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Does family control of small business lead to under exploitation of their financial growth potential?

Evidence of the existence of conservative growth behavior in family controlled French SMEs.

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Abstract

This paper uses a very large sample of French SMEs to study growth of small businesses. Firms are distinguished according to the intensity of family control. The estimated relationship accounts for firm characteristics of size, age, sector, and ease to access credit. The results show that firms with greater family control are prone to exhibit lower rates of sales growth than feasible, given firm internal financing resources (ie they adopt a conservative growth behavior). Because firm growth is limited not by financing constraints but by family-related incentives to restrict firm size, increasing firm growth requires policies that shape incentives orientated toward growth in small family businesses.

Key Words: Small Business, Family control, Growth, Sustainable growth, Tax evasion.

JEL Codes: G31, G32, M13, M21.

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1 INTRODUCTION

The European Union links its small and medium enterprise (SME) policy to broader objectives: the Lisbon process emphasizes the role that SMEs play in innovation, employment and dynamism of European economies. Policies supporting SME's growth are orientated toward improving SME's financing conditions: developing venture capital investment, easing SME's access to credit². Policies addressing SME's growth implicitly assume that improving access to finance for SMEs is essential if an SME is to tap into its growth and innovation potential. Financial constraints are indeed an important barrier to SME's growth: small businesses informational opacity limits their capacity to raise external funds in order to finance investment opportunities. (Berger *et al.*, 2001). However, it could be the case that small businesses deliberately calibrate their growth rate.

In this article, I study how family control influences firms' economic growth. First, family control negatively influences firm growth by reducing the *firm financing capacity*. On the one hand, family control directly limits firm financing capacity as it creates an endemic financing constraint by limiting the external financial resources to debt. This direct limit to firm financing capacity is related to family preference for financial independence and corporate governance issues linked to institutional imperfections. On the other hand, family control also indirectly influences firm financing capacity through its influence on firm performance. When firms undergo financing constraints they rely heavily on internal resources to finance growth. In the presence of financial constraints, only well performing firms are thus able to grow and firm investment is sensitive to the firm performance (Carpenter and Petersen, 2002). The empirical literature on large family businesses observes a negative relationship between family control and firm performance (Morck *et al.*, 2005). Therefore, if family control undermines firm performance it will indirectly limit the firm financing capacity by reducing its self-financing capacity.

Secondly, small businesses could also deliberately calibrate their growth, thus adopt a *conservative growth behavior*. One rationale to deliberately undermine the business growth is to maintain business's opacity in front of tax authorities (Hillman, 2009). Small businesses and particularly those family controlled are entities where tax evasion incentives are high.

Indeed, small family businesses are generally localized in industries where there is a direct relationship with the ultimate consumer, which facilitates tax evasion. Moreover, their concentrated control structure reinforces their opacity. Data on the actual tax evasion is hard to collect due to the secret nature of the activity: for France it is estimated between 30 and 40 billion Euros, accounting for 2,3% of the French GDP. More interestingly, the fraud seems concentrated in the VAT and non declared work³.

An alternative explanation to such conservative growth behavior is that family control raises the firm's cost of capital. Indeed, beyond family business, there is a family, whose wealth is mostly concentrated in the firm's capital. Moskowitz and Vissing-Jorgensen (2002), document that owners of private companies in the US have invested on average 41% of their net worth in private equity. Ødegaard (2009) observes that this private wealth exposure increases with ownership concentration. Therefore, small family businesses owners are exposed to high levels of idiosyncratic risk resulting from the under diversification of their asset portfolio. Moreover, family controlled firms are specific in that they have a larger time horizon and are not accountable for short term results. The desire to perpetuate business for future generations provides a special incentive to manage capital effectively: invest financial capital without the threat of liquidation over long periods (McConaughy and Phillips, 1999). Family firms' longer time horizon implies attributing more importance to the firm's survival rather than to strict adherence to wealth maximization.

Family specific time horizon and portfolio structure might affect its behavior toward growth as it influences the evaluation of growth opportunities because family investor cost of capital is higher (Himmelberg 2002).

The aim of this paper is to disentangle the financing capacity from the conservative growth behavior effect of family control on firm economic growth. I empirically examine the relationship between family control and economic growth for a large panel of French SMEs. Family control is related to the ownership stakes of family members in the firm. First, I consider the influence of family control on economic growth. Secondly, I define sustainable growth: the growth potential allowed by the internal holding of cash flows and compare the effective economic growth rate to the sustainable growth rate. This original methodology allows for the disentangling of the financing capacity and the conservative growth behavior effect of family control on firm economic growth.

³ The data is available in the latest issue of report of the French "Conseil des prélèvements obligatoire" <http://www.ccomptes.fr/fr/CPO/documents/divers/RapportCPOSurLaFraude150207Pdf.pdf>.

Results indicate a negative relationship between family control and small businesses economic growth, related to the fact that small family businesses do not exploit all their growth potential. First, I observe that family control has a negative influence on firm economic growth: a firm's sales growth and investment rates are generally lower when a family controls the firm. Secondly, family ownership concentration, particularly in smaller and younger firms, led to an under-exploitation of the growth potential allowed by the firm internal financing capacity. Results provide evidence on the existence of conservative growth behavior in small family businesses.

The rest of the paper proceeds as follows. Section 2 presents the methodology adopted to isolate the conservative behavior effect from the financing effect of family control on firm growth. Section 3 describes the data and defines the variables. Section 4 presents the results on the influence of family control on firm growth. Section 5 provides robustness tests of the results presented in section 4, and section 6 concludes.

2 DISENTANGLING THE FINANCING CAPACITY FROM THE CONSERVATIVE BEHAVIOR EFFECT

This paper captures the influence of family control on firm growth. Contrary to ownership, there is no agreement in the literature on the notion of control. Several authors argue that control is related to ownership concentration, which increases the probability of being the controlling shareholder. This approach considers control to be continuous in ownership concentration. However, when ownership is not dispersed, several large shareholders might arise and they are able to form coalitions and contest the control of the dominant shareholder. Bennedsen and Wolfenzon (2000) consider that control can only be achieved with at least 50% of the voting rights in weakly dispersed ownership structures. Empirically, Gugler and Yortoglu (2003) show that the presence of an important second shareholder influences German corporation governance.

In order to test whether control is continuous or discrete in ownership concentration I use two alternative measures of family control: on the one hand the ownership stakes of the family, and on the other hand the effective control by distinguishing firms according to the voting power allowed by the voting rights of the family: minority, majority and total control.

The literature has mainly focused on the fact that family control influence firm economic growth because it limits firm resources to its internal financing capacity. First,

small family businesses bear a financial constraint endemic to their peculiar capital structure: they are, in essence, firms where capital is concentrated in the hands of the family. Thus, refusal of an outside increase in equity capital, implying a dilution of family control, is an obvious characteristic of family businesses (Ang, James and Floyd, 1995). Refusal to open firm capital imposes a strong financial constraint upon family controlled firms, preventing them from gathering enough funds to finance growth opportunities. Overall, family controlled firms face a continuous arbitrage between firm growth strategy and private benefits of control. Alternatively, family control might result from institutional imperfections: reduced investor protection limits outside investors' willingness to invest. La Porta *et al.* (2000) observe that French investors are less well-protected by law than investors operating in Common Law countries. Family taste for independence or lack of protection of outside investors undermines firm growth by imposing a constraint on the financing of new projects: economic growth is calibrated by family management to maintain compatibility between growth rate and financing independence.

Secondly, family control also indirectly influences firm financing capacity through its effect on firm performance. In the literature, the influence of family control on firm profitability is a controversial issue. Agency theory states that large shareholders have strong incentives to maximize their firm's value and have the incentives to collect information and oversee managers (Jensen and Meckling, 1976; Shleifer and Vishny, 1986). Moreover, resource-based approaches suggest that scarce, valuable, imperfectly imitable and non-replaceable resources can create a sustained competitive advantage, and improve family firm performance (Barney, 1991). According to Hitt and Sirmon (2003), the specificity of family firms' capital, and more particularly the family resource management, allows family firms to generate a competitive advantage.

