of Sika directly to Saint-Gobain, the courts later qualified the selling of control via SWH as a circumvention and therefore declared the limitation of the voting rights to 5 % as justified. (3) Since 1 January 1998, Swiss law contains a duty to make a public offer. However, the articles also include the possibility for an opting-out clause, exempting the acquirer from making an offer to all shareholders as stipulated by Swiss takeover law[1]. As a result, firstly, Saint-Gobain could have obtained control without offering all shareholders a higher price. And secondly, because no mandatory bid had to be made, the family was able to receive a control premium which has been forbidden in Switzerland in case of a public offer since 2013. (4) Finally, the board of directors was composed of 6 independent directors and 3 representatives of the family. Because the majority of the board is independent, the board was able to restrict the family's voting rights (according to the articles of incorporation) in order to prevent a change in the composition of the board. The family unsuccessfully tried to appoint new board members at the following general meetings. Hence, by introducing the voting rights restriction earlier, the family harmed itself in the end. As this example shows, corporate insiders may install provisions that lower minority investor protection and impede hostile takeovers. The combination of various specifics of Swiss corporate governance in the Sika case has been called an «explosive mixture» (by proxy advisor Ethos, see Sonntagszeitung, 2014) or «[The] Burkard-Schenker-Code» (Tages Anzeiger, 2015). On Friday evening, 28 October 2016, the Zug Cantonal Court, at first instance, has confirmed the lawfulness of the restriction applied by the board of directors on voting rights of the Burkard family. Hence,

[1] Please note that several US anti-takeover mechanisms are not allowed under Swiss law. For example, the target firm's board is not allowed to alter its assets or liabilities significantly without approval by a shareholders' meeting (e.g., selling assets of more than 10 percent of value of the balance sheet). Also, staggered boards are ineffective because large shareholders may vote out directors at any ordinary or extraordinary shareholders' meeting. However, 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. Insider trading is sanctioned but has long not been punished severely in the past.

the family would not have been able to change the board of directors at the General Meeting by shareholders' resolution. However, on Saturday, 11 Mai 2018, Sika, Saint-Gobain, and Burkard Family announced an agreement. According to this, the Burkard Family sells control to Saint-Gobain, while Sika would buy a share of Saint-Gobain's Sika stake to retain its independence. Saint-Gobain will become shareholder with 10.75 % of voting rights. This agreement was preventing a potential final decision by the highest Swiss court (Bundesgericht).

2.2 Mechanisms of minority investor protection

The Sika case has comprehensively shown which mechanisms related to minority investor protection are most relevant in Switzerland (there are also other elements of legal minority investor protection[2]):

(1) Dual class shares. Companies may issue different classes of shares, such as super voting shares or non-voting shares. Super voting shares include the right of one vote per share, with a nominal value, however, that is lower. Hence, those shares have more voting rights in relation to their cash flow rights. The maximum ratio allowed in Swiss law 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. Minority investors thereby have lower voting rights relative to their economic stake. Google, Linkedin, Groupon, and Facebook in

[2] As a matter of course, Swiss corporate law also provides a fundamental legal minority investor protection (see, e.g., Müller, Lipp, and Plüss, 2011). For example, the directors' duty of care, the duty of loyalty, and the duty of equal treatment of investors provides a basic legal protection to shareholders. Directors are responsible that the company is adequately run and that all shareholders are treated equally. Shareholders can sue directors for their responsibility if they breach their duties ("Verantwortlichkeitsklage") and have the right to be informed by the company (e.g., by means of annual reports and via ad-hoc publicity). Furthermore, shareholders have the possibility to request a special audit on the board's decisions ("Sonderprüfung") and have the right to invalidate general meeting decisions if these violate the law or the articles of incorporation ("Anfechtungsklage"). Shareholders also have fundamental non-transferable competencies (e.g., for the election of board members and changes of the articles of incorporation). Decisions at general meetings are mostly based on a majority vote. In case of major decisions, e.g., mergers, a qualified majority is required. Shareholders holding at least 10 percent of share capital may request an extraordinary shareholders meeting or make the company include an agenda item at the general meeting. Agenda items in specific cases can also be requested with a share capital of at least CHF 1 million.

the United States have all created two classes of shares which Gompers et al. (2010) define as the most 'extreme example of antitakeover protection'.

(2) Voting rights restrictions[3]. Many company's articles of incorporation stipulate that shareholders are only allowed to make use of their voting rights up to a certain threshold (often 5 %). Hence, also an ownership stake of, say 20 %, would only allow 5 % of voting rights at the general meeting which makes it almost impossible to initiate changes. The so-called "Vinkulierung" has been used mainly as a protection from foreign investors. Originally, no reason was needed to restrict the voting rights of an investor. However, since the revision of company law in 1991, only a percentage transfer restriction (e.g., 5 %) is allowed. For instance, the British hedge fund Laxey had to stop its takeover ambitions for Implenia, a Swiss construction firm, because Implenia's board only registered 4.8 percent of their shares, even though the fund's ownership, at its maximum, amounted to 38 percent. Interestingly, even minority investors opposed Laxey at an extraordinary meeting where those aimed to remove the voting rights restriction. Similarly, voting rights restrictions at Georg Fischer, an industrial concern, averted the private investor Giorgio Behr from extending his voting stake. Minority investors are therefore hindered to exercise voting rights that correspond to their economic stake when exceeding the quotas defined in the firm's articles of incorporation.

(3) Opting out/up. In 1998, the Stock Exchange Act (SESTA) introduced the duty to make a public offer if a shareholding goes beyond the threshold of 33 percent of voting rights to minority investors in cases of a change of control[4]. However, the law also allows firms (or, more precisely, its shareholders at general meetings) to opt out of the mandatory takeover bid or to opt up the threshold to 49 percent. Furthermore, the control premium in a public offer has been abolished with the revision of the stock exchange act in 2013. The Quadrant takeover case can be seen as a trigger for its abolition. However, this prohibition of control premia has no effect in case of an opting-out

[3] 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 as being 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.

[4] In contrast to the EU, there is no requirement in the U.S. to make a mandatory offer (expect for Maine, Pennsylvania, and South Dakota). Nevertheless, takeover offers normally follow changes in control so that the interests of all shareholders are respected.

clause as takeover regulations become irrelevant. Specifically, the acquiring party has to make a mandatory bid to all shareholders at the same conditions as takeover premia are forbidden in cases with no opting-out clause. Minority shareholders are thereby not able to tender their shares at a potentially interesting price if they do not want to stay invested when the control structure changes significantly.

(4) Board independence. The board's independence is one of the most widely investigated elements 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 reality though, three directors were not independent from the family. This stresses the importance of also considering directors' links to large shareholders or their own ownership (see also Ansari, Goergen, and Mira, 2014).

Family control over corporations may lead to better monitoring and firm performance. However, families may also extract private benefits of control and depress firm value. Minority investor protection, namely dual class shares, voting rights restrictions, opting out/up, and a lack of board independence likely affect the potentially negative effect on firm performance in family firms. We therefore specify our first hypothesis:

> *Hypothesis 1:* Minority investor protection is positively related to firm performance in family firms.

