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Swedish Listed Family Firms and Entrepreneurial Spirit

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Abstract

This paper investigates the entrepreneurial spirit in Swedish listed family firms. We associate family firms with entrepreneurship in the sense that there is an identifiable person that takes the uninsurable risk in the sense of Knight. This paper analysis two questions: Do entrepreneurial family firms have a higher rate of growth and do they invest in a more profit maximizing fashion than other listed firms?

The analysis shows that entrepreneurial family firms in general are smaller in terms of market value and investments than non-family firms. Moreover, the entrepreneurial family firms are the ones that makes the most efficient investments.

Keywords: Entrepreneurship, Corporate Governance, Family Firms, Investments, Firm Performance.

JEL Codes: L26, L25, G30, C23

1. Introduction

In the economic theory of the entrepreneur, as developed by among others Knight (1921); Schumpeter (1934); Casson (1982), the entrepreneur is an extraordinary individual who finds new profitable uses of resources. The entrepreneur is the one who bears the uncertainty of the business and for this he receives the profit of the firm.

A majority of all firms are founded by an individual or a family who can be classified as an entrepreneur. From this perspective family firms are interesting since it is possible to identify a single individual owner or family owner who has the ability to influence the use of resources in a more direct way than what is possible in firms with dispersed ownership. The same individual/family owner can also reap most of the rewards from innovative use of resources. The profit incentive is thereby likely to be stronger than in other firms. A strong profit incentive and a direct influence on management should leave marks on the efficiency of the investment policy and the growth of the firm. Entrepreneurial activity should generate more profitable investment projects and stronger profit incentives will assure that these profitable projects are implemented.

The aim of this paper is to study if Swedish listed family firms in an investment sense are more entrepreneurial than other Swedish listed firms. Two questions are posed: Do family firms have a higher rate of growth and do they invest in a more profit maximizing fashion than other listed firms?

Investment performance as a sign of entrepreneurial spirit in family firms will be tested through marginal q analysis. The underlying theories from which the tested

hypotheses are derived are entrepreneurship theory along the lines of Knight (1921); Schumpeter (1934); Casson (1982) complemented with corporate governance theories of the kind accounted for in Shleifer and Vishny (1997).

Swedish firms serve as a particular interesting case since in Sweden it is usual that families exert strong control of the large listed firms through the use of dual class shares and pyramids. One well-known example is the Wallenberg family. Also, the corporate governance structure in Sweden is characterized by concentrated ownership.

As a measure of growth we look at changes in the market value of the firm, sales, investment, employment and investment intensity. Marginal q is used as a measure of investment efficiency. The measure is assumed to reflect how innovative the firm is in a broad sense. The marginal q methodology was first developed by Mueller and Reardon (1993) and it shows to what extent the net present value rule of investments is applied. The marginal q approach is a well applicable proxy of investment efficiency in the sense that it reflects the extent to which an investment is furthering the objective of maximization of investor wealth. The proposed paper is unique in its combination of entrepreneurship and corporate governance theories in empirical research. No earlier study has been done along these lines on Swedish data. It is also unique in its use of marginal q as performance measure.

2. Theoretical Framework; Entrepreneurship, Family Firms and

Marginal q-Analysis

2.1 Definitions of Family Firms

There is no established definition of family firms in the literature. However, all various types of definitions of family firms have the apprehension in common that families as owners are different from other types of owners concerning ability and incentives to influence business decisions. The family influence concerns issues such as succession order, innovation and investment strategies and business culture. In the literature it is possible to single out three main groups of definitions of family firms (Steier et al., 2004).

A first line of research on family firms uses the concept of founder family i.e. if the founder family is still active in the company. For example, Anderson and Reeb, (2003); Anderson et al., (2003) use the founder family's share of equity and/or if a family member is present in the board of directors when defining family firms. Following these scholars, a growing body of literature, such as Cronqvist and Nilsson, (2003); Villalonga and Amit, 2006 (a-b), have emerged, analyzing the effect of founding families on firm performance.

A second line of research on family firms follows La Porta et al, (1999) and defines family firms from the amount of votes and/or capital that the largest family (or individual) controls. In their article La Porta et al, use different thresholds for defining a firm as a family firm. Morck and Yeung, (2004) define firms as family firms if the largest owner controls more than 10 or 20 percent of the voting shares. Examples of studies

following La Porta et al, (1999) are Faccio and Lang, (2002); Claessens et al, (2002); Bennedsen et al, (2004). Some of the above studies use a combination of the definitions, for example Cronqvist and Nilsson, (2003).