However, large shareholders can extract private benefits at the expense of minority shareholders (Shleifer and Vishny, 1997), which results in a poor utilization of resources.

Empirical evidence provides strong support for this two sided incentive effect of ownership concentration. Most studies find a non-monotonic relation between ownership concentration and firm performance (Morck *et al.* 1988; and Müller and Spitz-Oener 2006, for medium sized German firms).

Finally, inefficiency could also arise from the passing of control from father to son. Caselli and Gennaoli (2003) develop a model of dynastic management showing that there is a potential source of inefficiency arising from the difference in skills and talents of management between the heirs and their parents. Bennedsen, Nielsen, and Pérez-Gonzalez

(2007) report potential underperformance of firms run by the descendant of the founder, for a sample of Danish firms.

In order to control for both the direct and indirect effect of family control on firm financing capacity I use *sustainable growth*: the maximum rate at which firms can grow without altering their financial structure. Sustainable growth is the rate of economic growth that maintains unchanged debt leverage and avoids increasing the share of outside shareholders (Higgings, 2007). Therefore, sustainable growth is the growth potential allowed by the firm's internal resources generated by its performance. Then, sustainable growth allows to control both for the direct and indirect effect of firm financing capacity on growth. In order to assess to what extent firms exploit their growth potential I construct a gap variable: the difference between the sustainable growth rate and the actual economic growth rate of the firm. This variable indicates to what extent the firm exploits the growth potential offered by its internal resources. This original methodology then allows one to assess if family control is associated to conservative growth behavior: does family control prevent firms from fully exploiting the growth potential allowed by their internal resources?

3 SAMPLE AND VARIABLES DESCRIPTION

3.1 DATA AND SAMPLE SELECTION

A criticism often directed at empirical work on family firms is the utilization of small, localized, non probabilistic samples that limit the generalization of the findings (Danes *et al*, 1998). This study should not fall into that critique as I use a very large sample, where all the relevant information is available for 22 237 French SMEs over the 1997-2003 period.

The data comes from the DIANE database, provided by COFACE Services, and contains two types of information. First, all balance sheets and results account information that allows computing growth rates and financial ratios. Secondly, the main advantage of the DIANE database is to furnish information about the ownership structure, in particular the name and shares of the main shareholders. The ownership structure information is used to compute the global ownership by members of the same family.

The initial database extracted from DIANE⁴ lists almost 1 million firms. Because this study focuses on small businesses I exclude the firms with annual sales higher than 50 million Euros⁵ and firms with annual sales lower than 750 000 Euros, those latter firms are excluded because of the poor reliability of micro firm accounting data. This first selection criterium leads to a sample containing 231 000 firms. Then, firms that are not directly controlled by an individual are excluded using the variable on shareholder type. Thus, the sample is only constituted of independent firms where the main shareholder is an individual, firms affiliated to business groups or controlled by a financial institution or the State are excluded from the sample. This latter selection criterium is adopted to discard the possible interaction with group affiliation effects. Firms from the agricultural sector⁶ are also excluded. Finally, I obtain a sample containing 92 212 firms corresponding to the size and independence criteria. From this sample I am able to use 22 237 observations because of the lack of ownership stakes and/or of two subsequent years of accounting data.

3.2 VARIABLES

The initial information contained in the DIANE database consists of the name and shares of main shareholders. To obtain the *family ownership* variable the percentage of firm's shares held by shareholders having the same name are cumulated for each firm⁷.

Family is a dummy variable that takes value 1 if the family ownership stake in the firm is higher than 50%. In order to account for plausible non monotonic effect of family ownership on firm growth I also build three indicative variables of control:

Minority control: this variable takes value 1 if the family owns less than 50% of a firm's shares and 0 else.

Majority control: this variable takes value 1 if the family owns more than 50% but less than 100% of a firm's shares and 0 else.

Total control: this variable takes value 1 if the family owns 100% of a firm's shares and 0 else.

⁵ The threshold of 50 million Euros of turnover is chosen according to the threshold defined by the European Commission in its recommendation concerning the definition of an SME.

⁶ Firms from the agricultural sector are excluded from the sample because they have a peculiar financial behaviour. First their performance is highly dependent of the market prices and whether conditions. Secondly, .. this activity is highly dependent upon the subvention from the EU and the government.

⁷ This approach under evaluates the share of a family, as members of the family that do not have the same name (as son in law, for example) are excluded. However, this operation was made for each firms individually therefore it is really unlikely that ownership shares of the family are over estimated.

Descriptive statistics, reported in table 1, underline the important concentration of ownership in sample firms: on average families own 63% of a firm's shares and 80% of sample firms are controlled by families.

To explore the relationship between family control and a firm's growth I use economic growth and sustainable growth. Economic growth is captured using the firm's annual growth rate of sales and investment rate.

- **Sales growth:** is the average of annual growth rates of sales over the period 1997-2003.

$$SalesGrowth_i = \frac{1}{T} \sum_{t=1998}^{2003} SalesGrowth_{i,t} ,$$

$$\text{with, } SalesGrowth_{i,t} = \frac{Turnover_{i,t}}{Turnover_{i,t-1}} - 1$$

- **Investment:** is the average of annual growth rates of long-term assets, excluding financial assets, and working capital over the period 1997-2003.

$$Investment_i = \frac{1}{T} \sum_{t=1998}^{2003} Investment_{i,t}$$

$$\text{with, } Investment_{i,t} = \frac{Pr oductiveAssets_{i,t}}{Pr oductiveAssets_{i,t-1}} - 1$$

$$\text{where, } Pr oductiveAssets_{i,t} = LongTermAssets_{i,t} - FinancialAssets_{i,t} + WorkingCapital_{i,t}$$

$$WorkingCapital_{i,t} = AccountsRe ceivable_{i,t} + Inventories_{i,t} - AccountsPayables_{i,t}$$

On the one hand, I exclude the financial assets when computing investment because this type of investment does not participate directly to firm growth: financial assets are the amount invested by the firm in another firm, this study focuses on internal growth. On the other hand, I include working capital in the investment as it participates in the production process of the firm, especially in firms in non-manufacturing industries.

Firm average economic growth is significantly influenced by family control: family controlled firms have, on average, a one point lower economic growth rate than non family controlled firms (see table 1). But, the effect of family control on growth is not monotonic: totally controlled firms tend to growth significantly more than majority controlled firms (table 1, panel C).

The **sustainable growth rate** corresponds to the annual growth rate of retained earnings:

$$SustainableGrowth_{i,t} = RetentionRate_{i,t} \times ROE_{i,t}$$

The sustainable growth rate is influenced by the financial performance and the distribution policy of the firm. The financial performance is measured by the return on equity (**ROE**): the ratio of net income on firm total assets. But, it is not possible to compute firms' retention rate because the information is not correctly filled in the database. The sustainable growth rate is computed as the average annual growth rate of internal equity.

$$SustainableGrowth_i = \frac{1}{T} \sum_{t=1998}^{2003} SustainableGrowth_{i,t}$$

$$SustainableGrowth_{i,t} = \frac{InternalEquity_{i,t}}{InternalEquity_{i,t-1}} - 1,$$

with $InternalEquity_{i,t} = TotalEquity_{i,t} - FaceValueofEquity_{i,t}$

Finally, **gap** variables allow the assessment of the extent to which firms exploit their growth potential. Those variables are the difference between the sustainable growth rate and the economic growth rate of the firm:

$$GapSales_i = SustainableGrowth_i - SalesGrowth_i$$

$$GapInvestment_i = SustainableGrowth_i - Investment_i$$

Descriptive statistics in table 1 indicate that, on average, sample firms do not exploit all their growth potential. Results also underline that the influence of family control on the gap between sustainable growth and economic growth is mixed: there is no significant difference between family and non family controlled firms, but totally controlled firms exploit significantly less their growth potential than majority controlled firms.