One reason why family firms are expected to generate superior firm performance is their longer time horizon. Families typically hand over control of the company from one generation to another. In order to sustain long-term performance and therefore control within the company, family firms are associated with having a long-term orientation and therefore a long-term investment perspective. In contrast, as families are often not diversified, they might be inclined to pursue risk-averse investment policies. Anderson, Duru, and Reeb (2012) find that while family firms are positively related to investing in physical assets (hereby exhibiting higher capex), they are negatively related to riskier R&D projects. Families have an impact on corporate decisions, and if minority investor protection is high, these decisions may rather be aligned with the long-term interest of co-shareholders. Based on these considerations, we derive our second hypothesis:

Hypothesis 2: Minority investor protection is positively related to long-term investments in family firms.

3. Data Description and Definition of Variables

3.1 Data

We gather information on all firms from the Swiss Performance Index (SPI) from 1998 to 2015. Our sample consists of 2,035 firm-year observations. The full sample without considering board independence consists of 3,107 firm-year observations. Corporate governance data has been hand-collected from annual reports. Financial data has been obtained from *Thomson Reuters Datastream*.

3.2 Definition of 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 perceived to be sufficient to exercise control and (2) it is often difficult to differentiate between families and individuals. Furthermore, this threshold has been used in several previous studies in order to identify family-controlled firms.

Dual class takes the value of 1 if the firm has two (or more) classes of equity outstanding (and 0 otherwise). Irrespective of their portion, the existence of dual class shares undermines 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 their voting rights exceed 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 exceed a certain threshold (most commonly 5 %).

As the independence of board of directors is one of the most important mechanisms of corporate governance, we define *Board independence* as 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 corresponds to the conventional or simple classification of board independence according to the Swiss Code of Best Practice of Corporate Governance). Furthermore, independent directors are neither a shareholder representative nor a family representative (i.e., they cannot 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).

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 an approximation 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 as valuation differs significantly if only the listed class was considered and since family firms often issue two classes of equity.

Furthermore, both corporate governance and firm performance depend on a number of firm characteristics. To mitigate omitted variable bias, we include a number of control variables commonly 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 year's 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 that equals 1 if 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. The corporate governance of family firms thereby differs significantly from the one of non-family firms as suggested by Figure 1. Dual class structures and opting out/up clauses are more prominent in family firms, while voting rights restrictions and board independence are lower. Figure 2 demonstrates that family firms remain a stable component of Swiss firms and their proportion even

increased lately. It also shows how the elements of minority investor protection have evolved over time. The proportion of firms using multiple classes of shares decreased since 1998, mainly due to a simplification of share structures using only registered shares. Furthermore, director independence remained about stable.

[Insert Table 1 about here]

[Insert Table 2 about here]

[Insert Figure 1 about here]

[Insert Figure 2 about here]

The elements of minority investor protection documented in the Sika case are thus relatively widespread in Switzerland. However, at the end of 2014, only three firms featured all of the presented corporate governance characteristics without considering the board of directors (i.e., family ownership, dual class share structure, voting rights restrictions, and opting-out/up clause). In contrast to Sika, Schindler and Swatch had both types of share classes listed on the stock exchange. As a result, we would expect that these equity prices reacted to the drastic news of the Sika case. Interestingly however, no reaction of share prices to the announcement of this very strong case of bad corporate governance could be observed. In fact, there was no strong market reaction on the announcements in all three stocks (see Table A1 in the appendix).

4. Empirical Analysis

We evaluate the effect of minority investor protection in the presence of controlling family shareholders on firm performance and investment decisions running pooled regressions with cluster-robust standard errors. We address endogeneity concerns by using an instrumental variable (IV) and conduct a battery of robustness tests including controlling for various CEO, board, and ownership characteristics, different time periods, as well as estimating random and fixed effects models.

The results in Table 3, Columns VII and VIII, show that dual class family firms are negatively related to firm performance. These results suggest that markets sanction family control if control is obtained by disentangling voting rights from cash flow rights. In contrast, voting rights restrictions or opting-out/up clauses from the duty to make a takeover offer are not significantly related to firm performance.

[Insert Table 3 about here]

As argued before, the independence of the board of directors is publicly seen as an important element of protecting minority investors. Therefore, we include board independence, in addition to minority investor provisions as stipulated in the articles of incorporation. The results in Table 4, however, provide no evidence of any positive effect of board independence on firm performance. This is the case for our comprehensive definition of board independence that, on top of simple board independence, also includes independence from the family and blockholders. This may either imply that the definition of board independence is misleading in cases where all directors are ultimately (selected and) elected by the family. Or it may imply that board independence is on its optimal level (i.e., "in equilibrium" according to Hermalin and Weisbach, 2003) in family firms and that therefore, no effect on firm performance can be observed. It could also be that board independence is obsolete or less important when other effective mechanisms are in place. However, this explanation can be ruled out here given that the mechanisms for minority protection turned out to be insignificant. In contrast, conventionally defined independent directors (measured by "simple independence") appear to even have a negative impact on firm performance (Column III). The significant and negative relationship between dual class family firms and performance remains throughout all models. We therefore cannot reject Hypothesis 1, according to which minority investor protection is positively related to firm performance in family firms.

[Insert Table 4 about here]

4.1 Instrumental variable approach

To rule out endogeneity issues, we estimate simultaneous equations in Q, family firm, dual class, and the interaction of family firm and dual class using three-stage least squares (3SLS) regressions (see Coles, Daniel, and Naveen, 2008). Hereby, family firm is predicted using the divorce rate in 1990 across Swiss cantons from Robert-Nicoud (2014). We expect that a higher divorce rate leads to a lower prevalence of family firms. Dual class is predicted by the political voting participation rate measured by the turnout for the National Council election in 1983. It is the first year for which data for all cantons is available from the Federal Statistical Office . We expect a higher level of shareholder democracy, and thus a lower prevalence of dual class firms, in cantons with a higher rate of participation in elections. Finally, the interaction of family firm and dual class is predicted using dummy variables indicating the region of the firms' headquarters. Family control through

dual class structures may depend on the cultural environment of a company's region. Switzerland is culturally diverse in terms of languages and religions which is also likely to affect control structures (see, e.g., Licht 2001).

While our instruments are relevant as indicated by their significant relationship with the potential endogenous variables in Table 5, they are unlikely to affect firm performance. The results therefore confirm our findings that family firms with dual class structures lead to lower firm valuation.

[Insert Table 5 about here]

4.2 Robustness tests

Testing for robustness, we follow Maury (2006) who differentiates between active and passive family control to capture 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 seems to be no effect related to passive owners (see also Andres 2008). Our results, however, do not confirm these findings (see Table A2 in the appendix). We investigate the role of family members on the board of directors as well as the connection of the CEO to the firm's history (e.g., whether the CEO was a founder of the company). Our results indicate that family members on the board of directors do not have a positive effect on firm performance. Conversely, there is a positive effect on firm performance, if the CEO is a member of the board, while CEO tenure is slightly negatively related.

We include further board characteristics to investigate whether factors such as gender diversity, international diversity, board age, tenure, and experience drive firm performance. However, the results show that only international diversity of board members seem to positively impact firm performance (see Table A3 in the appendix). Furthermore, our definitions of family firms may not be appropriate and may omit other factors such as ownership of the second largest shareholder or the number of large shareholders (see, e.g., Cai, Hillier, and Wang, 2016). To account for this, we also measure if families have a majority control (> 50%) and introduce further variables to include the voting rights of the second largest shareholder, the "distance" between the largest and the second largest shareholder, ownership concentration, and the number of significant shareholders. The new specifications of our variables and the additional control variables, however, have no impact on the relationship between family firms and firm performance. Again, the results show that family control along with dual class structures is negatively related to firm performance (see

Table A4 in the appendix). It has also often been argued that family control may be especially valuable in times of crisis by giving more stability to the company. We therefore run our main regression in subsamples of two different time frames: One sample includes the "crisis years" of 2007 to 2011, while the second one captures all other years before 2007 and after 2011. The results, however, remain similar in both subsets. And again, family firms along with dual class structures are negatively related to Tobin's Q (see Table A5 in the appendix). We also run our regression using Random Effects models, Fixed Effects models, and Pooled OLS using Driscoll-Kraay Standard Errors. While family firms with dual class structures are still negatively related to firm performance, the results indeed indicate that family firms are positively related to Tobin's Q (see Table A6 in the appendix).