Finally, firms can also be defined as family firms when the family actively takes part in the company. In Chrisman et al, (2004), family firms are defined based on family participation in the firm in issues like ownership, management, and succession within the family.

In this paper we define family firms as firms controlled directly or indirectly by one family or an individual. Also, this family/individual has to be the largest owner. In accordance with La Porta et al, 1999; Morck and Yeung, (2004), we have chosen the cut-off of 20 percent of outstanding votes. This cut-off is arbitrarily, but according to La Porta et al, (1999) 20 percent is enough for one owner to effectively control the company. Both the above studies use different levels of ownership (for example 10 and 20 percent) to test for differences in ownership structure on firms' performance depending on the choice of cut-off value.

2.2 Entrepreneurship and Investment Performance

The concept of entrepreneurship is widely discussed and analyzed within economics as well as in other disciplines. There are both theoretical and operational difficulties when trying to define the concept or at least describe it. For example Hebert and Link (1989), has singled out 13 definitions of entrepreneurship frequently used in the literature. Cantillon, (1755) was one of the first to theoretically acknowledge the

importance of the entrepreneurship and its contribution to economic growth and development. He defines the entrepreneur as an economic agent who acts in uncertain environments. During the 20st century there has been a wide range of scholars such as Schumpeter (1934); Baumol (1959, 1968); Knight (1921); Kirzner (1973, 1997); Hayek (1945), developing the discipline further.

Over the last decades there has been an increasing interest in the link between entrepreneurship and growth of the firm as well as in economic growth of a country. When linking entrepreneurship from the micro level to the more aggregate level dynamic processes take place. Schumpeter (1934) was one of the first to dynamically link entrepreneurial activities on the micro level to economic growth on the macro level. Schumpeter talks about creative destruction which implies that the creation of new firms might lead to destruction of older and less competitive firms. The constantly ongoing competition between new ideas and innovations lead to that only the very best firms and innovations survive.

Entrepreneurship in the sense of Schumpeter (1934) is about coming up with something new (an innovation) that gives the firm a competitive advantage. The entrepreneur is in this way the prime mover in economic development. Five types of innovations are distinguished:

- New products/new quality of a good
- New method of production
- New market
- New source of supply
- New organization of an industry

Common to innovations of these types are investments of different kinds. Also, the innovations have to successfully meet the test of the market. Hence, one can expect innovating firms to have good investment performances. Moreover, it can be expected that these firms show higher growth in terms of assets, sales and employees. Hence, innovations in a Schumpeterian sense give a high profitable growth potential.

Good investment performance implies that only projects with a positive net present value are invested in. Projects with a negative net present value should be rejected. In the marginal q -analysis as described in among others Bjuggren et al, (2007) the performance measure has a value higher than one when investments with a positive net present value are chosen. In this sense marginal q can be used as direct measure of investment performance.

A marginal q less than one can, as shown in Bjuggren et al, (2007), be interpreted as a sign of managerial discretion of a type that benefits managers at the expense of the shareholders. Investments associated with an innovation in Schumpeter's sense are not likely to be associated with marginal q -values less than one. (According to definition the novelties listed above are innovations if they successfully meet the test of the market.) However, investments with a negative net present value (marginal q less than one) also contribute to the growth of the firm. Such growth is, however, not a sign of entrepreneurship. Rather it is a sign of managerial discretion of the types described by among others Baumol (1959); Marris (1964); Williamson (1963); Jensen and Meckling (1976).

In this paper we associate family firms with entrepreneurship in the sense that there is an identifiable person that takes the uninsurable risk in the sense of Knight (1921) and who is in control of the firm. The uninsurable risk (uncertainty) associated with equity ownership can in the Swedish case diverge from control ability due to the existence of vote differentiated shares. We adjust for that in our analysis by the variable excess votes which indicates whether the entrepreneurial character of the firm has been affected by vote differentials or not. If the control share is higher than equity share family firm are less entrepreneurial, i.e. we expect the excess vote to have a negative impact on entrepreneurship.

Our hypothesis is that entrepreneurial family firms are primarily likely to show a higher growth of firm value as result of innovation. Entrepreneurial family firms will also show a higher investment performance in terms of a marginal q above or equal to one. Secondly growth rate in sales and employment can be expected to be higher as far as innovations are not of a process kind that affects cost much more than demand.

The hypothesis will be tested on data for Swedish listed firms. A methodological problem could be that growth and successful investments is a result of innovations somewhere else in the industrial sector i.e. “market extension” and not a result of innovations in the firm (Dahmén 1950). This problem is in our panel study handled by industry dummies.

