

Performance and Behavior of Family Firms: Evidence From the French Stock Market*

David Sraer[†] David Thesmar[‡]

January 16, 2006

Abstract

This paper empirically documents the performance and behavior of family firms listed on the French stock exchange between 1994 and 2000. On the French stock market, approximately one third of the firms are widely held, another third are founder-controlled and the remaining third are heir-controlled family firms. We find that, in the cross section, family firms largely outperform widely held corporations. This result holds for founder controlled firms, professionally managed family firms, but more surprisingly also for firms run by descendants of the founder.

We then propose explanations that differ according to the identity of the management in the family firm. First, we offer evidence of a more efficient use of labor in heir-managed firms. These firms pay lower wages, even allowing for skill and age structure within the firm. We also find that descendants smooth out industry shocks and manage to honor implicit labor contracts. Secondly, we present evidence consistent with outside CEOs in family firms making a more parsimonious use of capital. They employ more unskilled, cheap labor, use less capital, pay lower interest rates on debt and initiate more profitable acquisitions.

*For helpful comments, we thank Francisco Perez-Gonzalez, Thomas Piketty, Jean Tirole, Xavier Vives and three anonymous referees, as well as seminar participants at CREST, Paris, Toulouse University, the Federation Jourdan Lunch Seminar and the ECGI conference on Family Firms in Istanbul. All remaining errors are ours.

[†]CREST, Paris and GREMAQ, Toulouse. Email: sraer@ensae.fr. Corresponding Author: CREST-INSEE, 15 Bd Gabriel Péri, 92245 Malakoff Cédex, France.

[‡]ENSAE, Paris and CEPR, London. Email: thesmar@ensae.fr

1 Introduction

While, since Berle and Means, financial economists have devoted a lot of attention to large, listed and widely-held corporations, it turns out that most firms around the world have a dominant owner, in many instances the founding family.¹ In addition, founding families are often involved in the actual management of the firm. In our own sample, which comprises the set of all listed French firms, more than 60% of the firms are still managed by their founding family. Even among the largest US firms, Anderson and Reeb [2003] report that some 16% of their sample of S&P500 firms are still managed by their founders or descendants. Therefore, the premises of the Berle and Means model of the corporation where (1) the CEO is not an owner and (2) ownership is dispersed, do not apply to most firms around the world.

The relevant view on world capitalism is thus that the typical large listed firm is owned, and frequently managed, by a family. This new perspective calls forth a research agenda on the specific features of dynastic management and ownership. Do family firms maximize profit? Are they more prone to building family empire at the expense of minority shareholders? Are they too prudent, slow reacting? On the contrary, are they more cool-headed and better at avoiding fads? More generally, do they behave any differently from the widely-held corporations that academics know so well?

To bridge this gap, this paper provides evidence on the performance and behavior of family firms in France. We believe the French example is of interest for two reasons. First, France is a continental European country, and as a consequence its financial institutions and history differ markedly from English-speaking countries, where most systematic studies on family firms have been conducted so far.² In particular, family firms are much more prevalent even among the largest firms and therefore much more representative of the economy than in the US. The second reason is that, in contrast to many continental European countries, France also has a lot of widely-held firms, which tend to be very much US like managerial firms - no dominant owner and an entrenched management. This gives us access to a large enough control group to compare family firms to.

To do this, we collected data on some 1,000 corporations listed on the French stock market over the 1994 – 2000 period. Our panel has information on the firm (employment, corporate accounts, acquisitions, stock returns) and on the

¹For example, Laporta, Lopez-de-Silanes and Shleifer [1999] tracked ultimate ownership of a sample of firms listed in 27 rich countries with more than 500m\$ market capitalization. They found that 50% of all firms in their global sample were family-controlled, while only 40% of them were widely held or controlled by widely held entities. In fact, widely held corporations are prevalent in the US, the UK and Japan, while families predominate in most continental European countries. Focusing on these countries, Faccio and Lang [2000] find that more than 60% of all listed firms in France, Italy and Germany are family firms.