4.3 Potential channels for long-term value creation

In the next step, we investigate the impact of family firms and minority investor protection on the channels related to long-term investments that may influence firm performance. It is a common understanding and has also been argued in literature that family shareholders have a longer time horizon and, as a result, decisions are taken with a focus on long-term value creation and are less prone to reflect short-term market expectations. We therefore evaluate the effect of minority investor protection in the presence of controlling families on firm activities and policies related to a long-term perspective, such as investment in R&D, Capex, M&A, and sustainability ratings.

The results in Table 6 show that family firms with dual class equity structures differ in their investment decisions. Dual class family firms are positively related to R&D investments and conduct more M&A transactions. Hence, the decoupling of voting rights from cash flow rights seems to have a positive impact on these types of investments. Given our previous finding that dual class family firms are negatively related to firm performance, these investments may albeit not be value-enhancing. Since voting rights restrictions are negatively related to M&A activity, one explanation may therefore be that family firms are less exposed to the market for corporate control which may create leeway in not pursuing the value maximizing investment strategy and in adopting a specific business model. Another explanation might be that family shareholders in dual class firms contribute less cash flows relative to their voting rights to finance these investments and hence have less "skin in the game". The other elements of minority investor protection again seem not to be relevant.

[Insert Table 6 about here]

It is also argued that family firms act more sustainably. We therefore test for the impact on ESG (environmental, social, governance) scores as well as on Environmental and Social scores separately. The results in Table 7 indicate that dual class family firms are negatively related to ESG scores and especially the Social score which may be used to indicate a sustainable, i.e., long-term orientation of a company. These scores are provided by Inrate, a Swiss sustainability rating agency[5].While dual class family firms invest more in R&D and conduct more M&A, they seem to be less concerned about society as their relationship with the Social score is negative. Hence, we cannot reject Hypothesis 2. In fact, minority investor protection may be positively related to long-term investments in family firms.

[Insert Table 7 about here]

4.4 Market reaction to improvement of shareholder rights

We finally analyze stock market reaction of minority investor protection and family firms to the announcement of improvement of shareholder rights. In March 2013, Swiss voters accepted the popular initiative "against rip-off salaries" which substantially improved shareholder rights. For example, shareholders received the right for a binding say-on-pay or annual and individual election of board of directors. We follow Wagner and Wenk (2019) who identified four events to analyze stock market reactions: announcement that enough voters have signed the initiative to force a constitutional referendum (Event 1, 26.02.2008), acceptance of the constitutional amendment by Swiss voters (Event 2, 03.03.2013), publication of the draft law (Event 3, 14.06.2013), and publication of the final Ordinance against Excessive Compensation (OaEC) (Event 4, 20.11.2013). We follow Wagner and Wenk (2019) to calculate cumulative abnormal returns (CAR) (see also Kothari and Warner, 2007, and MacKinlay, 1997) and pool the four events. Given the improvement of shareholder rights due to the initiative, we assume that stock market reaction of firms with less minority investor protection (e.g., dual class family firms) would be positive. Even though minority investors would potentially not be able to always have a large impact on voting outcomes, the signal of dissatisfaction at general meetings (in No-votes) and the apparent public pressure against

[5] The ESG Impact Rating process produces an absolute sustainability assessment on a 12-step scale from A+ to D-. This factors in whether or not, overall (i.e., on a net basis), companies satisfy basic social needs in a more – or less – sustainable way.

bad corporate governance could lead family firms to adapt better governance structures.

[Insert Table 8 about here]

As the results in Table 8 indicate, stock prices of dual class family firms reacted significantly positively to the announcements of shareholder rights improvements. The new rights of minority shareholders at general meetings may better signal dissatisfaction against bad corporate governance which in turn may lead to improvements. In contrast, stocks of companies with voting rights restrictions show negative stock price reactions. Such voting ceilings which allow shareholders, for example, only voting rights up to 3 percent and which are often employed in companies with dispersed ownership, lead to a pulverization of minority investor's voting rights which makes it more difficult to pressure towards improvements of corporate governance at general meetings.

5. Conclusions

Family shareholders are often argued to have a positive impact on firm performance because of their monitoring role and their long-term horizon. However, families may also extract benefits of control that lead to bad corporate decisions and lower performance, thus harming co-shareholders. This negative impact may be more important in companies where minority investor protection is low. Family shareholders may find themselves only marginally accountable to minority shareholders of "their company".

Our study shows that dual class family firms where minority investors have fewer voting rights relative to their cash flow rights are negatively related to firm performance. Other elements of minority investor protection—or the lack thereof—, such as voting rights restrictions, opting out/up clauses, and board independence turn out to be not significantly related to firm performance. Our results also show that dual class family firms and investment decisions are correlated. While family firms with a dual class share structure tend to conduct higher R&D investments and more M&A, these investments are not value-increasing. Hence, our findings suggest that the discrepancy between control and economic ownership distorts incentives and may lead to bad corporate decisions.

Understanding the effects of different corporate governance arrangements on firm performance and investment decisions is crucial both for governance policies and investment analysis because, on the one hand, well-functioning corporate governance fosters trust of capital market participants into firms and therefore facilitates their access to capital—which again can be used to develop

innovative products, create jobs and support growth (see, e.g., Claessens and Yurtoglu, 2013). On the other hand, bad corporate governance structures generate risks that may finally lead to misallocation of resources, value losses, and economic crises.

Given the strong and robust evidence of the negative impact of dual class share structures, our results clearly suggest that “one share-one vote” remains a very important topic and that corporate governance reforms should be aimed at improving shareholder democracy. This transition may be facilitated by sunset provisions on dual class equity structures where, after some period after the IPO, the company must adopt a one-share-one-vote structure.

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Figures

Figure 1: Differences in minority investor protection between family firms and non-family firms