In order to isolate the influence of family control on firm growth it is necessary to control for the other factors that influence firm growth.

First, technological factors such as the importance of economies of scale in the industry, the size of the market where businesses operate influence a firm's growth (Kumar *et al.*, 1999). In order to take into account those factors three variables control for firm's industry, size and age.

The firm's **industry** refers to the firm belonging to one industry in a 17 sector classification (very close to the NACE classification). Sample firms are localized in traditional SME industries: construction, retail trade and services. Since size limits small firms' capacity to enter the industrial sectors where economies of scale and initial investment are high, such a result is not surprising. To some extent, the industry dummies also allow to control for a firm's growth opportunities.

Firm *size* is the log of total assets of the firm in the last year for which accounting information was available. Total assets rather than turnover is used to proxy for firm size in order to avoid mechanical correlation with the sales growth rate. Firms in the sample are quite small, and family control does not significantly influence the average firm size. But, firms totally controlled by a family are on average smaller than other sample firms (see table 1).

Firm *age* is the number of years since firm creation. Descriptive statistics indicate that family controlled firms are significantly older than non family controlled firms (table 1, panel B). Panel C indicates that majority controlled firms are older, whereas totally family controlled firms are, on average, of the same age as non family controlled firms.

Secondly, sustainable growth assumes that the firm maintains its debt leverage constant, but such a policy can be difficult to uphold if firms undergo credit constraints, which is likely for small businesses. Indeed, small businesses' informational opacity limits SME ability to raise external funds (Berger *et al.*, 2001). The imperfect information environment can create moral hazard issues that raise the concern for risk-shifting behavior of small businesses. According to Jensen and Meckling (1976) shareholders have incentives to expropriate creditors by shifting toward riskier projects. Moreover, the lack of transparency creates an adverse selection effect and the narrowing of the credit market (Stiglitz and Weiss, 1981). Small firms have, therefore, to pay higher interest rates or cannot obtain preferred loan amounts. In other words, expected problems related to the lack of transparency of small firms leads commercial banks to anticipate higher monitoring and screening costs. Those anticipations lead to raised risk premiums, which in turn increases the cost of external capital. Family control might exacerbate the agency cost of debt because of higher private benefits of control or managerial entrenchment. However, family firm characteristics (undiversified family holdings, the desire to pass the firm onto subsequent generations, and reputation issues) suggest that the divergence of interests between family shareholders and creditors is lower. Anderson, Mansi and Reeb (2003) find support for this hypothesis in a sample of 252 industrial large US firms. Indeed, they observe that the cost of debt financing for family firms is about thirty-two percent basis points lower than in non-family firms.

I use two variables in order to capture the level of credit constraints the firm faces. First, the *financial solvency* variable is the belonging of the firm to a ten grade rating system provided by COFACE. This variable measures the financial solvency of the firm and its credit quality. A better quality improves the availability of financial resources: a higher score indicates an increased financial solvency which eases firm access to credit. Secondly, the *bank leverage* is the average of annual ratios of financial debt to total assets. On the one hand, bank leverage

accounts for the firm's ease of access to bank borrowing. But, on the other hand as bank leverage increases the firm might find it more difficult to borrow.

Statistics in table 1 underline that family control is associated with higher bank leverage: totally controlled firms are more indebted (58%) on average. This result is not surprising as the only source of long term external finance for totally controlled firms is either the family's wealth or debt. Minority controlled firms are on average less solvent than family controlled firm, but there is no significant difference in the average solvency score between totally and majority controlled firms.

[Insert table 1 about here]

4 FAMILY CONTROL AND SMALL BUSINESSES GROWTH

4.1 FAMILY CONTROL AND FIRM'S ECONOMIC GROWTH

Aggregate evidence

Graphical evidence (figure 1) underlines that family controlled firms (majority or totally controlled firms) have a lower median economic growth rate than minority controlled firms over the 1997-2003 period. Graphs a and b indicate that the difference between growth rates tend to be reduced in periods of economic downturn: between 2000 and 2001 the growth rate of minority controlled firms decreased more than the one of family controlled firms, this trend is even more pronounced when considering the investment rate. Graphs c and d, underline the non monotonic influence of family control on growth: majority controlled firms have systematically a lower growth rate than totally controlled firms. Totally controlled firms even have a higher investment rate than non minority controlled firm in the 2000-2003 period.

Aggregate evidence on firm economic growth suggests that family control influences firm growth negatively and non monotonically. Aggregate evidence also suggests that family control reduces firms' growth sensitivity to economic downturns.

[Insert figure 1 about here]

Firm level evidence

To check at the firm level the influence of family ownership on growth, I estimate the following model:

$$EconomicGrowth_i = \beta_1 + \beta_2 Family_i + \sum_{n=1}^N \beta_n Control_{n,i} + \varepsilon_i \quad (1)$$

where, ε is the error term, *Family* is either family ownership or the dummy variables indicating the intensity of family control for firm *i*, *Economic Growth* is either the average annual sales growth or investment rate for firm *i*, and *Control* are the different control variables for firm *i*. Tables 2 and 3 present the results of ordinary least square estimation of the model parameters respectively for the average annual sales growth and investment rates over the 1997-2003 period.

Specifications 1 and 2 in table 2 investigate the univariate effect of family control on firm sales growth rate. The dummy variable *Family* has the expected sign: family control has a significant and negative influence on firm growth. The negative influence of family control on firm sales growth rate remains significant and negative controlling for technological factors (specification 4), firm financial performance (specification 7), and firm's ease to access credit (specification 10). Results are very similar when considering investment rate (table 3), except that the economic influence of family control is higher in this case (the value of the estimated coefficients is higher).

The *Family Ownership* variable has either an insignificant (table 3) or positive influence (table 2) on firm economic growth, but the family ownership variable becomes insignificant after controlling for firm financial performance (ROE). The ambiguous effect of family ownership on firm economic growth provides evidence on the fact that family control influence on firm growth is rather discrete than continuous. Moreover, results confirm the non monotonic effect of family control on firm economic growth: majority controlled firms underperform minority and totally controlled firms (specifications 3, 6, 9 and 12 in tables 2 and 3).

In brief, results show that family control has a discrete and non monotonic negative influence on firm economic growth. Such results are consistent with those of corporate governance studies on the influence of ownership on firm performance (see for example the seminal study of Morck *et al.*, 1988).

[Insert table 2 and 3 about here]

The signs of the estimates of the control variables are as expected and consistent across the different specifications. Firm size has a positive influence on firm economic growth. The positive influence of firm size on its economic growth seems related to technological arguments rather than to informational issues: accounting for firm solvency does not undermine the significance of firm size. Firm age negatively influences firm growth, which is quite intuitive: as firms get older, they are closer to their stationary size and thus stabilize firm's growth rate. Firm financial performance has a strong positive influence on firm growth. On the one hand, a good financial performance is important for small financially constrained firms because internal financing constitutes the main resource to finance growth. On the other hand, good financial performance could also indicate that the firm has good growth opportunities. The financial solvency score has a negative effect on firm growth, this score increases when firm solvency and global risk are lower, this indicates that in order to grow firms need to take on risk. Finally, the bank leverage ratio only significantly and positively influences the investment rate. Only firms that are able to access bank finance are able to finance their growth project, which explains the positive relationship between bank leverage and firm growth.