²For two recent exceptions, see Barontini and Caprio [2005] on Italy and Bennedsen, Nielsen, Pérez-Gonzalez and Wolfenzon [2005] on Denmark.

founding family (ownership, management). This dataset is supplemented with information on acquisitions, stock returns and detailed information on the wage bill and skill structure.

First, we provide *cross-sectional* evidence on the relative performance of family firms. Looking at accounting profitability, we find that family firms significantly outperform non family firms. Consistently with the existing literature on “founder effects”, we find evidence that founder-managed firms are very profitable. Also consistent with available evidence from the US (Anderson and Reeb [2003], Amit and Villalonga [2005]), family firms run by an outside CEO outperform widely-held corporations. Thus, it seems that in France as in the US, families as large shareholders are, on balance, good for performance. Much more surprisingly, we also find that managers who are descendants of the firm’s founder also tend to do better than non family firms, and even marginally better than professional managers in our sample. Therefore, even if we set founders aside, family firms (whether or not run by a descendant) consistently outperform non family firms in France. A causal interpretation of such cross-sectional evidence is difficult since only the best performing firms may be transmitted to heirs. A potential solution involves looking at transmissions of control in our data (as in Pérez-Gonzalez [1999]). While we may have too few transitions in our sample to do statistically powerful tests, we nevertheless observe that (1) descendants typically do not inherit the management of the best firms and (2) descendants whose firms leave the stock market (de-list) do not systematically underperform. Biases are thus not likely to be large in our sample.

Second, we seek to understand these differences in performance by considering the various determinants of corporate performance. A crucial explanation of the superior performance of family-owned firms seems to be that they pay, on average, lower wages. This holds true for both firms run by descendants and outside CEOs. Nevertheless, a potential reason for this could simply be that these firms employ a larger fraction of low-skill workers. To account for this possibility, we match our firm-level data with employee-level social security records, which allows us to control for the labor force composition in experience, seniority and occupations. We find that outside CEOs in family firms pay lower wages because they indeed employ lower skilled employees; as a result, labor productivity is low in these firms, while capital productivity is high. On the contrary, even after controlling for their firm’s skill structure, descendants still pay low wages.

Third, we investigate how descendant-run firms manage to perform as well as family firms run by a professional CEO. To do this, we compare these two kinds of companies on several aspects of their management. In a nutshell, we find that professional CEOs make a more efficient use of capital, while heirs make a more efficient use of labor. Outside CEOs pay lower interest rates on their debt and tend to operate at lower capital to labor ratios. Large acquisitions made by outside CEOs do not destroy long run shareholders’ values - which is not the case for deals struck by heirs-run family firms or widely-held companies. In

contrast, heir-managed family firms display higher labor productivity levels. Also, labor demand in these firms responds significantly less to industry sales shocks. Although a-structural and thus to be interpreted with caution, our results are consistent with the fact that (1) outside CEOs bring financial expertise to family ownership and are keener on avoiding the waste of capital, while (2) descendants have the managerial horizon necessary to commit to a protective employment policy, and are rewarded by a larger labor productivity. As it turns out, we indeed find in our data that descendants have a much longer horizon as CEOs than professional managers.

Our paper is thus a contribution to the emerging economics literature on family business. Most of this infant literature has so far focused on North-American firms and profitability comparisons. Among the various contributions (Anderson and Reeb [2003], Amit and Villalonga [2005], and Pérez-Gonzalez [1999] for the US; Morck, Strangeland and Yeung [2002] for Canada), the consensus is that founder-managed firms, as well as family firms run by an outside CEO outperform non family firms. This is usually interpreted as evidence that the benefits of a large, long term, shareholder outweigh the costs of potential minority shareholders expropriation. The managerial quality of descendants is, however, a much more debated issue; Two cross-sectional studies on large US corporations in the 1990s (Anderson and Reeb [2003] and Amit and Villalonga [2005]) find opposite results. The difference in difference approach taken by Pérez-Gonzalez [1999] suggests, however, that heirs may be worse managers than outside CEOs. Our paper has the advantage to supplement these studies for a large country of continental Europe: we find that descendants do not do worse - but even slightly better - than professional managers. As already stressed out, apart from the causal effect of family management, many selection, endogeneity and simultaneity biases could yet be explaining this cross-sectional correlation.