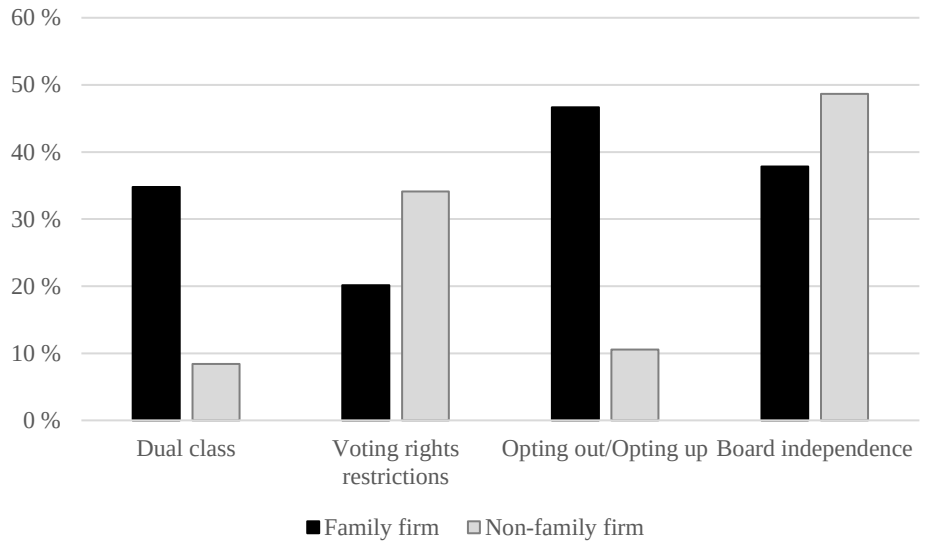
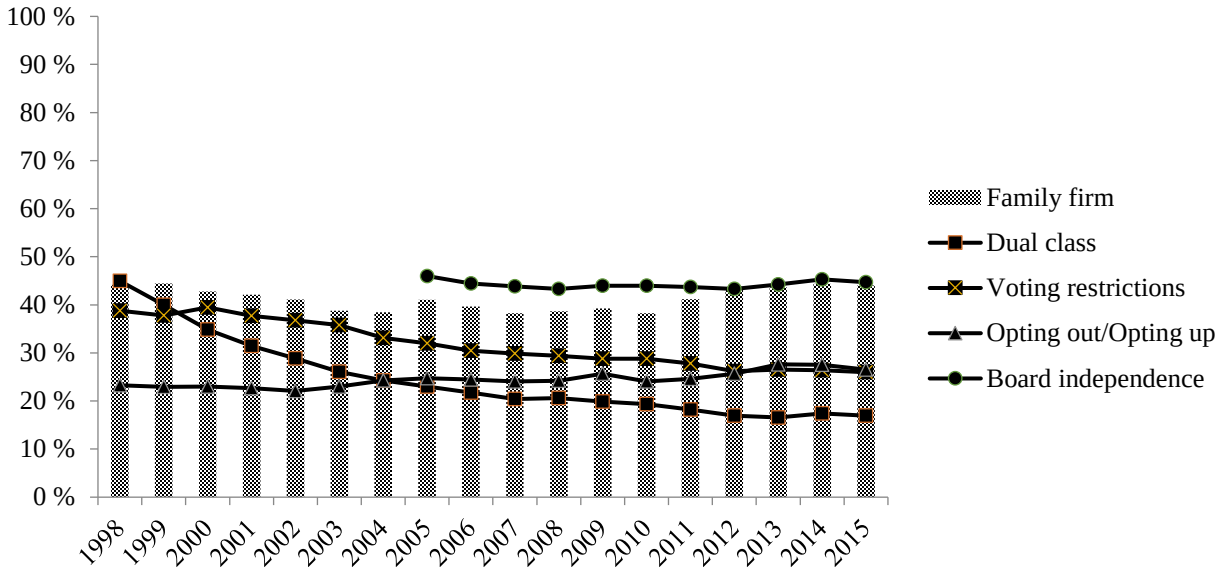


Figure 2: Family firms and minority investor protection



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/Opting up	1 if the company has opted out or up to the duty to make a public offer
Voting rights restrictions	1 if voting rights are restricted
Board independence	Proportion of fully independent directors on the board
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
Sales growth	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	Ratio R&D expenditures to total assets
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 and a sample of 2,035 firm-year observations from 2005 to 2015.

	Full sample		Sample		Family firm	Non-family firm	
Years	1998-2015				2005-2015		
Number of observations	3,107		2,035		834	1,201	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	0.24	0.43	0.19	0.39	0.35	0.08	*** / (***)
Opting out/Opting up	0.25	0.43	0.25	0.44	0.47	0.11	*** / (***)
Voting rights restrictions	0.31	0.46	0.28	0.45	0.20	0.34	*** / (***)
Board independence			0.44	0.26	0.38	0.49	*** / (***)
Panel B: Firm performance							
Tobin's Q	1.56	0.80	1.61	0.82	1.65	1.58	— / (**)
Panel C: Firm characteristics							
Size	25,270	141,971	26,150	148,759	3,395	41,948	*** / (***)
Diversification	0.72	0.45	0.70	0.46	0.83	0.61	*** / (***)
Sales growth	0.04	0.11	0.03	0.11	0.03	0.04	— / (—)
Firm age	76	63	75	63	69	80	*** / (**)
Profitability	0.10	0.09	0.09	0.09	0.10	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	0.03	0.09	0.03	0.11	0.03	0.03	/ (***)
Leverage	0.57	0.24	0.56	0.25	0.51	0.59	*** / (***)

Table 3: Family firms, minority investor protection, and firm performance

The table presents OLS 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.

Independent variables	Dependent variable: Tobin's Q															
	(I)		(II)		(III)		(IV)		(V)		(VI)		(VII)		(VIII)	
(Intercept)	1.26539	(***)	1.26488	(***)	1.26937	(***)	1.26140	(***)	1.27222	(***)	1.27278	(***)	1.19183	(***)	1.19860	(***)
	(0.374)		(0.372)		(0.372)		(0.368)		(0.373)		(0.369)		(0.373)		(0.376)	
Size	-0.00061		-0.00057		-0.00026		-0.00153		-0.00158		-0.00216		0.00219		0.00170	
	(0.017)		(0.017)		(0.017)		(0.017)		(0.017)		(0.017)		(0.017)		(0.017)	
Diversification	-0.12452	(*)	-0.12489	(*)	-0.12343	(*)	-0.12607	(*)	-0.12713	(*)	-0.12682	(*)	-0.14012	(**)	-0.13944	(**)
	(0.067)		(0.070)		(0.070)		(0.070)		(0.069)		(0.069)		(0.070)		(0.071)	
Sales growth	0.34510	(*)	0.34509	(*)	0.33999	(*)	0.34231	(*)	0.34786	(*)	0.34044	(*)	0.34072	(*)	0.34083	(*)
	(0.179)		(0.179)		(0.179)		(0.177)		(0.180)		(0.179)		(0.178)		(0.178)	
Firm age	-0.03181		-0.03192		-0.03034		-0.03238		-0.03174		-0.03072		-0.02957		-0.02963	
	(0.026)		(0.026)		(0.027)		(0.026)		(0.026)		(0.027)		(0.027)		(0.027)	
Profitability	3.71134	(***)	3.71132	(***)	3.71196	(***)	3.69899	(***)	3.70950	(***)	3.69862	(***)	3.68306	(***)	3.68012	(***)
	(0.418)		(0.418)		(0.417)		(0.421)		(0.418)		(0.419)		(0.416)		(0.417)	
Liquidity	0.64664	(***)	0.64659	(***)	0.65486	(***)	0.65151	(***)	0.65054	(***)	0.66257	(***)	0.66040	(***)	0.65665	(***)
	(0.196)		(0.196)		(0.194)		(0.196)		(0.197)		(0.195)		(0.197)		(0.198)	
Investments	2.04082	(***)	2.04080	(***)	2.04232	(***)	2.06072	(***)	2.01155	(***)	2.03280	(***)	2.01756	(***)	2.01362	(***)
	(0.613)		(0.612)		(0.610)		(0.611)		(0.616)		(0.612)		(0.603)		(0.603)	
Tangibility	-0.94845	(***)	-0.94836	(***)	-0.95567	(***)	-0.95431	(***)	-0.93879	(***)	-0.95147	(***)	-0.94707	(***)	-0.94773	(***)
	(0.142)		(0.142)		(0.141)		(0.142)		(0.144)		(0.142)		(0.150)		(0.150)	
R&D	1.90943	(***)	1.91061	(***)	1.91327	(***)	1.91471	(***)	1.90133	(***)	1.90799	(***)	1.95523	(***)	1.95252	(***)
	(0.459)		(0.459)		(0.459)		(0.459)		(0.462)		(0.462)		(0.465)		(0.466)	
Leverage	0.13484		0.13475		0.13053		0.13352		0.14197		0.13664		0.12221		0.12461	
	(0.156)		(0.156)		(0.156)		(0.155)		(0.153)		(0.153)		(0.154)		(0.155)	
Family firm			0.00226		0.01934		0.00809		0.01498		0.03560		0.10546		0.10934	
			(0.052)		(0.056)		(0.053)		(0.052)		(0.057)		(0.074)		(0.078)	
Dual class					-0.04718						-0.04331		0.11868		0.11807	
					(0.065)						(0.065)		(0.088)		(0.089)	
Voting rights restrictions							0.03401				0.03186		0.05581		0.05605	
							(0.051)				(0.051)		(0.064)		(0.064)	
Opting out/up									-0.03938		-0.03777		-0.00953		-0.00994	
									(0.061)		(0.060)		(0.062)		(0.062)	
Family firm × Dual class													-0.24678	(**)	-0.24905	(**)
													(0.114)		(0.114)	
Family firm × Voting rights restrictions													-0.04478		-0.05429	
													(0.119)		(0.130)	
Family firm × Opting out/up													-0.03952		-0.04403	