4.2 FAMILY CONTROL AND CONSERVATIVE GROWTH BEHAVIOR

To explore whether family control engenders conservative growth behavior I estimate the following model:

$$Gap_i = \beta_1 + \beta_2 Family_i + \sum_{n=1}^N \beta_n Control_{ni} + \varepsilon_i \quad (2)$$

where, ε is the error term, *Family* is either family ownership or the dummy variables indicating the intensity of family control for firm i, *Gap* is the difference between the average sustainable growth rate on the period and the average sales growth or investment rate of firm i, and *Control* are the different control variables for firm i. In this setup I do not control for firm performance as it would be redundant with the sustainable growth measure. Tables 4 and 5 present the results of ordinary least square estimation of the model parameters respectively for the average annual sales growth and investment rates over the 1997-2003 period.

Specifications 1 and 2 in tables 4 and 5 investigate the univariate effect of family control on firm gap between sustainable and economic growth. The dummy variable *Family* does not

significantly influence the gap between sustainable growth and economic growth, whereas the *Family Ownership* variable has a significant and positive influence on firm conservative growth behavior captured by the gap variable. Results (see specification 3) also indicate that only totally controlled firms adopt conservative behavior: the dummy variable *Totally Controlled* has a significant and positive effect on the *Gap* variable. Globally, results show that conservative growth behavior (i.e. the fact that firms do not exploit fully their growth potential) is monotonic in the concentration of family ownership. Similar results are observed for the gap between sustainable growth and investment rate (see table 5).

[Insert table 4 and 5 about here]

The positive and monotonic influence of family ownership concentration on the *Gap* measures remains significant controlling for technological factors (specifications 4 to 6), but, the significance decreases from the 1% to the 10% level of error when controlling for firm ease to access credit (specifications 7 to 9). This diminution of the significance is related to the correlation between family ownership and bank debt leverage, remind that family controlled firms are, on average, in greater debt than minority controlled firms. Indeed, bank debt leverage has a positive and economically important effect on the difference between sustainable and economic growth rate. Results also indicate that more indebted firms tend to exploit their growth potential less over the period considered. There are two alternative explanations to this result. On the one hand, more indebted firms have greater difficulty to raise new debt and maintain their debt level (ie. reduce their debt leverage), which in turn, limits their capacity to reach their sustainable growth rate. On the other hand, highly indebted firms might use their internal financing capacity to reduce firm debt rather than financing firm growth.

Firm size undermines firm conservative growth behavior, this observation is consistent with the fact that size positively influences firm growth. This result provides support to the idea that smaller firms tend to maintain their size in order to avoid several fiscal and social constraints: French legislation, especially labor law is differentiated according to firm size and smaller firms benefit from several tax advantages, moreover maintaining a smaller size reduces the visibility of plausible tax evasion activities.

Firm age has a negative effect on the conservative behavior toward growth: younger family controlled firms are more prone to adopt a conservative growth behavior. Overall, the signs

on the control variables indicate that the conservative growth behavior is more pronounced in firms that are financially fragile and opaque: firms that adopt conservative growth tend to be family controlled, younger, smaller and in greater debt.

Results show that family control engenders conservative behavior toward growth: the fact that firms do not fully exploit their growth potential is encouraged by family ownership concentration. The influence of family control on the extent to which firms exploit their growth potential has two alternative (but not exclusive) explanations.

On the one hand, higher ownership concentration by the family is related to higher under diversification, which increases the family portfolio risk. The higher exposure to the firm specific risk then raises the return required by family investors to accept the project (Himmelberg *et al.*, 2002). On the other hand, family controlled firm could deliberately calibrate their growth in order to avoid suspicion of tax authorities or fiscal and social obligations related to increase in firm size.

5 ROBUSTNESS

5.1 TESTING ON THE YEAR FOR WHICH THE OWNERSHIP INFORMATION IS PROVIDED

As it is often the case, ownership data is only provided for one year. Until now, I assumed that ownership structure was stable across the years I scrutinized, in order to control for this possible bias I estimate models 3 and 4 for the year the ownership information is provided for the firm considered.

In order to estimate the model on a cross section I introduce lag variables because growth today results from the financing conditions of the preceding year. Therefore, I estimate the firm economic growth using the lag of control variables, and the gap variable is defined as the difference between the previous year sustainable growth rate and the actual economic growth rate. Indeed, the sustainable growth rate of a given year provides funding for the firm to use the next year. The following model is estimated and years dummy control for the fact that the ownership information is available in different years according to the firm considered.

$$EconomicGrowth_{i,t} = \beta_1 + \beta_2 Family_{i,t} + \sum_{n=1}^N \beta_n Control_{n,i,t-1} + \beta_t YearDummy_t + \varepsilon_{i,t}, \quad (3)$$

$$Gap_{i,t} = \beta_1 + \beta_2 Family_{i,t} + \sum_{n=1}^N \beta_n Control_{n,i,t-1} + \beta_t YearDummy_t + \varepsilon_{i,t} \quad (4)$$

where $Gap_{i,t} = SustainableGrowth_{i,t-1} - EconomicGrowth_{i,t}$ (4)

Table 6 presents the results of the estimation of models (3) and (4) using the three alternative measures for family control.

First, results indicate that the findings in section 4 are consistent. Family control has a significant negative non monotonic influence on firm sales growth (specification 1 and 3 in table 6). Results also confirm the fact that family ownership does not significantly influence firm sales growth (specification 2 in table 6). However, results on the influence of family control on firm investment show that family control does not significantly influence firm investment. The estimation on a yearly basis gives less performing models, I interpret this result as showing that small businesses' growth is rather a time-discrete phenomena: because small businesses are resources constrained, they need to accumulate resources for several years before being able to finance a new investment project. Secondly, results confirm that family ownership increases firms' conservative growth behavior (specifications 7 to 12 in table 6).

[Insert table 6 about here]

Overall, results on the one year estimation confirm that results presented thus far are not driven by the fact that ownership information is only available for one year. Moreover, the lower explanatory power of the year estimation is related to the fact that small business growth is not continuous but occurs rather by discrete investments when the firm has gathered enough financial resources to finance investment.

5.2 TESTING FOR ENDOGENEITY: DO FIRMS REMAIN FAMILY CONTROLLED BECAUSE THEY GROW LESS?

Causality is an important concern when predicting performance according to the firm control structure. In the models presented thus far it is assumed that family control drives firm performance. However, firms could remain family controlled because of their lower performance: firm growth might be the factor driving firm ownership structure.

It is possible to control for simultaneity bias (when the independent variable is correlated with the error term) using instrumental variable (IV) regression. IV methodology allows one to obtain consistent estimates in the presence of simultaneity between the performance and the ownership variable. The method usually adopted in the literature is the two stage least square estimation (2SLS). In the first stage, a set of instrumental variables are used to isolate the movements of ownership that are uncorrelated with the error term of the second stage regression, which estimates firm growth.

I use two types of variables for family control: on the one hand, a continuous variable: family ownership and on the other hand, discrete variables (family, minority, majority, total control). In order to instrument for family ownership I estimate family ownership using OLS, for the dummy variables of family control I use the method proposed by Degryse and Ongena (2001) where the first stage regression is a logistic regression.

In order to determine which variables to use as instruments for family control, I reviewed the literature on corporate governance, especially the literature focusing on endogenous ownership. This literature suggests that the main factors explaining ownership concentration are related to the extent of private benefits extraction. Therefore, in countries or industries with low investor protection, ownership concentration is more likely (Stulz, 2005). To proxy for investor protection I use asset tangibility (the ratio of fixed assets over total assets), indeed higher assets tangibility is linked to “harder to steal” technology. Moreover, ownership concentration is strongly influenced by informational issues, therefore I use both firm age and size to proxy for firm informational opacity.

The first stage regression is therefore:

$$Family_i = \beta_1 + \beta_2 Age_i + \beta_3 Size_i + \beta_4 AssetTangibility_i + \varepsilon_i (5)$$

Results indicate that the instruments are strong: the F statistic is higher than 10, indicating that the instruments significantly explain variations in family ownership.