Perhaps more interestingly, our paper also complements the existing family firms literature by looking at effects of family ownership/management on other dimensions of firm behavior. Our robust finding that family firms pay lower wages is, to our knowledge, new to this literature. It is reminiscent of existing evidence on the relationship between wage levels and the separation of ownership and control in corporations. A decade old literature recently surveyed by Bertrand and Mullainathan [1999], along with their own findings, indeed finds that managerial slack in organizations partly takes the form of higher wages among employees. The other novelty of our paper is the analysis on the difference in management styles between hired CEOs and descendants of the founders: the data are consistent with outside CEOs bringing financial expertise and reducing the waste of capital, while heirs being able to commit to long term employment and therefore obtaining lower wages from their employees. Such results can be related to Bertrand and Schoar [2003]'s analysis of American CEOs' management styles: They find strong differences between individuals in terms of investment policy, acquisition policy and financing policy. In particular, MBA graduates tend to

be more aggressive in terms of leverage and acquisition policy. Our own results suggest that family management/ownership might be yet another dimension to explain such heterogeneity in management styles³.

This paper is structured as follows. Section 2 presents the data construction and describes its content. Section 3 provides more systematic evidence on corporate performance. Section 4 looks at differences in corporate behavior between family and non family firms and between descendants and professional managers within family firms. Section 5 concludes.

2 Data Description

Our dataset is a panel of French listed firms over the 1994 - 2000 period. We restrict ourselves to non financial, non real estate firms. The construction of this dataset uses 5 different sources. First, annual corporate accounts are retrieved from the DAFSA yearbooks. These books cover the set of all listed firms in France. These books also provide us with the identity of the management team, and the stakes held by the main shareholders. Second, we hand collect information on family management and ownership for most of these firms using various sources (newspapers, firm websites, annual report...). Third, we use social security records to retrieve firm level information on wages, occupational structure, age and seniority structure and gender composition. Fourth, we collect information on the major corporate acquisitions realized by these firms in the 1994 - 2000 period. To do this, we used the French extract of SDC platinum, a worldwide database on corporate transactions. Fifth, we obtained stock prices for these listed firms from Euronext for the period 1991 - 2002.

2.1 Family Business on the French Stock Market

Our definition of a family firm is very close to the one used by Amit and Villalonga [2005]. We report a firm as a family firm when the founder or a member of the founder's family is a blockholder of the company. We also impose as an additional condition that this block represents more than 20% of the voting rights⁴. We refer to Appendix A.2 for more detailed explanations on the construction of our family firm variable.

Following Anderson and Reeb [2003], we then break down our sample of firms into four categories. All firms that are not family firms are called *widely-held firms*. The listed firms who are controlled by widely-held firms also belongs to

³In a similar vein, Bertrand et al. [2005] identify on Thai data a relationship between the nature and complexity of the family owning the firm and its performance.

⁴As it turns out, this additional condition is not very important as we had very few cases where family shareholders held less than 20% of the voting rights.

Table 1: Presence of Family Firms

	All firms	Widely held firms	Family Firms, managed by		
			Founder	Heir	Professional CEO
Fraction (non weighted)	1.00	0.29	0.31	0.24	0.16
Fraction (asset weighted)	1.00	0.65	0.08	0.11	0.16
Fraction (empl. weighted)	1.00	0.55	0.10	0.16	0.19
Observations	2,973	864	922	721	466

Source: Panel of French listed firms, over the 1994-2000 period. See appendix A for details and sources. Line 1 gives the unweighted fraction of the different family status in our sample. Line 2 gives the same fraction, but weights each observation by the book value of asset. Line 3 weights the observations by total employment, as reported in the accounting data.

this category⁵. When a family firm is still managed by its founder, we refer to it as a *founder-managed family firm*. As is detailed in appendix A, this category also entails firms owned and managed by a successful raider⁶. *Heir-managed family firms* are family firms where the current CEO is a descendant of the company's founder. Finally, when a family firm is run by an outside, professional CEO, we refer to it as a *professionally-managed family firm*.

