Founding family ownership,

stock market performance and agency problems♣

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Abstract

This paper explores the relationship between founding family ownership and stock market performance. Using a comprehensive sample of firms listed on the Swiss stock market over the period 2003-2013, we find that stock returns of family firms are significantly higher than those of non-family firms after adjusting returns for different risk factors and firm characteristics. They generate an annual abnormal returns of 4% to 7%. Since families hold a large fraction of their firms' voting rights, we relate this result to the risk of potential expropriation faced by investors. This assumption is confirmed by the data as we find that the outperformance of family firms is related to the level of family ownership. We also document that family firms tend to surprise the market more positively than other firms when they announce their earnings and that the magnitude of surprise is also related to the family stake in the firm. These results show that the abnormal stock returns of family firms can be explained by investors' skepticism towards family firms and the fact that market participants are systematically positively surprised by firms where agency problems are potentially more severe.

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1. Introduction

For more than a decade, the impact of family ownership and control on the performance of publicly listed companies has received extensive attention in the academic literature. This is an important question since family firms represents a large fraction of listed firms around the world (Carney and Childs (2013), Faccio and Lang (2002), La Porta et al. (1999)). The vast majority of this literature focuses on performance metrics related to the profitability (ROA) or valuation ratios (Tobin's Q) (e.g. Anderson and Reeb (2003), Villalonga and Amit (2006)). However, the academic evidence on the stock market performance of these firms is much more limited, although it is of prime importance for investors. Our paper fills this gap by proposing a detailed analysis of the stock returns of family-owned firms compared to the rest of the market. Using a comprehensive sample of non-financial firms listed on the Swiss market, we find that family ownership has a beneficial impact and that these firms deliver higher stock market returns than non-family firms. The outperformance of these firms ranges between 4% and 7% per annum depending on the way risk is adjusted.

The reason why stock returns of family owned firms have received little attention so far might be found in the strong belief in market efficiency. Characteristics such as ownership structure, and in particular the identity of the controlling shareholder, if any, is public information, and this feature should be integrated into stock market prices. There is no reason to believe that choosing stocks based on this information might lead to superior returns. However, the recent literature has shown that strategies using public information can offer superior returns on the stock market. Edmans (2011) shows that a strategy based on a publicly disclosed index of employee satisfaction (Forbes 100 best companies to work for) leads to positive abnormal returns. Von Lilienfeld-Toal and Ruenzi (2014) document that choosing stock of companies with high CEO ownership also leads to significant outperformance. The common explanation to both papers is that the market does not fully value these features as they are difficult to appraise quantitatively. These two features (employee satisfaction and CEO ownership) might be proxies for specific firm features that market participants are unable to value properly.

The positive impact of family ownership on returns could also be related to some improperly assessed effort of family members by market participants. However, the concentration of ownership in family hands may not only have positive effects. It has various implications on agency costs and hence on the profitability of the company and its perception by market participants. On the one side, ownership by families reduces conflict of interest problems between managers and shareholders (agency problems I). Hence, families seek the long-term sustainability of their companies and, by their dominant position, can challenge any decision that is not in their interest. This behavior can be value creating for the company and its shareholders. On the other side, the presence of a large shareholder generates conflicts of interest between minority and majority shareholders (agency problems II). This last one can use its power to extract private benefits, which reduces the value of the company. These two opposing forces might vary from company to company and depend on different characteristics of the firms. Typically, the active involvement of the family in the management or the level of family ownership have been documented to have an impact on different performance metrics.

Only a few papers have examined the stock market performance of family firms so far. Corstjens et al. (2006) compare the returns of family and non-family firms over the period 1994-2002 for a sample of large firms from the French, British, German and US markets. Using a performance-attribution approach and characteristics (Fama-McBeth) regressions, they do not find any abnormal performance for family firms except in the French market where these firms have positive abnormal returns. Cella (2009) also conducts an international study on a large sample of firms from eight European countries over the period 1993-2006. Taking all firms together, she finds significant positive abnormal returns for family firms compared to non-family firms. However, there are differences between countries. When taken individually, only half of the countries analysed display strategies with significant abnormal returns. Also, the protection of minority shareholders plays a non-negligible role. In countries with strong protection, family firms have lower stock returns than in countries with low protection. Fahlenbrach (2009) examines the performance of a subsample of family firms, those run by a founder-CEO in the US. He finds that these firms earn a return of 8.3% per annum in excess of what could have been achieved by a passive investment in the four-factor of Fama and French (1993) and Carhart (1997). Finally, Miralles-Marcello et al. (2013) document that for a sample of Portuguese firms, family firms outperform non-family firms over the period 1999-2008. This literature, however, does not provide any convincing explanation for the apparent excess stock market performance of family firms.

This paper investigates the stock market performance of Swiss family firms over the period January 2003 to December 2013 for a sample of 195 companies listed on the SIX Swiss Exchange. Although relatively small in the number of listed companies (232 domestic companies in 2015), the Swiss exchange is one of the ten largest stock market in the world in terms of market capitalization. As most Western European countries, this market is characterized by a high ownership concentration and the presence of many family firms. Compared to the US, the levels or ownership by the largest blockholder are higher which potentially makes agency problems between majority and minority shareholders more severe. In terms of corporate governance, La Porta et al. (1998) attribute to Switzerland a score of 2 out of 5 for their anti-director rights index. Minority shareholders are therefore poorly protected by law. However, to attract foreign investors as well as expand their market internationally, Swiss companies voluntarily adopt good governance practices. Switzerland represents an interesting case as it provides a good balance between relatively poor investor protection with weak market regulations offering firms much flexibility for their actions. Finally, another important advantage of this market for a study of ownership concentration on stock returns is the relatively modest number of listed firms. As emphasized by several authors, most commercial databases on ownership contain inaccuracies or are not even able to correctly identify the ultimate owner of a firm. Hand collecting data on ownership structure from different sources overcomes this problem and allows to document accurately different aspects of ownership. This process is only possible with a reasonable number of firms as in the case of the Swiss market.

We study the impact of ownership structure on stock returns using different methodologies. We first analyze stock returns performance by building portfolios containing securities with the same structural ownership features such as family firms, widely held firms or firms with active members of the family to just name a few. By using the four-factor model of Fama and French (1992, 1993) and Carhart (1997), we determine whether the returns of portfolios and strategies are abnormal, that is, if the returns are not explained by the exposure to various risk factors. We also use an approach taking into account industry and firm characteristics by using Fama-MacBeth and pooled panel regression.

The main results of the study show that (1) family firms have higher stock returns than widely held firms and firms with another blockholder, (2) investment strategies based on these factors generate positive abnormal returns, even after taking into account the exposure to risk factors, (3) the results hold after controlling for the impact of firm characteristics (4) the outperformance of family family firms is related to factors such as the holdings of the family

and the active involvement of the family in the management. Additional analyses reveal that family firms have larger earnings surprises than other firms and that they translate into higher abnormal returns. These results are consistent with a general skepticism of market participants about the prospects and management of family firms and with investors being regularly (positively) surprised by the economic outcomes produced by family firms.

This paper contributes to the existing literature in different ways. First, this study contributes to the literature on the link between ownership structure and stock market returns by proposing a detailed investigation of the impact of founding family ownership on the stock market performance. It also provides a detailed explanation for the outperformance of family firms. We find that abnormal returns are related to different firm characteristics such as the stake of the family or the active involvement of the family. Our interpretation of these results is that market participants are not able to correctly assess the performance of these firms because of the fear of potential agency problems resulting from the high stake of the controlling family. Second, our study contributes to the growing literature on features that are not properly assessed by the market and that lead to abnormal returns for investors. It shows that under certain circumstances, the market might not integrate efficiently into stock prices some publicly available information such as the ownership structure of a company. Third, this paper contributes to the growing literature on family firms in finance. It addresses an aspect that has received little attention so far and that deserves more attention in the future.

The remainder of this paper is organized as follows: Section 2 describes the Swiss institutional setting. Section 3 describes the data and variables used in the analysis. Section 4 presents the descriptive statistics and difference in means tests. Section 5 describes the methodology used to test our hypotheses. Section 6 exposes the results while section 7 summarizes the major findings and concludes the study.

2. Institutional setting

The Swiss stock market is characterised by a relatively concentrated ownership. Faccio and Lang (2002) report that, in 1995, only 28% of companies are widely held, while 48% of firms are family-owned and 24% have a non-family blockholder. Moreover, they report that controlling shareholders essentially employ dual-class shares to enhance their control over the company as these are unrestricted by Swiss law. 51% use multiple share classes, while 10% of companies resort to pyramidal structures and none to cross-holdings.