Then, in the second stage the predicted values of the family control variables are used as independent variables in order to predict firm growth. Equation 1 is estimated using the predicted values for family.

$$EconomicGrowth_i = \beta_1 + \beta_2 PredictedFamily_i + \sum_{n=1}^N \beta_n Control_{n,i} + \varepsilon_i (6)$$

Results in table 7 confirm previous results: family control has a negative influence on firm economic growth. Parameter estimates also show that the economic significance of the influence of family control on firm economic growth is even stronger when controlling for the plausible endogeneity problem. Overall, results of the IV estimation indicate that the negative influence of family control remains significant and that the negative relationship between firm economic growth and family control does not only result from the fact that firms remain family controlled because they have a lower growth potential.

6 CONCLUSION

Results show that in small businesses, family control negatively influences firm economic growth, and that this negative influence of family control on firm economic growth is partly driven by the fact that family controlled firms adopt a conservative growth behavior. On the one hand, results underline that family control has a non monotonic negative influence on firm economic growth, measured by sales growth rate and investment rates: indeed, majority controlled firms grow less than totally controlled firms. This result is consistent with the non monotonic effect of ownership concentration on firm performance underlined in the corporate governance literature. On the other hand, using an original methodology based on the difference between the growth potential allowed by internal resources (sustainable growth) and the actual economic growth, this paper shows that family control is related to conservative growth behavior. This conservative behavior is primarily observed in small and young firms where family ownership concentration is high. Results also underline that the influence of family control on firm economic growth does not arise from an inverse causality link: firms grow less because they are family controlled, they do not remain family controlled because they grow less.

Results are consistent with the hypothesis that family control influences small business growth and not only because family control limits a firm's financing capacity. Current policies dedicated to small firms' development focus, almost exclusively, on increasing their financing capacity. In line with the paper results, policies aiming to favor small businesses' growth should also take into account the factors that lead family controlled small businesses to not fully exploit their growth potential.

On the one hand, the conservative growth behavior of family controlled firms results from the under diversification of family investor portfolio. First, encouraging venture capital could favor the dilution of family ownership and increase family investors' portfolio diversification. Secondly, specific insurance/buffer mechanisms could lower the family wealth exposure in case of the firm default. Finally, policy makers could encourage family entrepreneurs' human capital diversification in order to facilitate their reconversion in case of failure. However, those policies need to be closely calibrated in order to not distort the entrepreneur's incentives and lead them to excessive risk taking. Thus, future research addressing the optimality of such contract will be really interesting.

On the other hand, this article also provides evidence consistent with the argument according to which "people in the shadow economy are limited in applying their abilities" (Hillman, 2009, p287). Results point out an important inefficiency of the possibility for tax or social evasion that creates an incentive to limit business expansion. Consistent with the results provided by this article, government trying to boost the dynamism of small businesses should also focus in limiting the incentives for tax evasion. Limiting the incentives for tax evasion would then give small family controlled businesses the incentives to fully exploit their growth potential. Future research could be dedicated to develop the incentives for limiting size firm size expansion present in the fiscal and social legislation environment of SMEs.

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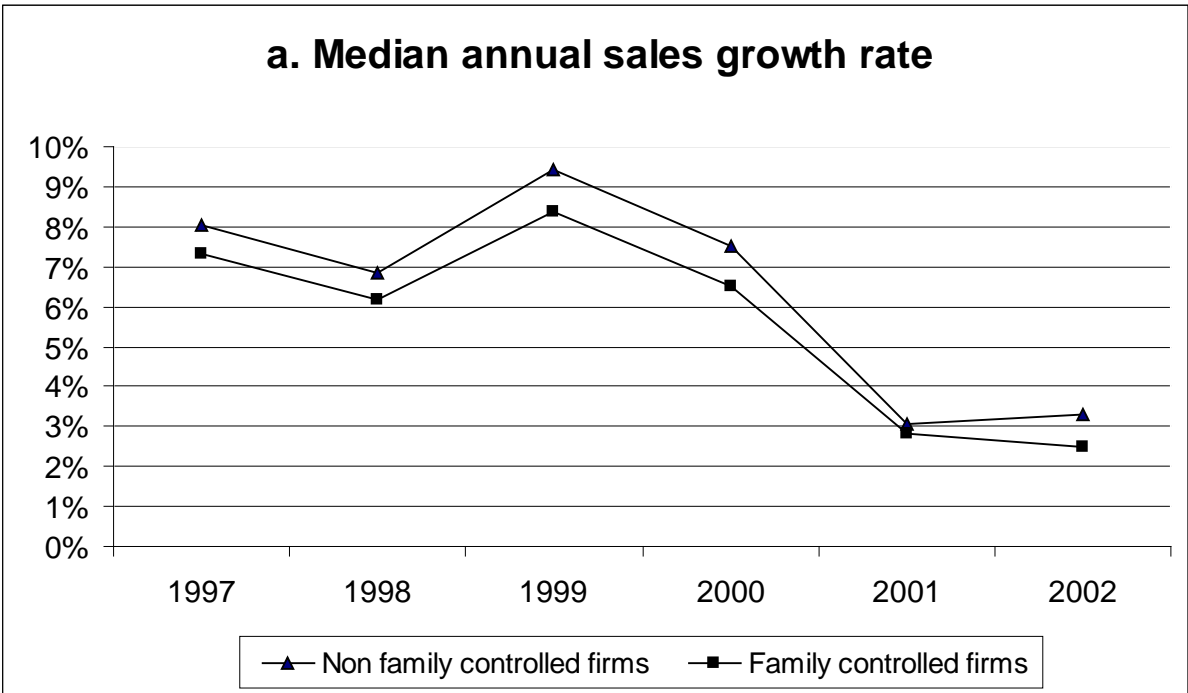
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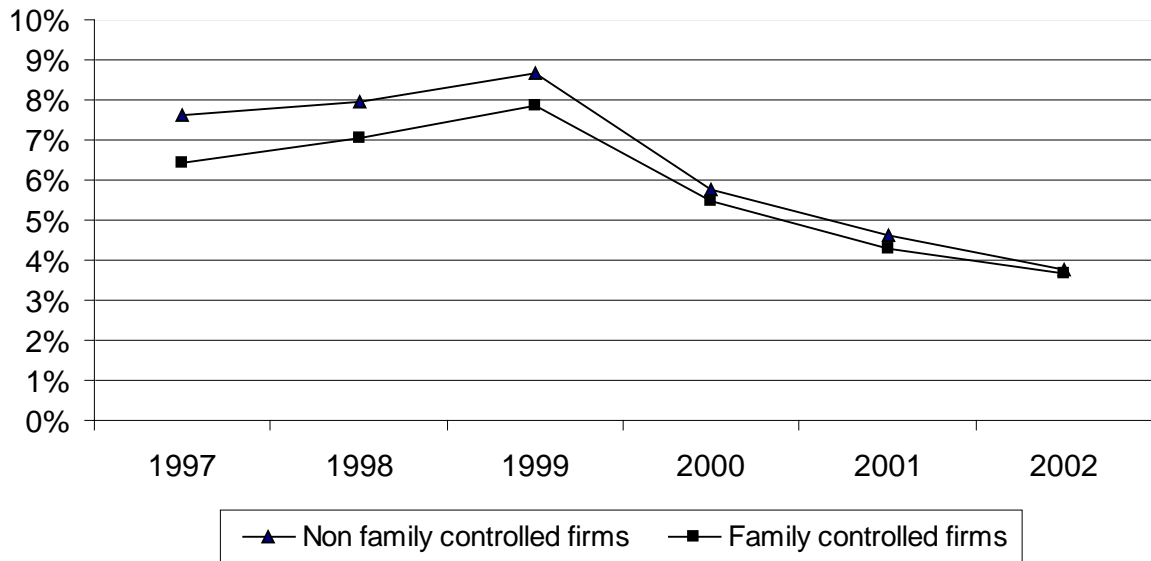
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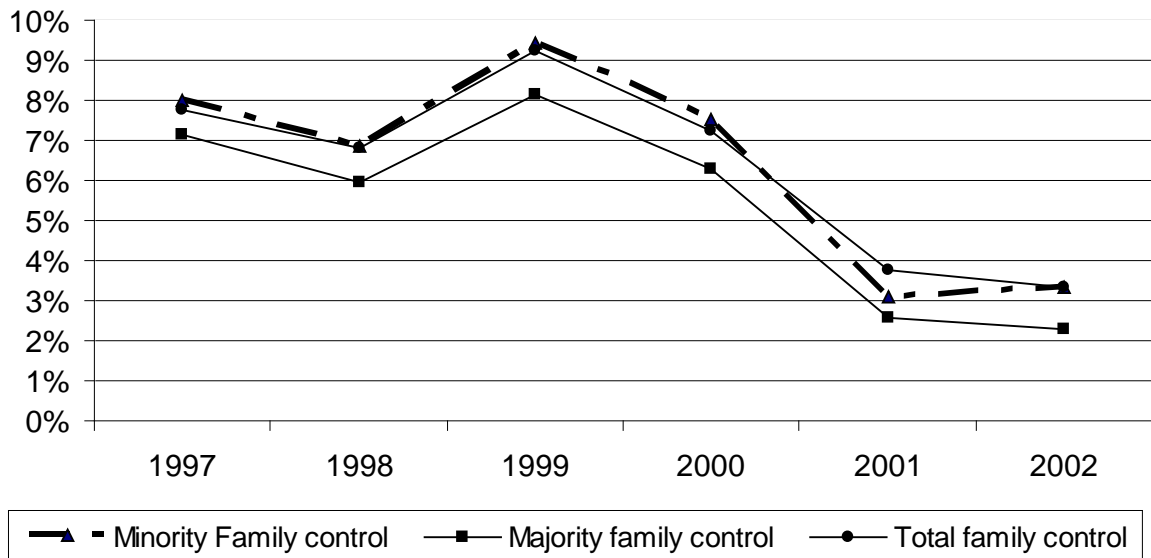
Figure 1: Median annual economic growth rates according to family control from 1997 to 2003.