													(0.098)		(0.102)			
Family firm × Dual class × Voting rights restrictions × Opting out/Opting up															0.03562			
															(0.226)			
Fixed Effects	Industry, Years		Industry, Years		Industry, Years		Industry, Years		Industry, Years		Industry, Years		Industry, Years		Industry, Years			
Multiple R^2	54.2%		54.2%		54.3%		54.3%		54.3%		54.3%		54.7%		54.7%			
Adjusted R^2	53.6%		53.5%		53.6%		53.6%		53.6%		53.6%		53.9%		53.9%			
F-statistic	82.4	***	80.6	***	78.9	***	78.9	***	78.9	***	75.8	***	72.2	***	70.8	***		

Table 4: Family firms, minority investor protection, and firm performance

The table presents OLS coefficient estimates for Tobin's Q. Family firms, minority investor protection, and firm performance. 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.

Independent	Dependent variable: Tobin's Q					
variables	(I)		(II)		(III)	
Family firm	-0.06351		0.04328		0.12507	
	(0.135)		(0.095)		(0.243)	
Dual class	0.17244		0.18551		0.18239	
	(0.122)		(0.125)		(0.114)	
Voting rights restrictions	0.07748		0.07227		0.08343	
	(0.077)		(0.077)		(0.076)	
Opting out/up	0.02164		0.02079		0.03781	
	(0.064)		(0.064)		(0.066)	
Board independence	-0.16457					
	(0.107)					
Majority of independent directors			-0.04824			
			(0.055)			
Simple board independence					-0.30046	(*)
					(0.154)	
Family firm ×	-0.29710	(**)	-0.31058	(**)	-0.34096	(**)
Dual class	(0.151)		(0.155)		(0.146)	
Family firm ×	-0.06945		-0.04814		-0.04772	
Voting rights restrictions	(0.126)		(0.126)		(0.124)	
Family firm ×	-0.05807		-0.06165		-0.09872	
Opting out/up	(0.111)		(0.110)		(0.110)	
Family firm ×	0.39540					
Board independence	(0.269)					
Family firm ×			0.19899			
Majority of independent directors			(0.125)			
Family firm ×					-0.01372	
Simple board independence					(0.307)	
Control variables	Included		Included		Included	
Fixed effects	Industry, Years		Industry, Years		Industry, Years	
Multiple R^2	54.3%		54.3%		54.5%	
Adjusted R^2	53.3%		53.3%		53.5%	
F	51.4	***	51.4	***	51.8	***

Table 5: Instrumental variable approach: Family firms, minority investor protection, and firm performance

The table presents 3SLS estimates for Tobin's Q, Family Firm, Dual Class, and Family Firm × Dual class. The sample is based on 2,035 firm-year observations from 2005 to 2015. Standard errors are reported in parentheses, and significance at the 1, 5, and 10 percent levels is indicated by ***, **, and * respectively.

Independent	(1)		(2)		(3)		(4)	
variables	Tobin's Q		Family Firm		Dual class		Family firm × Dual class	
(Intercept)	1.07035	(***)	0.75047	(***)	0.16362		-0.12471	
	(0.227)		(0.152)		(0.130)		(0.107)	
Size	0.00406		0.00387		0.00972	(*)	0.01981	(***)
	(0.010)		(0.006)		(0.005)		(0.005)	
Diversification	-0.22271	(***)	0.13768	(***)	0.04709	(**)	0.02149	
	(0.047)		(0.022)		(0.022)		(0.018)	
Sales growth	-0.13437		-0.14736		-0.19465	(**)	-0.26448	(***)
	(0.149)		(0.091)		(0.082)		(0.073)	
Firm age	-0.02367		0.01511		0.04298	(***)	0.02391	(***)
	(0.017)		(0.010)		(0.009)		(0.008)	
Profitability	3.78115	(***)	0.13379		0.20053	(*)	0.21999	(**)
	(0.190)		(0.119)		(0.108)		(0.097)	
Liquidity	0.70169	(***)	-0.10129		0.16882	(***)	0.10845	(**)
	(0.108)		(0.067)		(0.060)		(0.054)	
Investments	3.17281	(***)	-0.19397		0.19317		0.04988	
	(0.484)		(0.303)		(0.277)		(0.250)	
Tangibility	-1.08609	(***)	-0.11480	(*)	-0.09570	(*)	-0.07252	
	(0.101)		(0.063)		(0.057)		(0.051)	
R&D	1.87393	(***)	-0.22295	(*)	0.11018		0.13205	
	(0.218)		(0.129)		(0.119)		(0.106)	
Leverage	0.07734		0.08596		-0.13035	(***)	-0.14451	(***)
	(0.094)		(0.054)		(0.049)		(0.044)	
Family firm	0.20907				0.16674	(**)		
	(0.190)				(0.073)			
Dual class	0.97627	(***)	0.08118					
	(0.313)		(0.082)					
Family firm × Dual class	-1.50032	(***)						
	(0.438)							
Opting out/up	0.04730		0.36144	(***)	0.05891	(*)	0.16046	(***)
	(0.064)		(0.023)		(0.034)		(0.017)	
Voting rights restrictions	0.09711	(**)	-0.12248	(***)	-0.05052	(**)	-0.04353	(***)
	(0.044)		(0.021)		(0.020)		(0.016)	
Board independence	-0.00393		-0.28204	(***)	-0.27172	(***)	-0.23016	(***)
	(0.082)		(0.045)		(0.039)		(0.030)	
Divorce rate			-0.00897	(***)				
			(0.002)					
Political voting participation rate					-0.00272	(***)		
					(0.001)			
Basel							0.01326	
							(0.016)	
Bern							0.05136	(**)
							(0.024)	
Geneve							-0.01978	
							(0.020)	
Innerschweiz							0.10169	(***)
							(0.019)	
Lausanne							0.08950	(***)
							(0.021)	
Mittelland							0.04515	(**)
							(0.021)	
St. Gallen							0.11204	(***)
							(0.023)	
Ticino							0.02378	
							(0.037)	
Zurich							0.03130	(**)
							(0.015)	
Fixed effects	Industry, Years		Industry, Years		Industry, Years		Industry, Years	
Multiple R^2	48.9%		42.4%		25.9%		20.8%	
Adjusted R^2	47.7%		41.2%		24.3%		18.8%	