The classic explanation on the occurrence of high ownership concentration on markets is provided by La Porta et al. (1998) and is attributed to weak investor protection. In this framework, Switzerland is classified as a German-origin civil law country. These countries display quite considerable differences from common law markets as, for example, lower investor protection and a malfunctioning market for corporate control. Switzerland in particular not only ranks poorly in terms of the anti-director rights index (La Porta et al. (1998)), but also ranks low on the anti-self-dealing index proposed by Djankov et al. (2008) and has a near non-existent albeit slowly evolving market for corporate control (Lowinski et al. (2004)). This shows that controlling shareholders can potentially extract private benefits more easily. At the same time, Switzerland appears favorably in terms of financial market development. Djankov et al. (2008) mention that Switzerland is a major (positive) outlier in the estimated relationship between stock market development, measured by the ratio of total market value to GDP, and the control of self-dealing. This result can be explained by the fact that Switzerland is a small open economy with a limited scope to grow domestically. It, therefore, has to create a favorable environment to attract foreign capital and companies have to trade abroad to expand their market. This might imply the voluntary adoption of good corporate governance practices that go beyond law requirements and/or lower levels of rent extraction to attract international capital. This is, for instance, reflected in the strong law and order tradition and low levels of corruption that prevail in Switzerland. Both are documented in three independent international rankings. La Porta et al. (1998) refer to the International Country Risk Guide. It has consistently ranked Switzerland in the top decile for corruption and law and order tradition. The law component measures the quality and neutrality of the legal system while order assesses the compliance of the law by the population of a country. The second source is the World Governance indicators issued by the World Bank (Kaufmann et al. (2009)) which ranks Switzerland in the 95-th percentile for corruption, the rule of law and regulatory quality. Rule of law broadly covers the confidence in law enforcement and law abidance of society. It, more specifically, includes the quality of contract enforcement and of the judicial system. Regulatory quality further measures the possibilities of the government to implement a good legal system that favours the development of the private and economic sector. Finally, an indicator issued by the World Economic Forum (Schwab and Sala-i-Martin (2012) ranks Switzerland highly (5^{th} in the world) on corporate ethics. This ethical behaviour can be explained by the social control implied by the small size of the economy since any wrongdoing might lead to high reputational costs. All these observations indicate that Swiss economic agents have a high propensity to

comply with laws and regulations. This behaviour might translate in lower rent extraction by controlling shareholders and therefore reduce agency costs.

Until the end of the 1980's the Swiss stock market was relatively closed to international investors, since almost every Swiss listed company issued multiple share classes. One of these classes was very often restricted to Swiss citizens and thus prevented foreign investors to take control of companies. These restrictions were gradually removed due to the pressure of international investors (see for example Loderer and Jacobs (1995)) and the arrival of domestic institutional investors[1]. In 1992, a revised version of the Swiss corporate law formally abolished the discriminations on voting rights based on the nationality of investors. At the end of the 1990's, investor pressure led to an improvement in corporate governance. It materialised in the publication of a Swiss Code of Best Practices (published by the Swiss Business Federation) and the adoption of a corporate governance directive by the Swiss Exchange in 2002. The code is largely inspired by the Cadbury Report in the United Kingdom and has also adopted its comply or explain approach. Moreover, since a majority of companies have a controlling shareholder in Switzerland, the recommendations of the code are left to the appreciation of each firm. Firms have reacted to these new corporate governance principles by considerably improving transparency and the composition and organisation of their boards of directors. Moreover, they abandoned many restrictions protecting the management against hostile takeovers. Restrictions on the transferability of shares or the use of multiple share classes constitute a prime example of this tendency. Kunz (2002) documents that the use of multiple share classes has decreased across time from 86% in 1989, to 59% in 1995 and finally only 29% in 2001. Finally, it should be noted that since the code and directive essentially provide recommendations for widely held firms (and not for companies with a controlling shareholder), it cannot be claimed that progress in terms of corporate governance has been uniform across all Swiss companies since 2002.

3. Data and variables

The empirical research is performed on a database containing 195 companies listed on the SIX Swiss Exchange during the period from January 2003 to December 2013. This sample of 19’928 firm-monthly observations contains almost the whole non-financial Swiss market for this period. Different sources are used to form this database.

[1] In 1985, Switzerland adopted a system of mandatory pension plans. This led to the emergence of domestic institutional investors, since they had to invest a fraction of their assets under management on the domestic stock market.

The database, collected by hand, includes all non-financial companies belonging to the Swiss Performance Index (SPI) and provides information on the ownership structure of the firms[2]. Data is collected from the annual reports of companies, as well as from Swiss stock guides, newspaper articles, firm homepages or the commercial register when needed. We follow the standard practice in the literature and use a 20% threshold of the voting rights to define the majority shareholder (Faccio and Lang (2002)). We classify companies by type of owner as follows: family, widely held, State, private investor[3], owned by another widely held corporation, owned by another widely held financial firms and miscellaneous. The database distinguishes family firms that are at the founder stage from those at the descendant stage, as well as the one having a lone founder. Finally, other dummy variables characterize family firms according to their management, that is, companies with the family active (as CEO and/or Chairman of the Board) and particularly if the founder or the descendants are active. We also have information on the wedge between voting rights and cash-flow rights which is calculated by the ratio between the number of voting rights and the number of cash-flow rights held by the controlling shareholder. In Switzerland, this difference is mainly achieved with the use of multiple class of shares.

In a second step, we merge the yearly data on ownership structure with market data on monthly returns for each company obtained from Datastream. Returns are total returns that include dividend distribution. We then merge our data with other control variables obtained from Datastream and Worldscope.

Finally, the use of a 4-factor model to determine abnormal returns requires data on Fama and French (1992, 1993) and Carhart (1997) factors as well as the risk-free rate for Switzerland for every month. We use local factors as Griffin (2002) concludes that domestic factors explain better time-series variation in returns than world factor models and that they generally have smaller pricing errors than their international counterparts. The returns of these factors have been computed by Amman and Steiner (2008) over the period 1990-2014. They are available on the authors' website.

[2] The database on ownership structure for the period 2003-2010 originates from Isakov and Weisskopf (2014). We have extended their database and collected the additional information for the period 2011-2013.

[3] We follow Andres (2008) and Isakov and Weisskopf (2014) and have a specific category of controlling shareholder named private investor. A private investor is defined as one or more individuals that have neither founded the company nor shaped it in a substantial way over the years. The motivations and values of a private investor will strongly differ from those of a founding family. Typically, there are private investors who are only in the company to make a quick profit and then leave. Private investors will also differ from other non-family blockholders as they are more likely to reduce agency costs I (more incentives to control managers) but are more prone to agency costs II (more incentives to extract private benefits). Usually firms with this type of controlling shareholder are considered to be family firms in a large fraction of the literature which might lead to biased results.

[Insert Table 1 here]

Table 1 provides a description of the different variables used as firm characteristics in the empirical analysis

4. Descriptive statistics

Table 2 presents the composition of the sample. The different types and subdivisions of shareholder are presented for the entire period (column 1) as well as for the first (column 2), the middle (column 3) and the last year (column 4) of observations.

[Insert Table 2 here]

Our sample appears to be well balanced regarding the different types of firms. We have three main groups of roughly equal size. Each year, we have approximately 50 firms in each category (widely held, family and firm with another blockholder). Widely held firms represent a share of 33% of the sample. Family firms are the most common type of firms, representing approximately 35% of the sample. Of these, about one-third are at the founder stage and two-thirds at the descendant stage. Finally, 32% of the sample consists of firm with a controlling shareholder other than the founding family. By subdividing this latter group, we observe that 5% of the firms are owned by the State, 15% by a private investor, 5% by another widely held corporation, 4% by another widely held financial firm and 3% are miscellaneous. Proportions stay almost constant between the three decomposed periods. The ownership pattern is, therefore, stable over time.

Table 3 presents the descriptive statistics for the entire sample (column 1), as well as for the main groups, namely the family firms (column 2), the non-family firms (column 3), the widely held firms (column 4) and the firms held by another blockholder (column 5). The mean of the different variables used in the analysis is presented as well as the results of the difference in means tests for the different variables.