b. Median investment rate



c. Median sales growth rate



d. Median investment rate

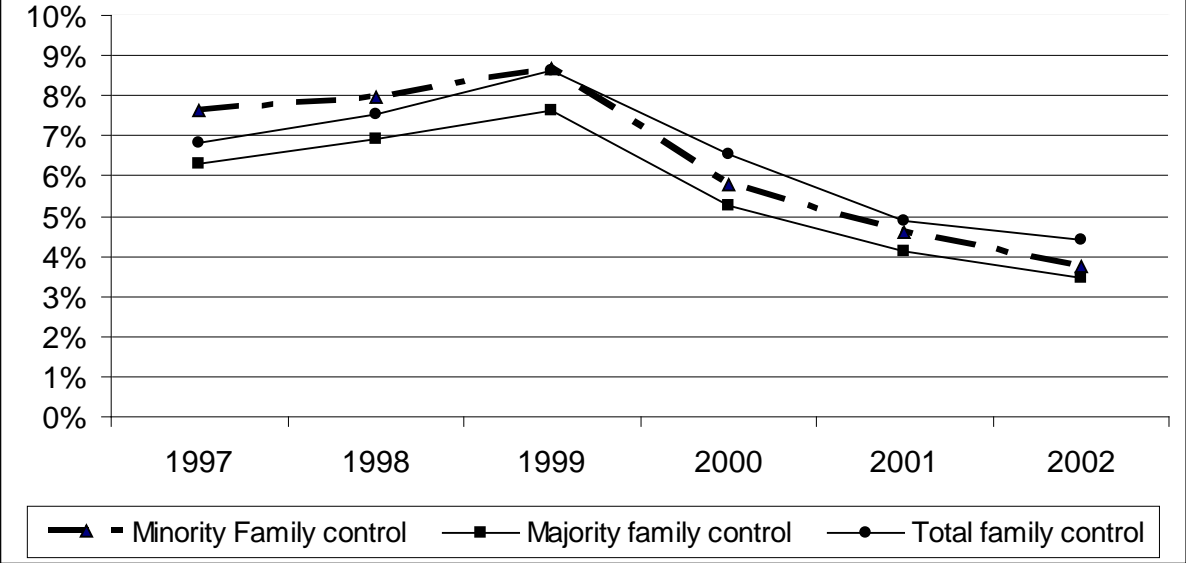


Table1 : Sample descriptive statistics

Panel A: Descriptive statistics full sample (N=22237)	Mean	Standard Error	Median	Minimum	Maximum
Turnover Growth	0,09	0,11	0,07	-0,22	1,84
Investment Growth	0,11	0,16	0,08	-0,63	8,11
Return on Equity	0,20	0,18	0,17	-1,94	2,33
Ownership Concentration	63	26	51	1	100
Size (Total Assets)	2204771	2984166	127632	109189	79745253
Turnover	3486105	4672905	1952573	750122	49389419
Age	21,14	13,54	17,00	6,00	200,00
Financial Solvency Score	5,54	2,98	6,00	1,00	10,00
Bank Leverage	0,41	0,94	0,19	-0,74	61,36
Sustainable growth - Turnover growth	0,19	0,53	0,08	-1,57	9,64
Sustainable growth -Investment growth	0,17	0,53	0,07	-7,50	9,61

Panel B: Mean comparison according to family control (N=22237)	Minority Control Mean	Family Control Mean	Mean difference
Number of observations	4462	17775	
Turnover Growth	0,10	0,09	0,0146***
Investment Growth	0,13	0,11	0,0211***
Return on Equity	0,20	0,20	0,00
Family ownership	34	71	-37
Size (Total Assets)	2190000	2180000	10522
Age	19,24	21,62	-2,381***
Financial Solvency Score	5,39	5,58	-0,195***
Bank Leverage	0,35	0,43	-0,08***
Sustainable growth - Turnover growth	0,18	0,19	-0,01
Sustainable growth -Investment growth	0,16	0,17	-0,01

Panel C: Mean comparison in family controlled firm sub-sample (N=17770)	Total Family control Mean	Majority Family control Mean	Mean difference
Number of observations	4279	13496	
Turnover Growth	0,10	0,09	0,0117***
Investment Growth	0,11	0,10	0,0107***
Return on Equity	0,24	0,19	0,0574***
Family Ownership	100	61	39
Size (Total Assets)	1770000	2310000	-543032***
Age	19,99	22,14	-2,1549***
Financial Solvency Score	5,59	5,58	0,0138
Bank Leverage	0,58	0,38	0,2032***
Sustainable growth - Turnover growth	0,23	0,18	0,0490***
Sustainable growth -Investment growth	0,21	0,16	0,0501***