3. The Model – Marginal q

The marginal q shows the marginal change in firm value due to an investment. By using marginal q instead of other (average) performance measures such as average Tobin's q or return on assets (ROA) one mitigates problems such as endogeneity and heteroskedasticity. The approach was first developed by Mueller and Reardon (1993) and further developed by Gugler and Yurtoglu (2003). Here, the marginal q is derived in a slightly different way.

In the corporate finance literature the net present value rule is used as a criterion for firms in the evaluation of future investments. Accordingly, the firm must, for each separate project, evaluate the difference between the cost of the investment (I_t) and the present value (PV_t) of future cash flows (CF_t) generated. PV_t is defined as:

$$PV_t = \sum_{t=1}^n CF_t \frac{1}{(1+r)^t} \quad (1)$$

and net present value (NPV_t) as:

$$NPV_t = PV_t - I_t \quad (2)$$

The net present value rule implies that all projects with a positive NPV shall be undertaken. Assuming an efficient stock market, the market value of a firm could be expressed as the sum of the present values of all running projects that the firm has

invested in. The value of the firm increases in a time period t if the present value (PV_t) of the investments (I_t) exceeds the depreciation of assets from earlier investments (i.e. $M_t - M_{t-1} = PV_t - Depreciation$), (see e.g. Reardon and Mueller, (1993); Gugler et al, (2004a) for further discussion).

The market value of a firm is, in accordance with Reardon and Mueller (1993), defined as the total value of debt and outstanding shares at the end of time t . Allowing for the fact that the market can make mistakes in the valuation of future cash flows the change in market value can be expressed as:

$$M_t - M_{t-1} = PV_t - Depreciation + \mu_t \quad (3)$$

The error term (μ_t) reflects the possibility of mistakes by the market in estimation of future cash flows. Given efficient markets the error term is expected to follow a normal distribution with an expected mean of zero.

The net present value rule prescribes that value maximising firms should invest in all projects associated with a positive net present value and continue until the net present value equals zero. A $NPV_t=0$ implies according to equation (2) that $PV_t=I_t$. Managements that invest in projects with a negative NPV_t is not acting in the interest of the shareholders. If the NPV_t of a project is negative, i.e. $PV_t/I_t < 1$, the management is not maximising firm value and managerial discretion of on-the-job consumption is present.

Projects with a $NPV > 0$ implies unused profitable investment opportunities with a $PV_t/I_t > 1$.

Equation (2) could, in accordance with Gugler et al, (2004a), be written as:

$$\frac{PV_t}{I_t} = q_m \quad (4)$$

This implies that an efficient investment level is equivalent to $q_m = 1$. A $q_m > 1$ indicates profitable investment opportunities, and $q_m < 1$ managerial discretion. Inserting equation (4) in equation (3) gives:

$$M_t - M_{t-1} = q_m I_t - Depreciation + \mu_t \quad (5)$$

Equation (5) is normalised by dividing both sides of the equation by M_{t-1} :

$$\frac{M_t - M_{t-1}}{M_{t-1}} = -\delta + q_m \frac{I_t}{M_{t-1}} + \frac{\mu_t}{M_{t-1}} \quad (6)$$

The intercept δ is the systematic change of the value of the old capital stock, and reflects the change in market value of assets acquired in earlier periods.

Lastly, following Mueller and Reardon (1993) and Gugler et al, (2004a) investments are defined as:

$$I = \text{After tax profits} + \text{Depreciation} - \text{Dividends} + \Delta\text{Debt} + \Delta\text{Equity} + R\&D + ADV \quad (7)$$

New funds for investments could be raised either by new debts (ΔDebt) or by issuing equity (ΔEquity). Furthermore, due to its contribution to a firm's market value $R\&D$ and ADV (advertising expenditures) are also included in the definition of investments.

4. Data and Descriptive Statistics

The dataset used contains data collected for firms traded on the Stockholm Stock Exchange (OMX) during the time-period 1999-2005. The financial data comes from Standard and Poor's COMPUSTAT Global. In accordance with Gugler et al, (2004a) we have excluded all financial companies e.g. banks and investments companies since they have a different investment and capital structure compared to other types of firms. Further, only firms that have been listed and have reported market values for the whole period 1999-2005 are included in the sample.

Advertising expenditures is one component in the definition of investments used by Mueller and Reardon (1993). However, in Standard and Poor's COMPUSTAT Global it is not possible to separate advertising expenditure from other types of selling expenses. In the empirical analysis we have therefore used a broader definition of investment and

include “general selling expenses” as a proxy for advertising expenditures. The results are robust regarding the definition of investment.