[Insert Table 3 here]

The average monthly return of the entire sample is 0.59% per month with the highest value for the family firms (0.91%) and the smallest for the widely held firms (0.25%). Widely held firms have a higher beta (1.19) compared to the other groups, representing a higher risk, while family firms and firms held by another blockholder seem to be less risky (beta of 0.98 and 0.87 respectively). Finally, the largest shareholder in family firms has on average 1.5 more voting rights than cash-flow rights, while the other groups respect the one-vote-one-share principle. Therefore, family firms are still often using multiple class shares to allow their major shareholders to dissociate their voting rights from their cash-flow rights. Concerning the other firm characteristics, family firms and firms held by another blockholder have a higher book-to-market ratio, are less liquid (higher Amihud's illiquidity ratio) and are, in general, from a smaller size (smaller market value, total asset and net sales). While firms held by another blockholder are the oldest ones, widely held firms are on average the youngest. They are also more liquid and larger. Finally, family firms seem to be more generous with their shareholders by paying more dividends than the other firms, consistent with the findings of Isakov and Weisskopf (2015), which found higher payout policy for family firms. Concerning the leverage, family firms have the lowest level of leverage.

Table 3 also shows the results of the difference in means tests between the main groups for all variables. The higher performance of family firms, when compared to non-family firms, widely held firms and firms with another blockholder, is statistically significant

The results for the returns of family and non-family firms, although slightly more moderate, confirm those found by Cella (2009) for Switzerland (1.18% and 0.73% respectively). The difference between the results of both studies can be explained by the fact that Cella (2009) uses a smaller sample (36 Swiss companies against 195 in this study) and uses a threshold of 10% (against 20% in this study) of the voting rights to define a majority shareholder.

5. Methodology

To study the impact of family ownership on stock performance we follow the methodology proposed by Gompers et al. (2003) based on portfolio formation. We build an equally weighted portfolio for each group of firms (family, widely held, other blockholder) at the beginning of the year including all the stocks of firms belonging to this group. Portfolio returns are then calculated at the end of each month until the end of the year. At the beginning of the next year, portfolios are reformed and returns calculated in the same way (annual

rebalancement). We then create different self-financing strategies that are long in one portfolio and short in the second one (for example, long on the portfolio of family firms and short on the portfolio of widely held firms).

Once the monthly returns of the portfolios and the strategies are calculated, we use a multi-factor model to analyse their performance. More specifically, we use the four-factor model of Carhart (1997), which is an extension of the classical Fama-French three-factor model (Fama and French (1992, 1993)). We, therefore, estimate the model:

$$R_t = \alpha + \beta_1 RMRF_t + \beta_2 SMB_t + \beta_3 HML_t + \beta_4 WML_t + e_t \quad (1)$$

where R_t is the excess return in month t, $RMRF_t$ is expected market return in month t minus the risk-free rate, SMB_t is the difference between the expected return in month t of a portfolio of small-cap stocks and that of a portfolio of large cap stocks, HML_t is the difference between the expected return in the month t of a portfolio of stocks with high book-to-market and that of a portfolio of stocks with low book-to-market and WML_t is the difference between the expected return in month t of a portfolio with stocks having outperformed the previous month and that of a portfolio with stocks having underperformed the previous month. Finally, the model constant (α) measures the abnormal return that an investor would have obtained each month from 2003 to 2013 by having invested in the portfolio more than what he would have if he had just passively invested in the four factors. We also use a simple CAPM as an alternative way to measure abnormal returns since the evidence on the validity of the FF 4-factor model for the Swiss stock market is weak (e.g. Fama and French (1998) and Ammann and Steiner (2008)). Moreover, the reliability of factors is not guaranteed as the number of stocks available on this market for their construction is limited. This decomposition of the performance in several factors also allows drawing conclusions on the risk profile of the firms. The coefficients also represent different exposure to risk. Certain type of companies with different ownership structure could be exposed to risk factors differently than another type, which could affect at the end their stock returns.

The main problem with the approach of portfolio formation and risk exposure is that it omits to take into account different firm characteristics that may exist between the different groups of firms. To control for firm characteristics, we follow Lilienfeld-Toal and Ruenzi (2014) and use two methods to estimate the following multivariate regression:

$$r_{it} = a_i + b_i X_{it} + c_i Z_{it} + e_{it} \quad (2)$$

where r_{it} is the returns adjusted for dividends for firm i in month t, X_{it} is the dummy variable indicating the presence or not of one type of shareholder in the ownership structure

(main variable) and Z_{it} is a vector of firm characteristics. The first method is a Fama-MacBeth (1973) approach (FMB) where cross-sectional regressions are run separately for each month of the sample period and then the values of the final parameters are determined with the mean and statistical significance of the time-series statistics of these monthly estimates. The second method is a pooled panel regression (POLS2C), where standard errors are two-dimensionally clustered along the firm and time dimensions. In both cases, we also control for industry effects by including industry dummies in all regressions based on the ICB 10 industry classification. Following the papers of Brennan et al. (1998), Gompers et al. (2003), Cella (2009) and Lilienfeld-Toal and Ruenzi (2014) our set of control variables includes the log of book-to-market and the log of market value as proxies for the size and value effect. We also use the price of the stocks and the volatility of the returns, as well as three variables for returns 3 to 2, 6 to 4 and 12 to 7 months before the month of the analysis as proxies for the momentum factor. As suggested by Edmans (2011), we further control for the stock liquidity by using the Amihud's illiquidity ratio (Amihud (2002)). We also take into account the dividend yield and the leverage and, as proxies for firm's efficiency, the operating margin and the sales over the total asset. Finally, we use the asset growth and sales growth over the last year and over the last five years. All the variables are described in Table 1.

6. Results

6.1. Core results

The results of the performance attribution regression are presented in Table 4. The first three columns report abnormal returns and risk coefficients for the three portfolios representing the different types of firms while the last two columns report the alpha of two self-financing strategies.

[Insert Table 4 here]

Panel B shows the results for the one-factor model. We find that the portfolio of family firms has a positive and significant alpha of 0.57% (6.84% on an annual basis), while the portfolios of non-family and widely held firms are positive and insignificant. Looking at the self-financed strategies, we see that a strategy that buys the portfolio of family firms and sells short the portfolio of widely held firms yields an abnormal return of 0.34% per month, which corresponds to an annual abnormal return of 4.08%. This result is slightly lower to the one of Cella (2009) who found a monthly average abnormal return of 0.44% for Switzerland but used

a reduced sample of firms. When we consider a four-factor risk -adjustment model in Panel A, the results are qualitatively similar, but the significance of alphas differs slightly. The portfolio of family firms still has a positive alpha but this time, it is insignificant while the self-financing strategies long in family firms and short in widely held firms yield a significant 0.47% per month (or 5.64% annually). The results from the 4-factor models must, however, be taken with some caution because of the lack of strong evidence of the relevance of these factors for the Swiss market. In general, it can be concluded from this initial analysis that risk-adjusting the returns of family firms does not change the results observed in Table 3, i.e. family firms have the highest returns.

The second analysis controls for firm characteristics. The results are provided in the first two column of Table 5. It summarizes the results of the pooled panel regression with two-dimensional clustering of standard errors (POLS2C) and the Fama-MacBeth (FMB) approach with the firm monthly returns as the dependent variable. We add to the series of firm characteristics a dummy variable (Family Dummy) taking the value 1 for the returns of family firm. Both methods yield highly significant coefficients for this dummy reflecting the superior returns of family firms as compared to other firms in our sample.

[Insert Table 5 here]

Firms with a family holding at least 20% of the voting rights earn, for example, an additional monthly return of 0.52% (6.24 % annually) as compared to firms with no family holding this amount in the POLS2C regression. The coefficients differ only slightly between both regression approaches. These results confirm those found with the performance attribution regressions: the presence of a family into the firm's shareholding induces higher stock returns, and this outperformance is not explained by differences in firm characteristics as well.

These results from Table 4 and 5 might be attributed to mispricing of family ownership. It could be expected that excess returns decline over time as the market learns about the value of these firms when they release information. We therefore study the longevity of outperformance following Edmans (2011. We calculate longevity of the outperformance with the cumulative abnormal return (CAR). At the beginning of every year, we create equally-weighted portfolios containing stock of firms with different ownership structure and compute their returns for the next 60 months. We first calculate a stock's benchmark-adjusted return for each month after the first month of each year. The CAR up to month x is obtained by an arithmetic sum of the abnormal returns from month 1 to month x for each year. The CARs are

then averaged over the number of years and the number of firms. Table 6 presents the results for the whole sample, as well as the subsamples according to the ownership structure and the difference in means tests between the main groups.

[Insert Table 6 here]

Results show first that the CARs for each period for the groups of family firms are positive and statistically different from 0, whereas those for both other groups (non-family firms and widely held firms) are negative and statistically different from 0. Second, the differences in means tests confirm the outperformance of family firms over time when compared to non-family firms or widely held firms. Lastly, the CARs are continuously growing for all groups (positively for the family firms and negatively for the two others), but the growth is always getting smaller, suggesting that the market slowly learns over time without totally eliminating the mispricing. It can be concluded that there is some persistence in the outperformance of family firms and that the mispricing is not fully corrected.