***indicates that the t-test of mean differences is significant at the 1% level.

Table 2: Family control influence on average sales growth rates

	Explained variable: Average sales growth rates											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Family	-0,0146 *** 0,0019			-0,0066 *** 0,0019			-0,0081 *** 0,0018			-0,0080 *** 0,0018		
Family ownership		0,0001 *** 2,9440E-05			0,0001 *** 2,8240E-05			0,0001 ** 2,78E-05			4,9060E-05 * 2,7860E-05	
Total family control			-0,0056 ** 0,0025			0,0012 0,0024			-0,0049 ** 0,0023			-0,0050 ** 0,0023
Majority family control			-0,0174 *** 0,0020			-0,0091 *** 0,0019			-0,0091 *** 0,0019			-0,0090 *** 0,0019
Size (Log total asset)				0,0124 *** 0,0009	0,0125 *** 0,0009	0,0128 *** 0,0009	0,0134 *** 0,0009	0,0134 *** 0,0009	0,0135 *** 0,0009	0,0139 *** 0,0009	0,0139 *** 0,0009	0,0141 *** 0,0009
Age				-0,0022 *** 0,0001	-0,0022 *** 0,0001	-0,0022 *** 0,0001	-0,0018 *** 0,0001	-0,0018 *** 0,0001	-0,0018 *** 0,0001	-0,0017 *** 0,0001	-0,0017 *** 0,0001	-0,0017 *** 0,0001
ROE							0,1251 *** 0,0043	0,1239 *** 0,0043	0,1241 *** 0,0043	0,1303 *** 0,0044	0,1292 *** 0,0044	0,1293 *** 0,0044
Financial solvency score										-0,0020 *** 0,0003	-0,0020 *** 0,0003	-0,0020 *** 0,0003
Bank leverage										0,0005 0,0008	0,0003 0,0008	0,0004 0,0008
Intercept	0,1045 *** 0,0017	0,0874 *** 0,0020	0,1045 *** 0,0017	-0,0414 *** 0,0131	-0,0552 *** 0,0132	-0,0471 *** 0,0131	-0,0858 *** 0,0129	-0,0950 *** 0,0130	-0,0877 *** 0,0129	-0,0851 *** 0,0129	-0,0938 *** 0,0130	-0,0869 *** 0,0129
Industry dummies	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237
F statistics	57,72	8,53	46,12	137,14	137,54	131,27	181,2	180,19	171,95	166,77	165,82	159,05
R2	0,0026	0,0004	0,0041	0,095	0,0952	0,0961	0,128	0,1274	0,1282	0,1305	0,1299	0,1307

*** indicates that estimate is significant at 1% level, ** at 5% and * at 10% level,

Table 3: Family control influence on average investment rates

	Explained variable: Average investment rates											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Family	-0.0210 ***			-0.0111 ***			-0.0131 ***			-0.0131 ***		
	0.0027			0.0026			0.0025			0.0025		
Family ownership		0.0001			0.0001 ***			2.47E-05			4.34E-06	
		4.08E-05			3.94E-05			3.88E-05			3.88E-05	
Total family control			-0.0129 ****			-0.0038			-0.0121 ***			-0.0129 ***
			0.0034			0.0033			0.0033			0.0032
Majority family control			-0.0236 ***			-0.0134 ***			-0.0134 ***			-0.0132 ***
			0.0027			0.0027			0.0026			0.0026
Size (Log total asset)				0.0203 ***	0.0203 ***	0.0207 ***	0.0216 ***	0.0215 ***	0.0216 ***	0.0225 ***	0.0224 ****	0.0225 ***
				0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Age				-0.0030 ***	-0.0031 ***	-0.0030 ***	-0.0025 ***	-0.0025 ***	-0.0025 ***	-0.0024 ***	-0.0024 ***	-0.0024 ***
				0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
ROE							0.1694 ***	0.1682 ***	0.1691 ***	0.1780 ***	0.1773 ***	0.1780 ***
							0.0060	0.0060	0.0061	0.0061	0.0061	0.0061
Financial solvency score										-0.0038 ***	-0.0038 ***	-0.0038 ***
										0.0004	0.0004	0.0004
Bank leverage										0.0034 ***	0.0033 ***	0.0034 ***
										0.0011	0.0011	0.0011
Intercept	0.1267 ***	0.1058 ***	0.1267 ***	-0.1098 ***	-0.1260 ***	-0.1151 ***	-0.1699 ***	-0.1800 ***	-0.1705 ***	-0.1683 ***	-0.1770 ***	-0.1684 ***
	0.0024	0.0028	0.0024	0.0182	0.0184	0.0183	0.0180	0.0182	0.0181	0.0180	0.0181	0.0180
Industry dummies	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237
F statistics	62.5	2.53	38.62	121.53	120.89	115.55	162.93	161.28	154.37	154.53	152.98	147.16
R2	0.0028	0.0001	0.0035	0.0851	0.0847	0.0856	0.1166	0.1156	0.1166	0.1221	0.1211	0.1221

*** indicates that estimate is significant at 1% level, ** at 5% and * at 10% level

Table 4: Family control influence on the gap between average sustainable growth and sales growth rates.

	Explained variable: gap between sustainable growth and sales growth rate																
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)								
Family	0,0049 <i>0,0088</i>			0,0185 <i>0,0088</i>	**		0,0114 <i>0,0087</i>										
Family ownership		0,0006 <i>0,0001</i>	***		0,0005 <i>0,0001</i>	***		0,0002 <i>0,0001</i>	*								
Total family control			0,0421 <i>0,0112</i>	***		0,0422 <i>0,0112</i>	***					0,0214 <i>0,0111</i>	*				
Majority family control			-0,0070 <i>0,0091</i>			0,0110 <i>0,0091</i>						0,0083 <i>0,0089</i>					
Size (total asset)				-0,0403 <i>0,0044</i>	***	-0,0397 <i>0,0044</i>	***	-0,0391 <i>0,0044</i>	***	-0,0418 <i>0,0043</i>	***	-0,0415 <i>0,0043</i>	***	-0,0413 <i>0,0043</i>	***		
Age				-0,0038 <i>0,0003</i>	***	-0,0037 <i>0,0003</i>	***	-0,0038 <i>0,0003</i>	***	-0,0031 <i>0,0003</i>	***	-0,0031 <i>0,0003</i>	***	-0,0031 <i>0,0003</i>	***		
Financial solvency score								-0,0030 <i>0,0012</i>	**	-0,0030 <i>0,0012</i>	**	-0,0030 <i>0,0012</i>	**	-0,0030 <i>0,0012</i>	**		
Bank leverage								0,0977 <i>0,0038</i>	***	0,0974 <i>0,0038</i>	***	0,0973 <i>0,0038</i>	***	0,0973 <i>0,0038</i>	***		
Intercept	0,1841 <i>0,0079</i>	***	0,1529 <i>0,0092</i>	***	0,1841 <i>0,0079</i>	***	0,7991 <i>0,0621</i>	***	0,7736 <i>0,0627</i>	***	0,7819 <i>0,0623</i>	0,7957 <i>0,0612</i>	***	0,7853 <i>0,0617</i>	***	0,7885 <i>0,0614</i>	***
Industry dummies	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Number of observations	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237	22238			
F statistics	0,3	16,97	14,34	29,8	30,34	28,79	64,8	64,88	61,67								
R2	0	0,0008	0,0013	0,0223	0,0227	0,0228	0,0525	0,0526	0,0526								

*** indicates that estimate is significant at 1% level, ** at 5% and * at 10% level

Table 5: Family control influence on the gap between average sustainable growth and investment rates.