To control for the effects of outliers the last percentile of the observations of $\frac{M_t - M_{t-1}}{M_{t-1}} - \frac{I_t}{M_{t-1}}$ are removed. Gugler et al., (2004b), remove the first and the last percentile of the observations with respect to the difference in change in market value and investment ratio. There is however a potential asymmetry problem associated with this procedure due to the characteristics of a corporation. A corporation cannot have negative market values and consequently the change in market value has a lower limit of minus one. There is, however, no upper limit on how much a market value can increase. To take these aspects into account we have only removed the last percentile of the observations with respect to the difference between change in market value and investment ratio.

According to Audretsch (2002) a number of different performance measures can be used to estimate entrepreneurial activity. The most common indicator is growth measured in employment generation. Here, we measure growth in terms of change in sales, employment and in market value.

The ownership data are collected from the *Owners and Power in Sweden's Listed Companies* by Sundin and Sundqvist (1999-2005). This database provides detailed ownership data for Swedish listed firms. The database also aggregates capital and voting shares held by family members and/or other types of closely connected owners such as institutions, foreign owners and companies. Only the largest shareholder is taken into consideration. Moreover, the database accounts for indirect shareholdings. We have

based our classification of family firms on the coalition structure given in the database.
i.e. both direct and indirect ownership are taken into consideration.

Table 1: Description of variables

4.1 Descriptive statistics

In this section we present our data from a family firm perspective. First the dataset is divided into two groups; non-family firms and family firms. Entrepreneurial family firms are thereafter separated from the total group of family firms. The full sample contains a panel of 653 firm-year observations, representing 110 firms for a 6-years period of time (2000-2005). Outliers are removed as described in section 4.

This section has two purposes. Firstly, to describe the dataset with respect to ownership and financial structure both in the whole sample as well as in the three sub-samples. The second objective is to investigate if entrepreneurial family firms have a higher growth rate than non-family firms. In order to see the magnitude of the differences between the categories of firms (family vs. non-family controlled as well as non-family controlled firms and entrepreneurial family firms) we have performed t-tests and Wilcoxon Rank Sum tests for each variable separately (see table 3 and table A2 in Appendix).

4.1.1 Ownership structure

The ownership structure in Sweden follows the Continental European pattern, characterized by concentrated ownership. Sweden is one of few countries that allow for

all three different types of methods to separate ownership from control i.e. differential voting rights, pyramids and cross-holdings. In this section we analyse the descriptive statistics in order to see if there are any differences between non-family firms and family firms and entrepreneurial family firms respectively regarding ownership structure, the use of vote differentiation and excess votes. Table 2 presents the ownership structure in the different types of firms.

Table 2. Descriptive Statistics - Ownership structure

The average (median) firm in our sample has a largest owner that controls 35.5 percent (33 percent) of the outstanding votes and 23 percent (18.90 percent) of the capital shares. That is on average the excess vote is about 13 percent. About 70 percent of the firms in our sample apply vote differentials. Another interesting feature is that the ownership structure in family firms is relatively more concentrated than in non-family firms. Family firms have on average owners that control a larger share of the firm both regarding control and capital rights. The ownership structure in entrepreneurial family firms resemble non-family firms regarding the utilization of vote differentiations and excess votes (Table 2). The largest owner in entrepreneurial family firms control however more than the largest owner in non-family firms.

Moreover, family firms apply vote differentiations to larger extent than non-family firms, 79 and 58 percent, respectively. This observation is in accordance with other Swedish studies, such as Andersson and Nyberg, (2005); Cronqvist and Nilsson, (2003). Interesting to note is that the largest owner in both categories of firms control a

lower share of capital compared to voting rights. The largest owner in family firms controls on average about 44 percent of the outstanding votes and 28 percent of the capital rights i.e. the excess vote is about 17 percent. Corresponding values for the largest owner in non-family firms are 23, 16 and 6 percent.

4.1.2 Financial and Entrepreneurship Data

The mean firm in our sample has a market value of 15.3 billion SEK, with an average yearly increase of 15 percent (see table A3 in Appendix). The average firm invest about 3.1 billion SEK every year and has an average investment to market ratio of 0.31. Table 3 presents the differences in mean and median values between the different types of firms.