6.2. Further results on family holdings and family activity in the firm

The results obtained so far indicate a positive association between family presence and stock market returns. In this section, we examine if returns are related to firm characteristics such as the stake of the family or if family members are active in the firm. These two variables can be interpreted in two ways. A high stake and/or an active involvement in the firm may reflect a high level of control over the firm and a higher risk of expropriation. At the same time, a high level of ownership may also reflect the fact that the family members have a large fraction of their wealth invested in the company and that they will not undertake value-destroying actions that would be are against their own interests. This would be beneficial for minority shareholders.

Previous literature has investigated the relationship between the performance of firms and the stake of the largest shareholder. Morck et al. (1988), McConnell and Servaes (1990), Anderson and Reeb (2003) and Isakov and Weisskopf (2014) all find a nonlinear (concave) relationship between ownership and accounting performance. This indicates that performance first increases as family ownership increases but after a certain level of ownership performance decrease with further increase in ownership level. This phenomenon has been documented for profitability and valuation ratios but not for stock returns. It is usually interpreted that agency

costs (risk of expropriation of minority shareholders by the controlling shareholder) become too high when the family has a very high stake. We therefore first compute the different descriptive statistics for family firms by distinguishing three sub-groups of family firms according to the level of voting rights a family (family stake) has in the firms. The first group contains firms where families have 20-50% of voting rights, a relatively moderate level of control which does not give full control the firm. The second category is 50-80% of voting rights while the last is 80-100%. These two subcategories indicate that the family has total control of the firm and that most standard corporate governance mechanisms are ineffective. Note that these high levels of control do not automatically imply low liquidity of the firm's stocks since these firms frequently use control enhancing mechanisms and families have much lower cash-flow rights than voting rights.

[Insert Table 7 here]

We observe that the mean returns increase monotonically with the stake of the family. For families having and stake between 80 and 100%, the mean return is 1.01% monthly while for those holding a stake of 20-50% it is 0.88%. In order to document more precisely the relation between returns and the level of family holdings we estimate firm characteristics regressions (equation (2)) by replacing the family dummy by the percentage of control rights of the family.

[Insert Table 8 here]

Results are provided in Table 8 and confirm the results obtained in Table 7, i.e. that there is a monotonic relation between the family stake and stock returns. Since the relation between the operational performance and the ownership has been shown to be concave in the previous literature we also estimate a quadratic relationship between stock returns and market performance. The results in Table 8 show that this relation is not concave, which means that the relation is linear and that we do not observe a negative impact of high ownership on returns. We finally decompose the family dummy in three different dummies according to the same three categories of holding as in Table 7 and find that the outperformance is specifically concentrated in firms with a stake above 50%.

We next analyze whether two different features of family firms have an impact on stick returns, namely the generation of the family firm and the degree of involvement of the family in the firm. We first compute descriptive statistics for the different categories family firms and then estimate firm characteristics regressions. The results are presented in Tables 9 and 10.

[Insert Table 9 here]

[Insert Table 10 here]

A first analysis differentiates family firms along the founder vs descendant stage. The literature has documented that in terms of operating performance founder stage firms tend to have better performance than descendant firms. This is essentially explained by the fact that the founder has very strong incentives to develop the firm and pass it to his heirs while descendants might be less motivated. As shown in Table 9, the average returns are slightly higher for firms at the descendant stage. The regression results in Table 10 confirm this result as the family dummy is only significant for firms at the descendant stage. In a second stage, we also segregate family firms according to the fact that a family member is active in the management (as CEO) or the board (as Chairman) or not. Table 9 shows that returns are higher when the family is active and has operational control of the firm. Regression results in Table 10 confirm the results obtained in Table 9, i.e. that only firms with an active family have significantly higher returns The fact that the family is active in the management or the Board is a sign that the family closely controls and monitors the firm. Finally, we also investigate whether there is a founder-CEO effect as documented by Fahlenbrach (2009). The results in Table 9 and 10 show that it is not the case and that it is only other family firms that generate some outperformance.

It can, therefore, be concluded from these tests that there is a monotonic relation between the risk of expropriation (represented by a high family stake, an involvement of the family in the firm or the firm being at the descendant stage) and returns. Alternatively, these results can also be interpreted as being an indication that high level of ownership and/or active presence in the firm reflect an increased monitoring of the firm that is beneficial to all shareholders and lead to positive abnormal returns. However, both interpretations highlight factors that are not properly integrated into stock prices

6.3 Stock returns around earnings announcements

One possible explanation for the outperformance of family firms over 11 years is that investors are not able to properly assess the value of family firms and tend to be skeptical about their performance because of the high risk of expropriation. The true performance of these firm can be assessed when they disclose information and in particular when they announce their earnings. At that specific time, investors will be able to have accurate information about the firm and will, therefore, readjust their opinion accordingly. We, therefore, focus on this event and look at two measures: earnings surprises and market reactions to these events.

We use two measures of earnings surprise. Our first metric is a classical measure used in the literature that reflects the one-year surprise (Edmans (2011)). We call it the self-calculated surprise since we calculate it. We use the mean earnings-per-share (EPS) estimated nine months before the release date to estimate the predicted EPS, while the EPS published by the firm is used as the true EPS. The estimates are obtained from the FactSet database. This measure of surprise is defined as:

$$\text{Surprise}_{\text{Self-calculated}} = \frac{\text{Published EPS} - \text{Consensus EPS}}{\text{Share Price}} \tag{3}$$

Our second measure is a short-term surprise provided by the FactSet database. We call it the FactSet surprise. It considers the difference between a recalculated EPS (which can be seen as the true earnings-per-share, EPS) and the consensus pre-event calculated on the eve of the release date. The recalculated EPS is also provided by the analyst once the earnings are disclosed. The analyst is then able to compute an EPS that correspond to the information he had before the release. There can be differences between the published and the recalculated EPS when some (unexpected) extraordinary items are included by the firm or when the firm changes accounting practices or methods for some specific items. The recalculated EPS is the median consensus calculated up to 100 days (every analyst can provide this new estimate up to 100 days) after the release of earnings while the consensus pre-event is the mean consensus on the eve of the release date. The surprise is calculated as

$$\text{Surprise}_{\text{FactSet}} = \frac{\text{Recalculated EPS} - \text{Consensus EPS pre-event}}{\text{Consensus EPS pre-event}} \tag{4}$$

The surprise is directly available in the FactSet database and it is called the *broker actual* by FactSet and is sometimes referred to as *convergence consensus* in the literature. The advantage of this measure is that it provides a short-term measure that is relatively free of any accounting manipulation by managers. It has been used recently in the literature by Bessler and Stanzel (2009) and Aubert and Grudnitski (2012). It is also particularly relevant for the Swiss case where firms use different accounting standards.

We use two measures of the market reactions to earnings announcements: the price impact and the cumulative abnormal return (CAR) of earnings surprise. The price impact is the relative change in price between the day before the announcement and the day of the

announcement. The CAR is computed from an event study (with the market model as normal return) over the window [-1;+1]. Table 11 provides the mean values for these four measures for all the firms as well as for group of firms

[Insert Table 11 here]

Table 11 shows that on average, the FactSet surprise is positive, while the self-calculated surprise is negative. When we compute the means according to the different types of firms, it appears that family firms have the largest surprises indicating that earnings are well above expectations of financial analysts. However, it is significantly larger only for the self-calculated surprise. This indicates that professional analysts tend to be more pessimistic about the firm prospects than they should. We next turn to the price reactions on earnings announcements. We observe that the price reaction is significantly more positive for family firms than for other. This indicates that the market adjusts to this new information and generate some high positive abnormal returns which might explain the abnormal returns for family firms. We next investigate if there is a relation between the family stake and the measures of surprise and market reaction. The results are presented in Table 12, where the different measures are computed for different categories of family firms, according to the stake of the family. We observe that the surprises are larger for family firms with a large stake (and a high risk of expropriation) although weakly significant.

[Insert Table 12 here]

The market reactions to the earnings announcements also appear to be significantly larger for family firms with a high stake. The general conclusion that can be drawn from these results is that the market seems to be more surprised and reacts more when family firms announce their earnings. The surprise is even slightly higher for firms where the family has a high stake. Table 13 and 14 propose a multivariate regression analysis for these four measures.