Table 6: Family firms, minority investor protection, and investment policies

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

	Dependent variables											
Independent	(I)		(II)		(III)		(IV)		(V)		(VI)	
variables	R&D/Assets				Investments				*log* M&A			
(Intercept)	0.10652	(***)	0.10901	(***)	0.04286	(***)	0.04290	(***)	-0.82613	(***)	-0.79281	(***)
	(0.035)		(0.035)		(0.016)		(0.016)		(0.264)		(0.259)	
Size	-0.00710	(***)	-0.00727	(***)	-0.00043		-0.00043		0.08507	(***)	0.08278	(***)
	(0.002)		(0.002)		(0.001)		(0.001)		(0.011)		(0.011)	
Diversification	0.00276		0.00333		-0.00030		-0.00029		0.04904	(*)	0.05610	(**)
	(0.007)		(0.007)		(0.002)		(0.002)		(0.029)		(0.028)	
Sales growth	-0.02501		-0.02353		-0.00051		-0.00049		0.12580		0.14325	
	(0.033)		(0.033)		(0.008)		(0.008)		(0.103)		(0.101)	
Firm age	-0.00403		-0.00388		0.00044		0.00044		-0.00102		0.00078	
	(0.003)		(0.003)		(0.001)		(0.001)		(0.017)		(0.016)	
Profitability	-0.06738		-0.06743		0.06755	(***)	0.06755	(***)	0.33117		0.32870	
	(0.044)		(0.044)		(0.018)		(0.018)		(0.228)		(0.226)	
Liquidity	0.13071	(***)	0.13021	(***)	-0.00941		-0.00941		-0.21570	(**)	-0.21837	(**)
	(0.035)		(0.034)		(0.006)		(0.006)		(0.090)		(0.089)	
Investments	-0.01782		-0.01796						0.30022		0.29802	
	(0.052)		(0.052)						(0.357)		(0.357)	
Tangibility	-0.01305		-0.01320		0.08248	(***)	0.08248	(***)	-0.35439	(***)	-0.35663	(***)
	(0.017)		(0.017)		(0.009)		(0.009)		(0.087)		(0.086)	
R&D					-0.00323		-0.00326		0.13657		0.11047	
					(0.009)		(0.009)		(0.115)		(0.116)	
Leverage	0.05717	(**)	0.05830	(**)	0.00047		0.00049		0.20465	(***)	0.22001	(***)
	(0.024)		(0.024)		(0.005)		(0.005)		(0.064)		(0.066)	
Family firm	-0.00716		-0.00968		-0.00128		-0.00132		-0.01890		-0.05012	
	(0.006)		(0.006)		(0.002)		(0.002)		(0.035)		(0.037)	
Dual class	0.00543		-0.00709		0.00175		0.00156		-0.01013		-0.16384	(***)
	(0.007)		(0.005)		(0.002)		(0.004)		(0.039)		(0.041)	
Family firm × Dual class			0.01805	(*)			0.00028				0.22183	(***)
			(0.010)				(0.005)				(0.051)	
Opting out/up	-0.00426		-0.00484		-0.00317		-0.00318		-0.02141		-0.02869	
	(0.006)		(0.006)		(0.002)		(0.002)		(0.032)		(0.031)	
Voting rights restrictions	-0.00328		-0.00405		-0.00429	(**)	-0.00431	(**)	-0.07211	(**)	-0.08169	(**)
	(0.004)		(0.005)		(0.002)		(0.002)		(0.035)		(0.034)	
Board independence	0.00149		0.00095		-0.00190		-0.00190		-0.01382		-0.02046	

	(0.011)	(0.011)	(0.004)	(0.004)	(0.061)	(0.060)
Fixed effects	Industry, Years	Industry, Years	Industry, Years	Industry, Years	Industry, Years	Industry, Years
Multiple R^2	32.1%	32.2%	41.9%	41.9%	21.5%	22.2%
Adjusted R^2	30.7%	30.8%	40.7%	40.7%	19.8%	20.5%
F	22.9	22.5	35.1	34.2	13.0	13.2

Table 7: Family firms, minority investor protection, and sustainablity ratings

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

	Dependent variables											
Independent	(I)		(II)		(III)		(IV)		(V)		(VI)	
variables	ESG rating				Environmental score				Social score			
(Intercept)	7.14624	(***)	7.05663	(***)	3.44847		3.27706		7.18760	(***)	6.83635	(***)
	(0.505)		(0.514)		(2.193)		(2.229)		(1.986)		(1.950)	
Size	-0.01863		-0.01321		0.10780		0.11818		-0.15840		-0.13715	
	(0.026)		(0.026)		(0.113)		(0.114)		(0.119)		(0.119)	
Diversification	-0.02414		-0.03771		0.00395		-0.02199		0.24947		0.19631	
	(0.082)		(0.080)		(0.336)		(0.338)		(0.286)		(0.282)	
Sales growth	-0.59937	(***)	-0.61878	(***)	-1.53163	(*)	-1.56875	(*)	0.32096		0.24490	
	(0.226)		(0.222)		(0.820)		(0.818)		(0.811)		(0.798)	
Firm age	0.03823		0.03411		0.31105	(**)	0.30316	(**)	0.07815		0.06199	
	(0.046)		(0.046)		(0.146)		(0.145)		(0.140)		(0.139)	
Profitability	1.46513	(***)	1.46548	(***)	3.27032	(**)	3.27100	(**)	-1.09740		-1.09602	
	(0.416)		(0.417)		(1.343)		(1.344)		(1.405)		(1.379)	
Liquidity	-0.49472	(**)	-0.48796	(**)	0.04600		0.05893		0.74437		0.77085	
	(0.213)		(0.210)		(0.704)		(0.697)		(0.712)		(0.696)	
Investments	1.63713	(*)	1.84172	(*)	5.39567	(*)	5.78700	(*)	4.11208	(*)	4.91399	(**)
	(0.975)		(0.968)		(3.028)		(2.994)		(2.356)		(2.382)	
Tangibility	-0.50840	(*)	-0.52691	(*)	0.45971		0.42431		0.75212		0.67958	
	(0.297)		(0.301)		(1.019)		(1.029)		(0.866)		(0.876)	
R&D	-0.18919		-0.14434		-2.36137		-2.27558		-3.28757	(*)	-3.11179	(*)
	(0.429)		(0.423)		(1.548)		(1.529)		(1.831)		(1.769)	
Leverage	-0.40623	(**)	-0.42939	(**)	1.54885	(**)	1.50455	(**)	0.71959		0.62881	
	(0.202)		(0.203)		(0.711)		(0.715)		(0.692)		(0.688)	
Family firm	-0.12081		-0.06359		-0.42884		-0.31938		-0.15361		0.07068	
	(0.077)		(0.084)		(0.337)		(0.358)		(0.314)		(0.325)	
Dual class	-0.14355		0.07447		0.31261		0.72964		-0.16371		0.69085	
	(0.091)		(0.063)		(0.369)		(0.572)		(0.362)		(0.439)	
Family firm × Dual class			-0.34798	(***)			-0.66561				-1.36394	(**)
			(0.133)				(0.653)				(0.630)	
Voting rights restrictions	-0.07166		-0.05702		-0.01592		0.01207		0.23136		0.28871	
	(0.082)		(0.082)		(0.296)		(0.302)		(0.287)		(0.289)	
Opting out/up	0.03516		0.05336		-0.56740		-0.53260		-0.02780		0.04352	
	(0.097)		(0.097)		(0.473)		(0.471)		(0.335)		(0.345)	
Board independence	0.04321		0.04710		0.12225		0.12969		0.39210		0.40735	