Table 3: Difference in Financial Structure

Family firms represent about 59 percent of the sample and entrepreneurial family firms 30 percent. Family firms are on average smaller than non-family controlled firms in terms of sales, market value, number of employees, and investments. The mean market value for family firms equals 10.5 billion and 22.3 billion for non-family firms. The distribution of the dataset is skewed to the left, i.e. there are a small group of firms with a very high market value and investments. This implies that the median should be used as an average measure instead of the mean. The corresponding median market values are 1.5 and 1.4 billion respectively.

Family controlled firms invest on average less than non-family controlled firms (2.4 and 4.2 billion SEK respectively). This presumably follows from the fact that family firms on average are smaller in terms of market value than non-family firms. The median family firm invest however more than the median non-family firms (417 and 235 million SEK).

Entrepreneurial family firms have almost the same feature as regular family controlled firms. They tend to be smaller in terms of sales, market value, employment and investments than non-family firms. The differences in both mean and median values correspond to the differences in the mean and the median values for family and non-family firms.

Swedish listed firms increased their market value by 15 percent on average (the median value is equal to 8 percent) per year during the time period studied. The variance is however large. There is a group of companies with a very high change (above 200 percent) in market value. These firms are most often to be found in “new” industries such as biotechnology, the IT-sector and telecommunication.

Both family firms and entrepreneurial family firms have a higher change in market value compared to non-family firms, even though the difference is low. The increase in market value is the highest in entrepreneurial family firms, 22 percent, compared to 18 percent in family firms and 10 percent in non-family firms. This feature is in accordance with our hypothesis. The median in the three groups are substantially lower, 8, 9 and 7 percent respectively. The difference is not statistically significant.

We have also measured growth in terms of change in sales and employment generation. Both the mean family firms and the mean entrepreneurial family firms have a higher growth in terms of sales than non-family firms. The opposite holds when comparing the median then both family and entrepreneurial family firms have a lower growth rate. The investment to market value ratio is higher among family and entrepreneurial family firms than in non-family controlled firms, both the difference in mean and in the median are statistical significant.

To sum up, family and entrepreneurial family firms are in general smaller than non-family firms. Entrepreneurial family firms have a higher growth rate in terms of market value and a higher investment intensity (both mean and median values). They have also a higher growth rate in terms of sales and employment (mean values). This supports our hypothesis that entrepreneurial family firms have a higher growth rate. However, the median employment generation and increase in sales is higher in non-family firm. The findings from the descriptive statistics do not fully support the first hypothesis.

5. Empirical Model and Results

In the previous section it was shown that there are differences regarding investment behaviour and growth rates between entrepreneurial family firms and non-family firms. In this section we will do a more thorough empirical analysis of the investment behaviour in entrepreneurial family firms and non-family controlled firms. That is, we will investigate how the ownership structure affects investment decisions and the market value.

In the empirical analysis we use the marginal q as developed by Mueller and Reardon, (1993) as derived in section 3. The model of the form expressed in equation (6) serves as a bench-mark and is repeated below:

$$\frac{M_t - M_{t-1}}{M_{t-1}} = -\delta + q_m \frac{I_t}{M_{t-1}} + \frac{\mu_t}{M_{t-1}} \quad (6)$$

where, q_m is the marginal q and μ_t is the error term with the usual characteristics. As stated in section two growth and investments in a firm can be due to innovations done somewhere else in the industry and not in the specific company. In order to control for this we impose industry dummies. In addition, we impose year dummies to control for time effects. Both these dummy variables are constrained so that if the variables are annually and across industries added up the sum is equal to zero. Inflation deflated values are used.

In this paper we want to test the hypothesis that entrepreneurial family firms show a higher investment performance in terms of marginal q . In order to test this hypothesis we include a dummy variable for entrepreneurial family firms ($D_{entrfirm}$) as well as an a variable for excess votes (V_{excess}). Both these are interacted with the term I_t/M_{t-1} . The dummy variable for entrepreneurial family firms is expected to have a positive impact on the market value of the firm and excess votes are expected to have a negative effect. Incorporating the two variables into equation (6) yields the following equation (model 3 and 4 in table 4):

$$\frac{M_{it} - M_{it-1}}{M_{it-1}} = -\delta + \beta_1 \frac{I_{it}}{M_{it-1}} + \beta_2 \frac{I_{it}}{M_{it-1}} * D_{entrfirm} + \frac{\varepsilon_{it}}{M_{it-1}} \quad (8)$$

$$\frac{M_{it} - M_{it-1}}{M_{it-1}} = -\delta + \beta_1 \frac{I_{it}}{M_{it-1}} + \beta_3 \frac{I_{it}}{M_{it-1}} * V_{excess} + \frac{\varepsilon_{it}}{M_{it-1}} \quad (9)$$

From the equation (8) and (9), we can estimate the marginal q's for non-family firms and the marginal q for entrepreneurial family firms and for firms with excess vote i.e. marginal q equals the marginal effect in equation (8) and (9) or expressed differently $q_m = \beta_1 + \beta_2 \times X_1 + \dots + \beta_n \times X_{n-1}$. We have also estimated equation (8) for family controlled firms in order to be able to establish if there is any difference between the two types of firms.