[Insert Table 13 here]

Table 13 shows the self-calculated surprise is positively and significantly related to the stake of the family. For the FactSet surprise there is only a significant relation for firms with a

large family stake. However, all coefficients are positive. Table 14 shows that the market reaction are also significantly and monotonically related to the stake of the family

[Insert Table 14 here]

Finally, we look at the proportion of positive earnings surprises for family firms with respect to the proportion observed for firms with other ownership structures. These ratios are computed for both types of surprises and are presented in Table 15. We essentially find that the proportion of positive surprises is higher for family firms. We also compute these proportions for subsets of family firms according to their ownership level. It appears that the proportion of positive surprises is monotonically related to the family stake which confirms that the market tends to be surprised more positively by firms with a high level of ownership

[Insert Table 15 here]

7. Conclusions

Many listed firms around the World have a founding family as the controlling shareholder. The impact of such ownership structures on firm performance are not yet fully understood. This paper tries to address this problem by analyzing panel data over the period of January 2003 to December 2013 for a sample of 195 companies listed on the Swiss Exchange. Unlike most of the previous literature, this paper takes the point of view of an investor and analyses the relationship between ownership structure and stock returns. We find that family firms outperform other firms regarding stock market returns by 4%-7% annually on the Swiss stock market and that they represent a very interesting investment opportunity. We find that this outperformance is positively related to the stake a family holds in a firm and to the fact that it is actively involved in the firm. Moreover, we find that earnings surprises are larger for family firms and in particular for firms where the family has a large stake. Our interpretation of these results is that market participants are not able to correctly assess the performance of these firms because of the fear of potential expropriation resulting from the high stake of the controlling family. However, this risk appears to be overestimated and the market corrects its poor assessment of these firms when firms announce their earnings which leads to positive abnormal return and make these firms very attractive for investors.

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Table 1: Variable Definitions

This table defines the variables used in the analysis. Market data come from Datastream and Worldscope while those on earnings announcements come from FactSet. The data for the ownership structure come from the database of Isakov and Weisskopf (2014) and were actualised by hand-collecting data from annual report and from the Swiss stock guides. The period of analysis is from January 2003 to December 2013.

Firm Ownership Measure	
Widely held firm (*WH*)	Dummy variable that takes the value 1 if no shareholder holds more than 20% of the voting rights, 0 otherwise.
Family firms (*FF*)	Dummy variable that takes the value 1 if a family holds more than 20% of the voting rights, 0 otherwise.
Family Control Rights	The percentage of voting rights held by the largest shareholder in a family firm.
Family firms at the founder stage (*FFF*)	Dummy variable that takes the value 1 if a family firm is held by its founder, 0 otherwise.
Family firms at the descendant stage (*FFD*)	Dummy variable that takes the value 1 if a family firm is held by its descendant, 0 otherwise.
Family active (FA)	Dummy variable that takes the value 1 if at least one member of the family is active in the firm, 0 otherwise.
Family non-active (FNA)	Dummy variable that takes the value 1 if no member of the family is active in the firm, 0 otherwise.
Family firms with founder CEO	Dummy variable that takes the value 1 if the CEO is the founder of the family firms, 0 otherwise.
Family firms (Stake 20-50)	Dummy variable that takes the value 1 if the family holds between 20% and 50% of the voting rights, 0 otherwise.
Family firms (Stake 50-80)	Dummy variable that takes the value 1 if the family holds between 50% and 80% of the voting rights, 0 otherwise.
Family firms (Stake 80-100)	Dummy variable that takes the value 1 if the family holds between 80% and 100% of the voting rights, 0 otherwise.
Other blockholder (OB)	Dummy variable that takes the value 1 if the firm has a shareholder having more than 20% of the voting rights, but who is not a family, 0 otherwise.
State (S)	Dummy variable that takes the value 1 if the State holds more than 20% of the voting rights, 0 otherwise.
Private investor (*PI*)	Dummy variable that takes the value 1 if a private investor holds more than 20% of the voting rights, 0 otherwise.
Widely held corporation (*WHC*)	Dummy variable that takes the value 1 if another widely held corporation holds more than 20% of the voting rights, 0 otherwise.
Widely held financial (WHF)	Dummy variable that takes the value 1 if another widely held financial firm holds more than 20% of the voting rights, 0 otherwise.
Miscellaneous (Misc)	Dummy variable that takes the value 1 if an unclassifiable shareholder holds more than 20% of the voting rights, 0 otherwise.

Firm Characteristics	
Age	The age of a firm in years computed as the current year minus the year of foundation as stated in the Swiss stock guides.
Amihud's Illiquidity Ratio	The Amihud (2002) illiquidity ratio is calculated using daily data and then averaged by month. The daily ratio is calculated by dividing the daily return by the daily trading volume which is calculated by multiplying the daily price by the daily volume.
Asset Growth (AG)	The asset growth of a firm over the past year and over the past five years (AG_1year, AG_5 years).
Beta	Regression coefficients of the market model calculated with the returns of the previous 60 months.
Book-to-Market (BM)	Ratio of the book value of common equity to the market value of common equity.
Dividend Yield (DY)	The ratio of total dividends to total market capitalization.
Leverage (Lev)	Long term debt divided by total asset.
logBM	The natural logarithm of the book-to-market ratio.
logSize	The natural logarithm of the firm's market value.
Market Value	Share price multiplied by the number of ordinary shares in issue.
Operating Margin (OM)	Operating income over net sales.
Price	The closing price in CHF at which the firm's stock is traded.
Return_2_3	The natural logarithm of the cumulative returns over the months t-2 and t-3.
Return_4_6	The natural logarithm of the cumulative returns over the months t-6 through t-4.
Return_7_12	The natural logarithm of the cumulative returns over the months t-12 through t-7.
Sales Growth	The sales growth of a firm over the past year and over the past five years (SG_1year, SG_5years).
Sales/Total Asset	Net sales divided by total assets.
Stock Returns	Monthly returns of the securities calculated from the monthly stock prices collected at the end of each month and adjusted to the dividend distribution.
Total Asset	Sum of total current assets, long term receivables, investment in unconsolidated subsidiaries, other investments, net property plant and equipment and other assets.
Volatility	The monthly volatility of a stock calculated using daily data and then averaged by month.
Wedge	Ratio between the number of voting rights and the number of cash-flow rights.

Earnings announcements	
Analyst coverage	The number of analysts issuing nine-month horizon earnings per share estimates for a particular firm and year.
Cumulative Abnormal Return (CAR)	The CAR is computed from an event study (with the market model as normal return) over the window [-1;+1].
Price Impact	The relative change in price between the day before the announcement date of the release and the day of the announcement.
Surprise Factset	The consensus after event minus the consensus pre event, deflated by the consensus pre event. The consensus after event is the median broker actual 100 days after the release of earnings. The consensus pre event is the mean consensus on the eve of the release date.
Surprise Selfcalculated	The actual earnings per share at the end of the fiscal year minus the estimated earnings forecasted 9 months prior, deflated by the share price at the time of the forecast for a particular firm and year

Table 2: Sample composition and evolution over the time

This table presents the descriptive statistics for the entire sample which includes 195 companies over the period 2003-2013 (19'604 firm-monthly observations). The table presents the mean of the different dummy variables related to the ownership structure. The variables are described in Table 1. A company is controlled by a shareholder if it holds more than 20% of the voting rights. Column 1 shows the results for the entire period, while columns 2 to 4 show the composition of the first, the middle and the last year respectively. Columns 5 to 7 present the average number of firms per year for the whole period as well as the minimum and maximum number.

	All	2003	2008	2013	Number of firms per year		
	Mean	Mean	Mean	Mean	Mean	Min	Max
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Widely held firms	0.33	0.35	0.36	0.29	49.7	41	55
Family firms	0.35	0.38	0.35	0.33	52.8	46	60
Family firms at founder stage	*0.12*	*0.13*	*0.13*	*0.11*	*18.7*	*14*	*23*
Family firms at descendant stage	*0.23*	*0.25*	*0.22*	*0.22*	*34*	*31*	*37*
Other blockholders	0.32	0.27	0.29	0.38	47.5	40	58
State	*0.05*	*0.04*	*0.05*	*0.05*	*7.5*	*6*	*9*
Private Investor	*0.15*	*0.12*	*0.13*	*0.21*	*21.6*	*17*	*30*
Widely held corporation	*0.05*	*0.08*	*0.03*	*0.04*	*7.5*	*5*	*12*
Widely held financial	*0.04*	*0.01*	*0.04*	*0.04*	*5.8*	*1*	*9*
Miscellaneous	*0.03*	*0.02*	*0.04*	*0.04*	*4.9*	*3*	*6*
N	19604	1795	1800	1680	150	140	156

Table 3: Descriptive statistics and difference in means tests for the entire sample and the main groups

This table presents descriptive statistics for the different variables used in the study. A more detailed description of the variable is given in table 1. The mean of each variable is presented for the entire sample (column 1) as well as for the main groups, namely family firms, non-family firms, widely held firms and firms with another blockholders (in columns 2 to 5 respectively). The table presents also the results of difference in means tests for the variables between the major groups, that is, between family firms and non-family firms (column 6), between family firms and widely held firms (column 7) and between family firms and other blockholder firms (column 8). *, **, *** indicate significance level at 10%, 5% and 1% respectively, based on the t-statistic assuming unequal variance.