	(0.123)	(0.122)	(0.479)	(0.480)	(0.452)	(0.457)
Fixed effects	Industry, Years	Industry, Years	Industry, Years	Industry, Years	Industry, Years	Industry, Years
Multiple R^2	67.2%	67.7%	24.0%	24.4%	34.6%	36.1%
Adjusted R^2	66.3%	66.8%	21.9%	22.3%	32.9%	34.3%
F	75.3	75.2	11.6	11.6	19.5	20.3

Table 8: Family firms, minority investor protection, and stock market reaction

The table presents OLS coefficient estimates for Cumulative Abnormal Return. The sample is based on 350 firm-year observations for events related to popular initiative "against rip-off salaries". White standard errors are reported in parentheses, and significance at the 1, 5, and 10 percent levels is indicated by ***, **, and * respectively.

	Dependent variable					
Independent variables	(I)		(II)		(III)	
	Cumulative Abnormal Return (%)					
(Intercept)	-0.00798		-0.05080		-0.04902	
	(0.018)		(0.031)		(0.035)	
Family firm	-0.00136		-0.00292		-0.00291	
	(0.004)		(0.004)		(0.004)	
Dual class	-0.00897		-0.01053		-0.01182	
	(0.010)		(0.009)		(0.009)	
Family firm × Dual class	0.02172	(*)	0.02303	(**)	0.02461	(**)
	(0.012)		(0.012)		(0.012)	
Voting rights restrictions	-0.00682	(*)	-0.00817	(**)	-0.00827	(**)
	(0.004)		(0.003)		(0.003)	
Opting out/up	0.00430		0.00648		0.00668	
	(0.004)		(0.005)		(0.005)	
Board independence	-0.00299		-0.00548		-0.00531	
	(0.009)		(0.009)		(0.009)	
Sales Volatility			-0.03180	(*)	-0.03161	(*)
			(0.018)		(0.018)	
ln(Market Capitalization)			0.00304	(*)	0.00258	
			(0.002)		(0.002)	
Trading Volume					0.00000	
					(0.000)	
Tobin's Q					0.00347	
					(0.002)	
Fixed Effects	Industry		Industry		Industry	
Multiple R^2	14.3%		20.0%		20.7%	

Appendix

Table A1: Stock market reactions on Sika announcements

		Sika I	SPI	Schindler N	Schindler P	Swatch R	Swatch I
Panel A: Family Burkard announces sale of Sika's control							
Wednesday	03.12.2014	2.4%	0.4%	0.9%	0.9%	0.1%	-0.7%
Thursday	04.12.2014	0.6%	-0.5%	-0.6%	-0.6%	1.0%	-0.2%
Friday	05.12.2014	2.0%	1.0%	0.4%	0.9%	-0.2%	0.7%
Monday	08.12.2014	**-24.8%**	-0.5%	-0.2%	-0.1%	-0.3%	0.6%
Tuesday	09.12.2014	-3.8%	-1.4%	-0.5%	-0.8%	-1.1%	-2.4%
Wednesday	10.12.2014	-5.5%	-0.3%	0.7%	0.0%	-0.3%	-1.0%
Thursday	11.12.2014	-0.5%	0.3%	-0.3%	-0.4%	-1.7%	-1.1%
7 days cumulated returns		-29.6%	-0.9%	0.4%	-0.1%	-2.6%	-4.3%
Panel B: Decision of the Zug Cantonal Court in favour of board of directors							
Wednesday	26.10.2016	-0.4%	-0.4%	0.1%	-0.2%	1.0%	0.5%
Thursday	27.10.2016	-1.5%	0.3%	-0.1%	0.0%	-1.9%	-0.9%
Friday	28.10.2016	-4.3%	-0.1%	0.9%	0.8%	-0.5%	-0.8%
Monday	31.10.2016	**11.3%**	-0.8%	-1.5%	-1.8%	-2.0%	-2.4%
Tuesday	01.11.2016	0.6%	-0.8%	0.4%	0.8%	-0.4%	-0.9%
Wednesday	02.11.2016	-2.6%	-0.8%	-1.0%	-1.2%	-2.0%	-1.8%
Thursday	03.11.2016	0.7%	-0.6%	-1.22%	-1.3%	-0.9%	-0.5%
7 days cumulated returns		3.9%	-3.3%	-2.4%	-2.9%	-6.7%	-6.8%
Panel C: Family Burkard, Sika, and Saint-Gobain announce agreement							
Tuesday	08.05.2018	-0.2%	-0.3%	-0.4%	-0.7%	0.4%	0.4%
Wednesday	09.05.2018	1.1%	0.4%	0.0%	0.2%	-0.2%	-0.2%
Thursday	10.05.2018	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Friday	11.05.2018	**8.0%**	0.3%	0.1%	0.1%	1.6%	1.5%
Monday	14.05.2018	1.5%	0.0%	-0.8%	-0.7%	-0.4%	-0.1%
Tuesday	15.05.2018	-1.0%	-0.1%	-0.7%	-0.6%	0.6%	1.0%
Wednesday	16.05.2018	-0.4%	-0.3%	0.3%	0.0%	0.1%	0.3%
7 days cumulated returns		9.0%	0.0%	-1.4%	-1.7%	2.1%	2.8%

Table A2: Family firms, minority investor protection, board independence, CEO power, and firm performance

The table presents OLS 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.

Independent variables	Dependent variable: Tobin's Q (I)		(II)		(III)	
Family firm	0.08906		0.08244		0.09110	
	(0.075)		(0.073)		(0.074)	
Dual class	0.18608		0.18725		0.21613	(*)
	(0.127)		(0.127)		(0.127)	
Family firm × Dual class	-0.33857	(**)	-0.34023	(**)	-0.34630	(**)
	(0.159)		(0.159)		(0.157)	
Voting rights restrictions	0.05307		0.05464		0.07537	
	(0.059)		(0.059)		(0.059)	
Opting out/up	-0.00296		-0.00859		-0.01510	
	(0.067)		(0.065)		(0.064)	
Board independence	-0.04597		-0.01620		-0.00168	
	(0.146)		(0.130)		(0.153)	
Family board member (%)	-0.03260				-0.00623	
	(0.151)				(0.152)	
Family board member (dummy)			0.01794			
			(0.072)			
CEO founder/post-founder	-0.08535				-0.06521	
	(0.082)				(0.083)	
CEO founder			-0.08808			
			(0.123)			
CEO post-founder			-0.07368			
			(0.122)			
CEO at stake			0.08021			
			(0.196)			
CEO board member					0.14571	(**)
					(0.064)	
Co-opted board (%)					-0.01909	
					(0.089)	
CEO tenure					-0.01292	(*)
					(0.007)	
Control variables	Included		Included		Included	
Fixed effects	Industry, Years		Industry, Years		Industry, Years	
Multiple R^2	54.1%		54.1%		54.8%	
Adjusted R^2	53.1%		53.1%		53.7%	
F	52.1	***	49.9	***	50.2	***

Table A3: Family firms, minority investor protection, board characteristics, and firm performance

The table presents OLS 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.