5.1 Empirical Analysis

Our test of the entrepreneurial spirit has been done in two steps. To start with we look at to what extent the net present value rule is the guideline in investments. If the net present value is followed and the capital market is efficient the marginal q shall be equal to or larger than one. According to tables 4 and 5 entrepreneurial family firms show the highest marginal q value. These firms do also have the highest investment ratio. Hence, entrepreneurial family firms, at the same time as they invest more than other firms, also have higher requirements on profitability in their investments. One explanation could be that a high equity share serves as a carrot to find new profitable investment opportunities that increases the wealth represented by family firm shares.

Table 4: Regression Results

Table 5: Marginal Q

The next step is to look at growth rates in terms of market value, sales and employment for the firms we have labelled entrepreneurial. Table 3 tells us that all growth variables are higher for the mean entrepreneurial family firm than for all other firm categories. This result is also in line with a view of the family firm as entrepreneurial when control and equity ownership are united.¹

Firms that are controlled primarily through ownership of multiple voting shares are according to our hypothesis not to the same extent driven by entrepreneurial consideration in their investment decisions. As stated, tables 4 and 5 show that entrepreneurial family firms have the highest marginal q which is an indication of that this ownership category adhere to the net present value rule. Family firms as group (both entrepreneurial and non-entrepreneurial) is not doing well showing a marginal q of 0.87 which is substantially lower than one. The family firms that we have defined as entrepreneurial are the stars in terms of investments. Other firms do not invest wisely. Another interesting feature that table 4 reveals is that control through an excess of votes in relation to cash flow rights has a large negative impact on the profitability of investments. The results are in line both with the Knightian notion of entrepreneurship as associated with risk taking and the corporate governance literature about the problems associated with separation of ownership of control.

Furthermore, our estimated marginal q values show that the higher investment ratio in table 3 for family firms as group is not for all firms due to wise investment. It is

only for the subgroup entrepreneurial family firms that higher investment ratio goes hand into hand with wise (profitable) investments.

To sum up, the statistical analysis show that entrepreneurial family firms are more concerned about profitability of investments in terms of positive net present values than the other types of firms. The entrepreneurial firms also invest more than non-family firms and show higher growth rates.

6. Conclusion

In this paper we investigate the entrepreneurial spirit among Swedish listed firms. A Knightian-inspired notion of entrepreneurship along with the Shumpeterian notion of an entrepreneur as an innovator are used to define entrepreneurial family firms. In this sense entrepreneurial family firms are firms where both ownership and control are concentrated to one family. This type of firms accounts for about 29 per cent of the Swedish listed firms investigated.

It is hypothesised that in a family firm with no separation between ownership and control the effects of entrepreneurial spirit will be visible in both investment policy and growth; in the sense that investment will be made according to the net present value rule and as an effect of innovations the growth in firm value, sales and employment are likely to be higher than for other firms. The extent to which investments are profitable according to the net present value rule is tested by means of marginal q analysis.

It is found that even though entrepreneurial family firms in general are smaller in terms of in terms of sales, market value, and investments than non-family firms, they

show a higher mean growth rate measured in market value, sales and employment generation. The growth of entrepreneurial family firms is also higher than for family firms in general. Furthermore, the empirical results show that entrepreneurial family firms are the only ownership category that makes profitable investments. At the same time they also have a higher investment ratio than other types of firms. If growth, profitable investments and high investment intensity are signs of entrepreneurial spirit, then Swedish listed family firms in which ownership and control are joined are the ones that show this spirit.