	All	Family firms	Non-family firms	Widely held firms	Other blockholder	Family – Non-family	Family – Widely Held	Family – Other Blockholder
	Mean	Mean	Mean	Mean	Mean	Difference	Difference	Difference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Stock Returns (in %)	0.59	0.91	0.41	0.25	0.58	0.49***	0.65***	0.32**
Return on Asset (in %)	0.58	5.69	-2.24	-0.63	-4.00	7.93***	6.31**	9.68**
Return on Equity (in %)	-10.27	4.98	-18.75	-7.31	-31.08	23.73*	12.30*	36.06
Beta	1.01	0.98	1.03	1.19	0.87	-0.05***	-0.21***	0.10***
Volatility	0.11	0.10	0.12	0.12	0.11	-0.01***	-0.02***	-0.01***
Wedge	1.22	1.57	1.02	0.98	1.07	0.55***	0.60***	0.51***
Age (in years)	73.2	69.8	75.1	57.5	93.6	-5.3***	12.3***	-23.8***
Book-to-Market	0.82	0.87	0.80	0.65	0.97	0.06***	0.22***	-0.10***
Amihud's Illiquidity (in ‰)	0.62	0.58	0.65	0.46	0.86	-0.08	0.12*	-0.29***
Dividend Yield (in CHF)	1.60	1.92	1.42	1.36	1.49	0.50***	0.56***	0.43***
Leverage	0.13	0.12	0.14	0.13	0.16	-0.03***	-0.01***	-0.04***
Market Value (in mio CHF)	5159	4786	5363	9076	1463	-576*	-4289***	3323***
Total Asset (in mio CHF)	3852	3629	3976	6358	1375	-348*	-2730***	2254***
Net Sales (in mio CHF)	3257	3296	3235	5051	1258	61	-1754***	2039***
N	19604	6924	12680	6495	6185	19604	13419	13109

Table 4:
Performance-attribution regression results for equally weighted portfolios

This table presents the coefficients and robust standard errors of the performance-attribution regressions for the main groups. These regressions are based on 132 observations, one for each month for the 11-year period between January 2003 and December 2013. Panel A shows the results for the four factors model of Fama and French (1992, 1993) and Carhart (1997) which are returns on zero investment portfolios that capture the effects of the market (RMRF), the size (SMB), the book-to-market value (HML) and the momentum effect (WML). These data for Switzerland are uploaded from Amman and Steiner's website. Panel B shows the results for the one factor model which only captures the effect of the market (RMRF). This data is calculated using the Swiss Performance Index uploaded from Datastream. Alpha measures the abnormal return an investor would receive by investing in the portfolio in excess to what he would have received if he had passively invested in the four factors (panel A) and in the one factor respectively (panel B). Columns 1 to 3 show the results of the regression for the individual portfolios (family firms, non-family firms and widely held firms), whereas columns 4 and 5 for the main strategies (family vs. non-family firms and family vs. widely held firms). *, **, *** indicate significance level at 10%, 5% and 1% respectively. Robust standard errors are calculated using Huber-White estimators and are presented in parentheses.

Panel A: 4 factors model

	Family – Risk Free	Non-family – Risk Free	Widely Held – Risk Free	Family – Non-family	Family – Widely Held
	(1)	(2)	(3)	(4)	(5)
Alpha	0.0023	-0.0002	-0.0023	0.0025*	0.0047***
	(0.0016)	(0.0014)	(0.0018)	(0.0014)	(0.0017)
RMRF	1.1129***	1.2120***	1.3405***	-0.0991**	-0.2276***
	(0.0487)	(0.0438)	(0.0470)	(0.0459)	(0.0493)
SMB	0.7334***	0.8867***	0.9147***	-0.1533**	-0.1813**
	(0.0595)	(0.0608)	(0.0715)	(0.0633)	(0.0712)
HML	0.4031***	0.4393***	0.3798***	-0.0362	0.0233
	(0.0762)	(0.0664)	(0.0824)	(0.0770)	(0.0858)
WML	0.0373	0.0442	0.1127*	-0.0069	-0.0754
	(0.0686)	(0.0579)	(0.0673)	(0.0491)	(0.0562)
N	132	132	132	132	132
R^2	0.8719	0.9016	0.8648	0.0850	0.1470

Panel B: 1 factor model

	Family – Risk Free	Non-family – Risk Free	Widely Held – Risk Free	Family – Non-family	Family – Widely Held
	(1)	(2)	(3)	(4)	(5)
Alpha	0.0057**	0.0038	0.0023	0.0019	0.0034**
	(0.0023)	(0.0025)	(0.0028)	(0.0013)	(0.0016)
RMRF	0.9185***	0.9782***	1.0648***	-0.0597*	-0.1462***
	(0.0727)	(0.0751)	(0.0775)	(0.0347)	(0.0393)
N	132	132	132	132	132
R^2	0.6580	0.6478	0.6443	0.0240	0.0852

Table 5: Multivariate Regressions

This table presents the results of ordinary least squares regressions with two-dimensional clustering of standard errors at time and firm level (POLS2C) and Fama and MacBeth (1973) regressions (FMB) on the sample of 195 firms over the period of January 2003 to December 2013. The dependent variable is the firm's monthly stock return adjusted to dividends. In all the regressions industry dummies based on the ICB 10 industry classification are included (but not shown). The main independent variable is the family dummy in columns 1 and 2. The following control variables are also added: the wedge, the log of book-to-market, the log of market value, the price, the volatility of stock return, the Amihud's illiquidity ratio, the dividend yield, the leverage, the operating margin, the sales over the total asset, the asset and sales growth (1 and 5 years) and the momentum returns (logret2-3, logret4-6, logret7-12). All the variables are described in table 1. *, **, *** indicate significance level at 10%, 5% and 1% respectively. Standard errors are in parentheses.

	(1)	(2)
Family Dummy	0.0052***	0.0023*
	(0.002)	(0.001)
Wedge	0.0002	0.0009
	(0.001)	(0.001)
logBM	-0.0058***	-0.0080***
	(0.002)	(0.002)
logSize	0.0006	-0.0009
	(0.001)	(0.001)
Price	0.0000	0.0000
	(0.000)	(0.000)
Volatility	0.0857	-0.0629
	(0.054)	(0.040)
Amihud's Illiquidity	-1.2218***	-3.6409***
	(0.390)	(1.251)
Dividend Yield	-0.0023**	-0.0015***
	(0.001)	(0.000)
Leverage	-0.0110	-0.0152**
	(0.010)	(0.006)
Operating Margin	0.0000*	0.0002**
	(0.000)	(0.000)
Sales to Total Asset	-0.0005	-0.0015
	(0.001)	(0.001)
AG_1year	0.0258***	0.0215***
	(0.008)	(0.007)
AG_5year	-0.0204	-0.0156
	(0.016)	(0.013)
SG_1year	-0.0001	0.0194***
	(0.000)	(0.006)
SG_5year	-0.0019	-0.0151
	(0.006)	(0.010)
Return_2_3	0.0396*	-0.0128
	(0.022)	(0.012)
Return_4_6	0.0377**	0.0155*
	(0.016)	(0.009)
Return_7_12	-0.0251*	-0.0067
	(0.013)	(0.006)
Intercept	-0.0117	0.0287**
	(0.015)	(0.012)
Industry Dummy	Yes	Yes
Methods	POLS2C	FMB
N	15546	15546

Table 6: Longevity analysis

This table presents the results of the longevity analysis. Longevity of the outperformance is calculated with the cumulative abnormal return (CAR). A stock's benchmark-adjusted return is first calculated for each month after the first month of each year. The CAR up to month x is obtained by an arithmetic sum of the abnormal returns from month 1 to month x for each year. The CARs are then averaged over the number of years and the numbers of firms. Column 1 presents the CAR for the whole sample and columns 2 to 4 for the subsamples according to the ownership structure (family firms, non-family firms and widely held firms). The table presents also the results of difference in means tests for the stock returns between the major groups, that is, between family firms and non-family firms (column 5) and between family firms and widely held firms (column 6). In columns 1-4 the stars indicate if the coefficients are statistically different from 0, whereas in columns 5-6 they indicate if the coefficients are statistically different from each other. *, **, *** indicate significance level at 10%, 5% and 1% respectively.