Independent variables	Dependent variable: Tobin's Q (I)		(II)		(III)	
Family firm	0.10534		0.08731		0.10998	
	(0.073)		(0.074)		(0.073)	
Dual class	0.21642	(*)	0.20662		0.21017	(*)
	(0.119)		(0.129)		(0.124)	
Family firm × Dual class	-0.38785	(**)	-0.35742	(**)	-0.36888	(**)
	(0.151)		(0.163)		(0.158)	
Voting rights restrictions	0.09933	(*)	0.07599		0.10181	(*)
	(0.057)		(0.059)		(0.059)	
Opting out/up	0.03504		-0.00032		0.03421	
	(0.067)		(0.066)		(0.065)	
Board independence	-0.02696		-0.11378		-0.06146	
	(0.121)		(0.136)		(0.130)	
Board size	0.00898				0.00678	
	(0.109)				(0.106)	
Gender diversity	0.32137				0.31276	
	(0.268)				(0.276)	
International diversity	0.52555	(***)			0.51779	(***)
	(0.154)				(0.167)	
Board age			0.21883		0.18028	
			(0.451)		(0.463)	
Board tenure			-0.11814	(*)	-0.06524	
			(0.065)		(0.062)	
Board experience			0.03957		-0.02984	
			(0.051)		(0.056)	
Control variables	Included		Included		Included	
Fixed effects	Industry, Years		Industry, Years		Industry, Years	
Multiple R^2	55.8%		54.4%		55.9%	
Adjusted R^2	54.7%		53.4%		54.8%	
F	54.5	***	51.6	***	51.3	***

Table A4: Family firms, minority investor protection, ownership characteristics and firm performance

The table presents OLS 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.

Independent variables	Dependent variable: Tobin's Q									
	(I)		(II)		(III)		(IV)		(V)	
Family firm							0.11387		0.09065	
							(0.076)		(0.075)	
Family firm × Dual class							-0.38664	(**)	-0.39736	(**)
							(0.166)		(0.170)	
Family firm (> 50 %)	0.01092		0.13681							
	(0.095)		(0.121)							
Family firm (> 50 %) × Dual class			-0.36952	(**)						
			(0.177)							
Family ownership					0.33757					
					(0.339)					
Family ownership^2					-0.41392					
					(0.373)					
2nd largest shareholder voting rights							-0.47778			
							(0.528)			
Δ1st-2nd largest shareholder voting rights							-0.13479			
							(0.157)			
Ownership concentration									-0.20023	
									(0.184)	
Number of significant shareholders									-0.09257	(*)
									(0.056)	
Dual class	-0.04949		0.10716		-0.04433		0.23613		0.25162	
	(0.086)		(0.096)		(0.087)		(0.150)		(0.161)	
Voting rights restrictions	0.04098		0.03974		0.04172		0.05354		0.05398	
	(0.059)		(0.058)		(0.059)		(0.058)		(0.058)	
Opting out/up	-0.01032		-0.01170		-0.01276		0.00062		-0.00649	
	(0.065)		(0.065)		(0.066)		(0.068)		(0.067)	
Board independence	-0.04559		-0.02223		-0.03981		-0.05206		-0.05014	
	(0.124)		(0.125)		(0.124)		(0.128)		(0.128)	
Control variables	Included		Included		Included		Included		Included	
Fixed effects	Industry, Years		Industry, Years		Industry, Years		Industry, Years		Industry, Years	
Multiple R^2	53.5%		54.1%		53.6%		54.1%		54.3%	
Adjusted R^2	52.5%		53.1%		52.6%		53.1%		53.2%	
F	54.6	***	54.5	***	53.6	***	52.1	***	52.4	***

Table A5: Family firms, minority investor protection, and firm performance during financial crisis 2007-2011

The table presents OLS 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.

Independent variables	Dependent variable: Tobin's Q			
	(I)	(II)	(III)	(IV)
Family firm	0.02053	0.06072	0.03548	0.09373
	(0.079)	(0.085)	(0.080)	(0.084)
Dual class	-0.04142	0.14455	-0.07464	0.22465 (*)
	(0.086)	(0.122)	(0.089)	(0.133)
Family firm × Dual class		-0.27065 (*)		-0.43072 (**)
		(0.162)		(0.167)
Voting rights restrictions	0.05111	0.06117	0.03773	0.05860
	(0.058)	(0.059)	(0.066)	(0.066)
Opting out/up	-0.01889	-0.01025	-0.01316	0.00170
	(0.067)	(0.068)	(0.080)	(0.081)
Board independence	-0.15674	-0.15219	0.03786	0.05462
	(0.136)	(0.136)	(0.149)	(0.148)
Control variables	Included	Included	Included	Included
Years	2007-2011	2007-2011	2005-2006/2012-2015	2005-2006/2012-2015
Fixed effects	Industry, Years	Industry, Years	Industry, Years	Industry, Years
Multiple R^2	50.3%	50.6%	57.2%	57.9%
Adjusted R^2	48.4%	48.7%	55.7%	56.3%
F	27.3 ***	26.9 ***	37.7 ***	37.7 ***

Table A6: Family firms, minority investor protection, and firm performance using various estimating methods

The table presents Random, Fixed Effects, and OLS coefficient estimates for performance variables. 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.

Independent variables	Dependent variable: Tobin's Q											
	(I)		(II)		(III)		(IV)		(V)		(VI)	
Family firm	0.19713	(**)	0.22453	(**)	0.25572	(**)	0.28004	(***)	0.03375	(**)	0.08250	(***)
	(0.088)		(0.095)		(0.103)		(0.108)		(0.013)		(0.017)	
Dual class	-0.09355		0.14203		-0.07399		0.20274		-0.05743	(**)	0.18258	(***)
	(0.133)		(0.105)		(0.290)		(0.173)		(0.024)		(0.030)	
Family firm × Dual class			-0.32905	(**)			-0.37080	(*)			-0.34638	(***)
			(0.155)				(0.200)				(0.051)	
Voting rights restrictions	-0.02857		-0.02233		-0.19274		-0.20202		0.04381	(**)	0.05878	(***)
	(0.073)		(0.072)		(0.136)		(0.133)		(0.018)		(0.019)	
Opting out/up	0.09300		0.09817		0.23707		0.24026		-0.01966		-0.00829	
	(0.131)		(0.130)		(0.224)		(0.222)		(0.029)		(0.029)	
Board independence	-0.03219		-0.03185		-0.03050		-0.03259		-0.04154		-0.03118	
	(0.080)		(0.080)		(0.079)		(0.079)		(0.056)		(0.059)	
Control variables	Included		Included		Included		Included		Included		Included	
Fixed Effects	Industry, Years		Industry, Years		Years		Years		Industry, Years		Industry, Years	
Method	Random		Random		Within		Within		Pooling		Pooling	
Standard errors	Cluster-robust Huber/White		Cluster-robust Huber/White		Cluster-robust Huber/White		Cluster-robust Huber/White		Driscoll-Kraay		Driscoll-Kraay	
Multiple R^2	33.5%		33.8%		31.9%		32.1%		53.5%		54.0%	
Adjusted R^2	32.1%		32.3%		23.1%		23.3%		52.6%		53.0%	
F-statistic	23.9	***	23.6	***	33.8	***	32.8	***	54.7	***	54.4	***