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Appendix

Table A1: Descriptive Statistics - Ownership Structure

	Capital (%)	Votes (%)	Vote diff.	Excess vote
Panel A: Family Firms				
Mean	27.51	44.37	0.79	0.17
Median	25.20	40.20	1.00	0.18
Max	74.50	83.40	1.00	0.49
Min	3.70	11.70	0.00	0.00
Std.	15.69	18.18	0.41	0.13
No. of obs. = 385 (59 %)				
Panel B: Entrepreneurial Family Firms				
Mean	28.28	34.50	0.58	0.06
Median	26.25	30.90	1.00	0.06
Max	74.50	81.70	1.00	0.18
Min	3.70	11.70	0.00	0.00
Std.	15.63	14.77	0.50	0.06
No. of obs.: 194 (30 %)				
Panel C: Non-Family Firms				
Mean	16.34	22.74	0.58	0.06
Median	12.30	17.60	1.00	0.00
Max	60.90	89.50	1.00	0.42
Min	0.70	2.50	0.00	-0.20
Std.	12.77	16.63	0.49	0.11
Number of obs.: 268 (41 %)				
Panel D: All Firms				
Mean	22.93	35.49	0.70	0.13
Median	18.90	32.90	1.00	0.11
Max	74.50	89.50	1.00	0.49
Min	15.56	20.53	0.46	0.13
Std.	0.70	2.50	0.00	-0.20
No. of obs.: 653 (100 %)				

Table A2: Difference in Ownership Structure

	Capital %	Votes %	Vote diff.	Excess votes
Panel A: Family Firms				
Mean	11.17	21.64	0.21	0.10
t-statistics	9.64	15.49	5.87	11.04
Median	12.90	22.60	0.00	0.18
z-statistics	10.37	14.5	5.73	10.28
Panel B: Entrepreneurial Family Firms				
Mean	11.94	11.76	0.00	0.00
t-statistics	9.02	7.86	-0.02	-0.20
Median	13.95	13.30	0.00	0.06
z-statistics	9.54	9.44	0.02	1.75

Table A3: Descriptive Statistics – Financial Structure

	Sales	Growth Sales	Empl.	Growth empl.	M_t	$(M_t/M_{t-1})/M_{t-1}$	I_t	I_t/M_t	
Panel A: Family Firms									
Mean	9881.23	0.70	8.92	0.08	10484.25	0.18	2364.06	0.36	
Median	2013.87	0.07	1.36	0.00	1496.80	0.09	416.67	0.28	
Std.	19870.25	10.68	27.81	0.63	23466.65	0.64	5139.11	0.56	
Max.	129469.00	209.25	216.99	10.73	197190.70	7.21	31475.60	8.10	
Min.	1.80	-0.96	.01	-0.99	19.27	-0.94	-5121.95	-0.86	N=385
Panel B: Entrepreneurial Firms									
Mean	10276.17	1.28	7.65	0.11	8498.50	0.22	2163.82	0.36	
Median	2069.41	0.04	1.17	-0.00	1678.80	0.08	386.32	0.27	
Std.	21156.53	15.04	19.99	0.85	16690.41	0.79	4841.10	0.68	
Max.	127817.80	209.25	206.15	10.73	116949.30	7.21	30154.49	8.10	
Min.	9.15	-0.91	.02	-0.99	71.40	-0.94	-5046.39	-0.48	N=194
Panel C: Non Family Firms									
Mean	17854.49	0.62	9.29	0.04	22270.36	0.10	4154.48	0.25	
Median	1653.53	0.07	0.99	0.01	1358.73	0.07	234.62	0.20	
Std.	42897.20	5.87	19.32	0.31	74896.40	0.48	12910.25	0.39	
Max.	250780.70	85.86	105.13	3.10	814972.60	2.14	109112.60	2.66	
Min.	0.04	-0.97	.01	-0.90	27.72	-0.90	-2043.18	-1.12	N=268
Panel D: All Firms									
Mean	13153.56	0.67	9.07	0.06	15321.43	0.15	3098.87	0.31	
Median	1947.90	0.07	1.31	0.01	1476.781	0.08	367.75	0.24	
Std.	31646.63	9.04	24.71	0.52	51527.89	0.58	9197.08	0.50	
Max.	250780.70	209.25	216.99	10.73	814972.6	7.21	109112.60	8.10	
Min.	0.04	-0.97	0.01	-0.99	19.27	-0.94	-5121.95	-1.12	N=653

Source: Standard and Poor's COMPSTAT Global

Table 1: Description of variables

Variable	Description
Mt_t	Market value at the end of period t. Defined as the total value of the outstanding shares plus total debt.
I_t^a	Investment in period t. Defined as: $I = \text{After tax profit} + \text{Depreciation} - \text{Dividends} + \Delta\text{Debt} + \Delta\text{Equity} + \text{R\&D} + \text{ADV}$
$(Mt_t - Mt_{t-1}) / Mt_{t-1}$	Change in market value
I_t / Mt_{t-1}	Investment ratio
Family firm	A firm is defined as a family firm if the largest owner is a family or an individual that control at least 20 percent of the outstanding votes. The variable is expressed as a dummy, which equals 1 if the firm is defined as a family firm.
Entrepreneurial Family Firms	Family firms with excess votes less than the median family firm.
Excess votes	The largest owner's excess votes i.e. share of voting rights minus the share of cash flow rights.
Vote differentiation	Dummy variable that equals one if the firm apply vote differentiation and zero otherwise.