Cumulative Abnormal Returns						
	(1)	(2)	(3)	(4)	(5)	(6)
	All	Family firms	Non-family firms	Widely held firms	Family – Non-family	Family – Widely Held
Month	Mean	Mean	Mean	Mean	Difference	Difference
1-12	-0.0077	0.0250**	-0.0255**	-0.0424**	0.0505***	0.0674***
1-24	-0.0193	0.0508***	-0.0579***	-0.0990***	0.1087***	0.1498***
1-36	-0.0377*	0.0804***	-0.1042***	-0.1676***	0.1846***	0.2480***
1-48	-0.0268	0.1332***	-0.1190***	-0.2215***	0.2521***	0.3547***
1-60	-0.0264	0.1527***	-0.1323***	-0.2615***	0.2850***	0.4143***

Table 7: Descriptive Statistics of the subsample of family firms according to the stake

This table presents descriptive statistics for the different variables used in the study for the subsample of family firms according to the stake. A more detailed description of the variable is given in table 1. The mean of each variable is presented for the entire subsample of family firms (column 1) as well as for the subcategories according to the stake of the family (columns 2 to 4).

	Family firms	Family firms (Stake 20-50)	Family firms (Stake 50-80)	Family firms (Stake 80-100)
	Mean	Mean	Mean	Mean
	(1)	(2)	(3)	(4)
Stock Returns (%)	0.91	0.88	0.91	1.01
Return on Asset (in %)	5.69	4.97	6.24	5.81
Return on Equity (in %)	4.98	11.77	-0.92	8.81
Beta	0.98	1.16	0.86	0.91
Volatility	0.10	0.11	0.10	0.10
Wedge	1.57	1.30	1.80	1.56
Age (in years)	69.8	67.8	67.3	95.7
Book-to-Market	0.87	0.82	0.72	2.00
Amihud's Illiquidity (in ‰)	0.58	0.63	0.57	0.35
Dividend Yield (in CHF)	1.92	1.86	1.86	2.58
Leverage	0.12	0.11	0.13	0.06
Market Value (in mio CHF)	4786	3263	6658	401
Total Asset (in mio CHF)	3629	3622	4095	693
Net Sales (in mio CHF)	3296	3381	3643	662
N	6924	2800	3572	552

Table 8: Multivariate regressions according to the stake

This table presents the results of ordinary least squares regressions with two-dimensional clustering of standard errors at time and firm level (POLS2C) and Fama and MacBeth (1973) regressions (FMB) on the sample of 195 firms over the period of January 2003 to December 2013. The dependent variable is the firm's monthly stock return adjusted to dividends. In all the regressions industry dummies based on the ICB 10 industry classification are included (but not shown). The main independent variables are the percentage of voting rights held by the family (Family Control Rights) in columns 1 and 2, the percentage of voting rights held by the family (Family Control Rights) and its square ((Family Control Rights)^2) in columns 3 and 4 and the family dummies according to the three different stakes in columns 5 and 6. The following control variables are also added (but not shown): the wedge, the log of book-to-market, the log of market value, the price, the volatility of stock return, the Amihud's illiquidity ratio, the dividend yield, the leverage, the operating margin, the sales over the total asset, the asset and sales growth (1 and 5 years) and the momentum returns (logret2-3, logret4-6, logret7-12). All the variables are described in table 1. *, **, *** indicate significance level at 10%, 5% and 1% respectively. Standard errors are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)
Family Control Rights	0.0093***	0.0058**	0.0111	-0.0028		
	(0.003)	(0.002)	(0.010)	(0.008)		
(Family Control Rights)^2			-0.0014	0.0137		
			(0.012)	(0.011)		
Family firms (Stake 20-50)					0.0032	-0.0003
					(0.002)	(0.002)
Family firms (Stake 50-80)					0.0064**	0.0034*
					(0.003)	(0.002)
Family firms (Stake 80-100)					0.0091***	0.0098***
					(0.003)	(0.003)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Methods	POLS2C	FMB	POLS2C	FMB	POLS2C	FMB
N	15546	15546	15546	15546	15546	15546

Table 9: Descriptive Statistics of the subsample of family firms according to the involvement

This table presents descriptive statistics for the different variables used in the study for the subsample of family firms according to the involvement. A more detailed description of the variable is given in table 1. The mean of each variable is presented for the entire subsample of family firms (column 1) as well as for the subcategories according to the generation of the family (columns 2 and 3), to the active or passive involvement of the family in the management (columns 4 and 5) and to the fact that the CEO is the founder of the family firm (column 6).

	Family firms	Family at founder stage	Family at descendant stage	Family active	Family non-active	Family with founder CEO
	Mean	Mean	Mean	Mean	Mean	Mean
	(1)	(2)	(3)	(4)	(5)	(6)
Stock Returns (%)	0.91	0.87	0.92	0.97	0.79	0.66
Return on Asset (in %)	5.69	4.83	6.16	5.43	6.16	1.27
Return on Equity (in %)	4.98	7.20	3.75	-0.66	15.20	-0.65
Beta	0.98	0.96	0.99	0.94	1.05	0.94
Volatility	0.10	0.11	0.10	0.10	0.10	0.11
Wedge	1.57	1.32	1.71	1.47	1.76	1.38
Age (in years)	69.8	29.0	91.7	63.5	81.0	17.3
Book-to-Market	0.87	0.85	0.88	0.89	0.82	0.99
Amihud's Illiquidity (in ‰)	0.58	0.85	0.42	0.58	0.56	1.01
Dividend Yield (in CHF)	1.92	1.34	2.24	1.78	2.16	1.03
Leverage	0.12	0.11	0.12	0.11	0.12	0.06
Market Value (in mio CHF)	4786	3596	5441	2516	8829	3009
Total Asset (in mio CHF)	3629	2365	4310	1729	7058	1535
Net Sales (in mio CHF)	3296	3043	3440	1895	5813	1259
N	6924	2424	4488	4434	2490	688

Table 10: Multivariate regressions according to the involvement of the family

This table presents the results of ordinary least squares regressions with two-dimensional clustering of standard errors at time and firm level (POLS2C) and Fama and MacBeth (1973) regressions (FMB) on the sample of 195 firms over the period of January 2003 to December 2013. The dependent variable is the firm's monthly stock return adjusted to dividends. In all the regressions industry dummies based on the ICB 10 industry classification are included (but not shown). The main independent variables are the dummies for family firms at founder stage and at descendant stage in columns 1 and 2, the active and non-active family dummies in columns 3 and 4 and dummies for family firms with founder CEO and other family firms in columns 5 and 6. The following control variables are also added (but not shown): the wedge, the log of book-to-market, the log of market value, the price, the volatility of stock return, the Amihud's illiquidity ratio, the dividend yield, the leverage, the operating margin, the sales over the total asset, the asset and sales growth (1 and 5 years) and the momentum returns (logret2-3, logret4-6, logret7-12). All the variables are described in table 1. *, **, *** indicate significance level at 10%, 5% and 1% respectively. Standard errors are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)
Family at founder stage	0.0034	0.0018				
	(0.003)	(0.002)				
Family at descendant stage	0.0064***	0.0030**				
	(0.002)	(0.001)				
Family active			0.0065***	0.0032*		
			(0.002)	(0.002)		
Family non-active			0.0025	0.0008		
			(0.002)	(0.002)		
Family with founder CEO					0.0031	0.0040
					(0.005)	(0.005)
Other family firms					0.0053***	0.0023
					(0.002)	(0.001)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Methods	POLS2C	FMB	POLS2C	FMB	POLS2C	FMB
N	15546	15546	15546	15546	15546	15546

Table 11:
Descriptive statistics and difference in means tests for the entire sample and the main groups for the surprises, price impact and CAR

This table presents descriptive statistics for the surprises, price impact and CAR. A more detailed description of the variable is given in table 1. The mean of each variable is presented for the entire sample (column 1) as well as for the main groups, namely family firms, non-family firms, widely held firms and firms with another blockholders (in columns 2 to 5 respectively). The table presents also the results of difference in means tests for the variables between the major groups, that is, between family firms and non-family firms (column 6), between family firms and widely held firms (column 7) and between family firms and other blockholder firms (column 8). To eliminate outliers, surprises above 10% of the stock price are not taken into account, as well as those below the 1-percentil and above the 99-percentile *, **, *** indicate significance level at 10%, 5% and 1% respectively, based on the t-statistic assuming unequal variance.