	Explained variable: gap between sustainable growth and investment rate									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Family	0,0113 <i>0,0090</i>			0,0230 <i>0,0090</i>	**		0,0160 <i>0,0088</i>	*		
Family ownership		0,0006 <i>0,0001</i>	***		0,0005 <i>0,0001</i>	***		0,0003 <i>0,0001</i>	*	
Total family control			0,0494 <i>0,0114</i>	***		0,0472 <i>0,0114</i>	***			0,0272 <i>0,0113</i>
Majority family control			-0,0008 <i>0,0092</i>			0,0153 <i>0,0092</i>	*			0,0126 <i>0,0091</i>
Size (total asset)				-0,0482 <i>0,0044</i>	***	-0,0475 <i>0,0044</i>	***	-0,0469 <i>0,0044</i>	***	-0,0499 <i>0,0044</i>
Age				-0,0029 <i>0,0003</i>	***	-0,0029 <i>0,0003</i>	***	-0,0029 <i>0,0003</i>	***	-0,0023 <i>0,0003</i>
Financial solvency score								-0,0016 <i>0,0012</i>	***	-0,0016 <i>0,0012</i>
Bank leverage								0,0938 <i>0,0039</i>	***	0,0935 <i>0,0039</i>
Intercept	0,1619 <i>0,0080</i>	***	0,1345 <i>0,0094</i>	***	0,1619 <i>0,0080</i>	***	0,8675 <i>0,0633</i>	***	0,8444 <i>0,0639</i>	***
Industry dummies	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	yes
Number of observations	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237
F statistics	1,59	17,67	15,13	25,45	25,85	24,69	55,78	55,79	53,12	
R2	0,0001	0,0008	0,0014	0,0191	0,0194	0,0196	0,0455	0,0455	0,0456	

*** indicates that estimate is significant at 1% level, ** at 5% and * at 10% level

Table 6: Family control influence on annual economic growth and gap variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)												
	Sales Growth	Sales Growth	Sales Growth	Investment	Investment	Investment	GAP Sales	GAP Sales	GAP Sales	GAP Investment	GAP Investment	GAP Investment												
Family	-0,0072 <i>0,0032</i>	**		-0,0037 <i>0,0040</i>			0,0306 <i>0,0153</i>	*		0,0265 <i>0,0156</i>	*													
Family ownership		0,0001 <i>4,9620E-05</i>	*		0,0001 <i>0,0001</i>	**		0,0007 <i>0,0002</i>	***		0,0006 <i>0,0002</i>	***												
Total family control				0,0013 <i>0,0042</i>		0,0043 <i>0,0051</i>			0,0428 <i>0,0195</i>	**		0,0373 <i>0,0200</i>	*											
Majority family control				-0,0098 <i>0,0033</i>	***	-0,0062 <i>0,0041</i>			0,0268 <i>0,0157</i>	*		0,0231 <i>0,0161</i>												
Size (total asset)	0,0047 <i>0,0016</i>	***	0,0047 <i>0,0016</i>	***	0,0051 <i>0,0016</i>	***	0,0263 <i>0,0020</i>	***	0,0264 <i>0,0020</i>	***	0,0267 <i>0,0020</i>	***	-0,0115 <i>0,0076</i>	-0,0106 <i>0,0076</i>	-0,0108 <i>0,0076</i>	-0,0323 <i>0,0078</i>	***	-0,0314 <i>0,0078</i>	***	-0,0317 <i>0,0078</i>	***			
Age	-0,0011 <i>0,0001</i>	***	-0,0011 <i>0,0001</i>	***	-0,0011 <i>0,0001</i>	***	-0,0016 <i>0,0001</i>	***	-0,0016 <i>0,0001</i>	***	-0,0016 <i>0,0001</i>	***	-0,0018 <i>0,0005</i>	***	-0,0017 <i>0,0005</i>	***	-0,0017 <i>0,0005</i>	***	-0,0011 <i>0,0005</i>	**	-0,0010 <i>0,0005</i>	**	-0,0010 <i>0,0005</i>	**
ROE	0,0271 <i>0,0060</i>	***	0,0261 <i>0,0060</i>	***	0,0256 <i>0,0060</i>	***	0,0814 <i>0,0074</i>	***	0,0801 <i>0,0074</i>	***	0,0800 <i>0,0074</i>	***												
Financial solvency score	0,0009 <i>0,0004</i>	**	0,0009 <i>0,0004</i>	**	0,0009 <i>0,0004</i>	**	-0,0037 <i>0,0005</i>	***	-0,0036 <i>0,0005</i>	***	-0,0037 <i>0,0005</i>	***	0,0027 <i>0,0021</i>	0,0029 <i>0,0021</i>	0,0027 <i>0,0021</i>	0,0067 <i>0,0021</i>	***	0,0068 <i>0,0021</i>	***	0,0067 <i>0,0021</i>	***	0,0067 <i>0,0021</i>	***	
Bank leverage	0,0023 <i>0,0012</i>	*	0,0022 <i>0,0012</i>	*	0,0021 <i>0,0012</i>	*	-0,0041 <i>0,0015</i>	***	-0,0043 <i>0,0015</i>	***	-0,0044 <i>0,0015</i>	***	0,0327 <i>0,0056</i>	***	0,0321 <i>0,0056</i>	***	0,0324 <i>0,0057</i>	***	0,0394 <i>0,0058</i>	***	0,0389 <i>0,0058</i>	***	0,0391 <i>0,0058</i>	***
Intercept	-0,0193 <i>0,0230</i>		-0,0303 <i>0,0232</i>		-0,0248 <i>0,0231</i>		-0,2774 <i>0,0282</i>	***	-0,2895 <i>0,0285</i>	***	-0,2826 <i>0,0283</i>	***	0,2830 <i>0,1079</i>	***	0,2494 <i>0,1089</i>	**	0,2742 <i>0,1083</i>	**	0,5191 <i>0,1106</i>	***	0,4886 <i>0,1116</i>	***	0,5112 <i>0,1110</i>	***
Industry dummies																								
Number of observations	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237	22237												
F statistics	17,09	17,00	16,79	26,37	26,56	25,41	3,82	4,08	3,68	5,08	5,29	4,87												
R2	0,0152	0,0151	0,0156	0,0232	0,0234	0,0235	0,0033	0,0035	0,0033	0,0043	0,0045	0,0044												

*** indicates that estimate is significant at 1% level, ** at 5% and * at 10% level

Table 7a: First stage estimation of the influence of instrumental variables on family control

	(1)		(2)	
1 stage 2SLS	Family Ownership		Prob of Family =0	
	Estimation Method: OLS		Estimation Method: Logit	
Tangible	4.84934	***	-0.9841	***
	1.06187		0.1074	
Age	-0.94984	***	-0.2950	
	0.34553		0.0340	***
Size (Log total assets)	-1.20606	***	-0.00706	
	0.21573		0.0209	
Intercept	81.69223	***	-0.1702	
	2.92766		0.2842	
Number of observations	22237		22237	
F statistics	21.86			
R2	0.0029			
Wald test			223,6847	
c			0,576	

*** indicates that estimate is significant at 1% level, ** at 5% and * at 10% level

Table 7b: Second stage estimation of the influence of predicted family control on firm economic growth

	(1)	(2)	(3)	(4)
	Sales Growth	Sales Growth	Investment	Investment
Non Family		1,3121 ***		1,629 ***
		<i>0,0264</i>		<i>0,037</i>
Family ownership	-0,0317 ***		-0,034 ***	
	<i>0,0010</i>		<i>0,001</i>	
Size (Log total asset)	-0,0263 ***	0,0153 ***	-0,021 ***	0,024 ***
	<i>0,0016</i>	<i>0,0009</i>	<i>0,002</i>	<i>0,001</i>
Age	-0,0025 ***	0,0008 ***	-0,003 ***	0,001 ***
	<i>0,0001</i>	<i>0,0001</i>	<i>0,000</i>	<i>0,000</i>
ROE	0,1120 ***	0,0756 ***	0,158 ***	0,110 ***
	<i>0,0043</i>	<i>0,0043</i>	<i>0,006</i>	<i>0,006</i>
Financial solvency score	-0,0014 ***	-0,0008 ***	-0,003 ***	-0,002 ***
	<i>0,0002</i>	<i>0,0002</i>	<i>0,000</i>	<i>0,000</i>
Bank leverage	0,0072 ***	0,0086 ***	0,011 ***	0,013 ***
	<i>0,0008</i>	<i>0,0008</i>	<i>0,001</i>	<i>0,001</i>
Intercept	2,5010 ***	-0,4223 ***	2,625 ***	-0,589 ***
	<i>0,0845</i>	<i>0,0139</i>	<i>0,119</i>	<i>0,020</i>
Industry dummies	Yes	Yes	Yes	Yes
Number of observations	22237	22237	22237	22237
F statistics	220,88	307,16	185,4	261,94
R2	0,1659	0,2166	0,143	0,1908

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