Note: a) $I = \text{After tax profits (IB)} + \text{Depreciation (DP)} - \text{Dividends (DVC)} + \Delta\text{Debt } (\Delta\text{DT}) + \Delta\text{Equity (SSTK minus PRSTKC)} + \text{R\&D (XRD)} + \text{ADV (XSGA)}$. The financial data is collected from Standard and Poor's Compustat Global; their Mnemonics are shown within brackets.

Table 2. Descriptive Statistics - Ownership Structure

	Capital (%)	Votes (%)	Vote diff.	Excess votes	N of obs.
Panel A: Family Firms					
Mean	27.51	44.37	0.79	0.17	
Median	25.20	40.20	1.00	0.18	653
Panel B: Entrepreneurial Family Firms					
Mean	28.28	34.50	0.58	0.06	
Median	26.25	30.90	1.00	0.06	194
Panel C: Non-Family Firms					
Mean	16.34	22.74	0.58	0.06	
Median	12.30	17.60	1.00	0.00	268
Panel D: All Firms					
Mean	22.93	35.49	0.70	0.13	
Median	18.90	32.90	1.00	0.11	653

Note: Table A1 in appendix contains a more detailed description of the ownership structure among Swedish listed firms.

Table 3: Difference in Financial Structure

Panel A: Difference between Entrepreneurial Family Firms and Non Family Firms								
	Sale	Growth sales	Empl.	Growth Empl.	Market value	$\left(\frac{M_t - M_{t-1}}{M_{t-1}} \right)$	I_t	It/Mt₋₁
Mean	-7578.32	0.66	-1.64	0.08	-13771.90	0.12	-1990.66	0.11
t-stat	- 2.27	0.64	-0.88	1.34	-2.52	1.99	- 2.05	2.22
Median	415.88	-0.03	0.18	-0.02	320.07	0.01	151.70	0.07
z-stat	1.49	- 0.98	0.88	- 0.17	2.48	1.23	2.12	2.60
Panel B: Difference between Family and Non Family Firms								
	Sale	Growth sales	Empl.	Growth Empl.	Market value	$\left(\frac{M_t - M_{t-1}}{M_{t-1}} \right)$	Investment	Investment ratio
Mean	-7973.27	0.08	-0.37	0.05	-11786.10	0.08	-1790.41	0.11
t-stat	-3.19	0.11	-0.19	1.09	-2.89	1.70	-2.46	2.67
Median	360.38	-0.01	0.37	-0.01	138.07	0.03	182.05	0.08
z-stat	1.90	-0.32	1.82	-0.38	2.78	1.36	2.81	3.51

Note: Difference in mean values are tested by t-test and difference in median values are tested with Wilcoxon Rank Sum Test.

Table 4: Regression Results

	Dependent Variable: $(M_t - M_{t-1})/M_t$			
	Model 1	Model 2	Model 4	Model 3
I_t/M_t	0.85*** (27.04)	0.92*** (26.32)	0.74*** (10.80)	0.68*** (14.72)
$(I_t/M_t)*exessvotes$		-1.00* (-4.33)		
$(I_t/M_t)*D_{family}$			0.13* (1.88)	
$(I_t/M_t)*D_{entrepr}$				0.28* (5.23)
<i>Intercept, δ</i>	-0.12*** (-5.38)	- 0.11*** (-4.24)	-0.11*** (3.80)	-0.09*** (-4.08)
<i>Adjusted R-squared</i>	0.60	0.61	0.60	0.62
<i>F-value</i>	24.84 df (41, 611)	25.39 df(42, 610)	24.43 df(42, 610)	25.94 (42, 610)
<i>N. of obs.</i>	653	653	653	653

Note: t-values within brackets. * indicates significance on a 1 percentage level, ** on a 5 percentage significance level and *** on a 10 percentage level. Values for industry and year dummies are not reported in order to save space.

Table 5: Marginal Q

Type of Firm:	Marginal q
All firms	0.85
Firms with excess votes	0.79
Family controlled firms	0.87
Entrepreneurial family firms	0.96

Footnotes:

1. The differences in growth rates do not look significant if we look at t-values. But as we look at more or less the whole population of listed firms the t-values of minor importance compared the case when a sample of firms is used.