	All	Family firms	Non-family firms	Widely held firms	Other blockholder	Family – Non-family	Family – Widely Held	Family – Other Blockholder
	Mean	Mean	Mean	Mean	Mean	Difference	Difference	Difference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Surprise Factset (in %)	2.4542	4.0626	1.4912	1.9203	0.8294	2.5714	2.1423	3.2332
N	*1004*	*376*	*628*	*381*	*247*			
Surprise Selfcalculated (in %)	-1.9530	-1.3055	-2.3355	-2.2596	-2.4381	1.0300***	0.9541**	1.1326**
N	*1201*	*446*	*755*	*434*	*321*			
Price Impact (in %)	0.3882	0.9992	0.0224	-0.3410	0.5829	0.9768***	1.3402***	0.4163
N	*1004*	*376*	*628*	*381*	*247*			
CAR (in %)	0.4608	1.1577	0.0832	0.1564	0.0078	1.0745***	1.0013***	1.1499***
N	*1548*	*544*	*1004*	*509*	*495*			

Table 12:
Descriptive Statistics and difference in means tests for the subsample of family firms for the surprises, price impact and CAR according to the family stake

This table presents descriptive statistics for the surprises, price impact and CAR for the subsample of family firms. A more detailed description of the variable is given in table 1. The mean of each variable is presented for the entire subsample of family firms (column 1) as well as for the subcategories according to the stake of the family (columns 2 to 4). The table presents also the results of difference in means tests for the variables between the different subcategories, that is, between family firms with high stake and family firms with medium stake (column 5), between family firms with high stake and family firms with small stake (column 6) and between family firms with medium stake and family firms with small stake (column 7). To eliminate outliers, surprises above 10% of the stock price are not taken into account, as well as those below the 1-percentil and above the 99-percentile*, **, *** indicate significance level at 10%, 5% and 1% respectively, based on the t-statistic assuming unequal variance.

	Family firms Mean (1)	Family firms (Stake 20-50) Mean (2)	Family firms (Stake 50-80) Mean (3)	Family firms (Stake 80-100) Mean (4)	Family firms (Stake 80-100) – Family firms (Stake 50-80) Difference (5)	Family firms (Stake 80-100) – Family firms (Stake 20-50) Difference (6)	Family firms (Stake 50-80) – Family firms (Stake 20-50) Difference (7)
Surprise Factset (in %)	4.0626	3.3680	3.8721	12.1258	8.2538	8.7578	0.5040
N	*376*	169	188	19			
Surprise Selfcalculated (in %)	-1.3055	-2.0556	-0.7432	-0.7479	-0.0047	1.3077	1.3123**
N	446	191	229	26			
Price Impact (in %)	0.9992	0.5753	1.1345	3.4302	2.2956**	2.8549**	0.5592
N	*376*	169	188	19			
CAR (in %)	1.1577	0.8521	1.2176	2.6047	1.3871	1.7526*	0.3655
N	544	222	287	35			

Table 13: Multivariate Regressions for the Surprise Factset and Surprise Selfcalculated

This table presents the results of ordinary least squares regressions with two-dimensional clustering of standard errors at time and firm level (POLS2C) on the sample of 195 firms over the period of January 2003 to December 2013. The dependent variable is the Surprise Factset in columns 1 to 3 and the Surprise Selfcalculated in columns 4 to 6. In all the regressions industry dummies based on the ICB 10 industry classification are included (but not shown). The main independent variables are the family dummy in columns 1 and 4, the percentage of voting rights held by the family in columns 2 and 5 and the family dummies according to the three different stakes in columns 3 and 6. The following control variables are also added: the number of analysts following the firm, the log of market value and the log of book-to-market. Both last control variables are lagged by one year. All the variables are described in table 1. *, **, *** indicate significance level at 10%, 5% and 1% respectively. Standard errors are in parentheses.

	Surprise Factset			Surprise Selfcalculated		
	(1)	(2)	(3)	(4)	(5)	(6)
Family Dummy	2.3734			0.6343*		
	(2.008)			(0.348)		
Family Control Rights		4.3069			1.6602**	
		(4.958)			(0.788)	
Family firms (Stake 20-50)			2.8456**			-0.0752
			(1.352)			(0.456)
Family firms (Stake 50-80)			1.3605			1.0467**
			(3.077)			(0.524)
Family firms (Stake 80-100)			9.2342			2.4914*
			(5.736)			(1.479)
Analyst coverage	-0.2980**	-0.2797*	-0.3114**	-0.1357**	-0.1259**	-0.1246**
	(0.144)	(0.144)	(0.144)	(0.065)	(0.062)	(0.060)
logSize (lagged)	1.3081*	1.2475*	1.4161*	1.1195***	1.0777***	1.0752***
	(0.735)	(0.753)	(0.768)	(0.350)	(0.340)	(0.334)
logBM (lagged)	3.6559*	3.5399*	3.6278*	-0.0864	-0.1721	-0.2042
	(1.904)	(2.001)	(1.888)	(0.666)	(0.690)	(0.702)
Intercept	-9.5279	-9.2544	-10.7879	-24.8477***	-24.5598***	-24.5786***
	(10.002)	(10.196)	(10.144)	(4.907)	(4.867)	(4.878)
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Methods	POLS2C	POLS2C	POLS2C	POLS2C	POLS2C	POLS2C
N	942	942	942	1182	1182	1182

Table 14: Multivariate Regressions for the Price Impact and CAR

This table presents the results of ordinary least squares regressions with two-dimensional clustering of standard errors at time and firm level (POLS2C) on the sample of 195 firms over the period of January 2003 to December 2013. The dependent variable is the Price Impact in columns 1 to 3 and the CAR in columns 4 to 6. In all the regressions industry dummies based on the ICB 10 industry classification are included (but not shown). The main independent variables are the family dummy in columns 1 and 4, the percentage of voting rights held by the family in columns 2 and 5 and the family dummies according to the three different stakes in columns 3 and 6. The following control variables are also added: the number of analysts following the firm, the log of market value and the log of book-to-market. Both last control variables are lagged by one year. All the variables are described in table 1. *, **, *** indicate significance level at 10%, 5% and 1% respectively. Standard errors are in parentheses.

	Price Impact			CAR		
	(1)	(2)	(3)	(4)	(5)	(6)
Family Dummy	0.8634**			0.7632***		
	(0.369)			(0.292)		
Family Control Rights		1.7308**			1.6143***	
		(0.800)			(0.541)	
Family firms (Stake 20-50)			0.5665			0.4642
			(0.396)			(0.291)
Family firms (Stake 50-80)			0.9483**			0.8823**
			(0.441)			(0.368)
Family firms (Stake 80-100)			3.2345***			2.0539**
			(0.376)			(0.916)
Analyst coverage	-0.0627**	-0.0541*	-0.0567*	-0.0256	-0.0183	-0.0219
	(0.030)	(0.032)	(0.032)	(0.045)	(0.046)	(0.046)
logSize (lagged)	0.0215	-0.0113	0.0017	-0.1957	-0.2231	-0.2081
	(0.203)	(0.208)	(0.210)	(0.254)	(0.256)	(0.257)
logBM (lagged)	0.1703	0.1149	0.1119	0.1065	0.0487	0.0512
	(0.222)	(0.224)	(0.216)	(0.256)	(0.251)	(0.244)
Intercept	2.8511	3.0482	2.9390	5.0043**	5.1641**	5.0609**
	(1.853)	(1.881)	(1.967)	(2.006)	(2.037)	(2.148)
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Methods	POLS2C	POLS2C	POLS2C	POLS2C	POLS2C	POLS2C
N	942	942	942	1201	1201	1201

Table 15: Ratio between positive and negative surprises

This table presents the number of positive and negative surprises, as well as the ratio between positive and negative surprises. The results are presented for the entire sample (column 1), for the main groups, namely family firms, non-family firms, widely held firms and firms with another blockholders (in columns 2 to 5 respectively) and for the subcategories according to the stake of the family (columns 6 to 8). Panel A presents the results for the Surprise Factset, whereas Panel B for the Surprise Selfcalculated. All variables are described in table 1.

Panel A: Surprise Factset

	All	Family firms	Non-family firms	Widely held firms	Other blockholder	Family firms (Stake 20-50)	Family firms (Stake 50-80)	Family firms (Stake 80-100)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Surprise >0	563	224	339	206	133	97	111	16
Surprise <0	425	148	277	173	104	71	74	3
Ratio (+/-)	1.32	1.51	1.22	1.19	1.28	1.37	1.5	5.33
N	988	372	616	379	237	168	185	19

Panel B: Surprise Selfcalculated

	All	Family firms	Non-family firms	Widely held firms	Other blockholder	Family firms (Stake 20-50)	Family firms (Stake 50-80)	Family firms (Stake 80-100)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Surprise >0	494	192	302	167	135	77	101	14
Surprise <0	707	254	453	267	186	114	128	12
Ratio (+/-)	0.70	0.76	0.67	0.63	0.73	0.68	0.79	1.17
N	1201	446	755	434	321	191	229	26