To be able to compute accounting profitability measures properly, we restrict our study to non financial, non real estate companies. There are 2,973 observations in our panel (some 420 firms each year), for which we were able to retrieve the firm's family status.⁷ Table 1 reports the fractions of the various types of firms in our panel. These fractions are computed without weight (line 1), weighted with book value of assets (line 2) and weighted using total employment, as reported in the accounting data (line 3).

As is apparent from table 1, 70% of all firms present in the sample are family

⁵As the results in Holderness and Sheehan [1988] suggest, firms controlled by a widely held firm and widely held firms themselves are not different in terms of both Tobin's Q and accounting rate of returns.

⁶This is where our classification differs somewhat from Anderson and Reeb [2003]'s, who focus on founding families. Hence, a successful raider would not count as a founder, and his firm would count as a widely held firm according to their categorization. Casual evidence indicates that in France, these raiders tend to have dynastic concerns, which explains our choice.

⁷Out of a total of 3,522: this means that in 16% of the cases, we were unable to categorize the firm's ownership or management.

firms. This is a very large number, compared to what previous studies found for English-speaking countries. Looking at US listed firms from the S&P500, Anderson and Reeb [2003] find 35% of family-controlled companies, although they use a slightly different definition of family ownership. Looking at the largest 500 listed Canadian firms, Morck, Strangeland and Yeung [1998] find a share of 50% of family firms. Our sample is more consistent with the investigations of Faccio and Lang [2002], who look at the ultimate ownership of listed firms in continental European countries: using various data sources, they find in 1997, for France, 64% of family firms. Thus, family ownership appears much more pervasive in France than in English-speaking countries, even Canada. The surprising fact is, however, that the bulk of these family firms is still founder-controlled, since these account for 31% of the total. In contrast, only 18% of all firms investigated by Morck et al. [1998] in Canada are still managed by the initial entrepreneur. It seems that the French stock market may display more mobility than the sheer fraction of family firms might suggest. But the family status is also very persistent: heir-managed firms account for a large share of the total (24%) in the same proportion as widely-held firms. Last, less than a fourth of all family firms are managed by a professional CEO: hence, even after the founder retires, the norm seems to be that an heir takes over control. Of course, the real importance of family firms is overstated by these figures. Lines 2 and 3 of table 1 highlight the relative small size of family firms. In weighted terms, widely-held firms account for almost two thirds of all firms. Founder-controlled are especially small and only account for 10% of total employment.

2.2 Do Family Firms Differ From Other Firms ?

Table 2 allows to look for systematic differences in profitability between the four types of firms. Family firms grow, on average, much faster than non family firms, but this is mostly due to the contribution of founder-managed firms. For these firms, sales growth stands around 16%, instead of 9% for the average listed firm. A similar picture arises for the ratio of market to book value of assets.

In contrast, when we look at profitability, all types of family firms do better than widely-held firms. Founder-managed firms are the most profitable ones. That founders do better in terms of profits, growth and valuation is consistent with the extensive literature documenting “Founder effects” (see, for a survey, Adams, Almeida and Ferreira [2003]). In a cross section, founders tend to run firms with outstanding performance, the question being whether they are inherently good managers, or whether those founders who manage to keep control are only those who perform well. Using various instruments, Adams et al. [2003] suggest that selection issues are minor, and that almost all of the founder effect may be interpreted in a causal way. Using US data on listed firms, they find a founder effect on ROA of around 3 percentage points in OLS regressions and of around 2 points when using their instruments. Our cross tabulation suggests

Table 2: Characteristics of Family Firms

	All firms	Widely held firms	Family Firms, managed by		
			Founder	Descendant	Outside CEO
Total Assets (bn euros)	2.3	5.2	0.6	1.0	2.3
Total Sales (bn euros)	1.9	3.8	0.4	1.1	2.8
Employment	10,489	22,184	3,845	7,685	14,537
Age (years)	62	66	32	84	70
Former SOE (fraction)	0.09	0.25	0.01	0.01	0.07
ROA	0.07	0.06	0.10	0.08	0.07
ROE	0.19	0.15	0.27	0.20	0.21
Market to Book	1.4	1.3	1.6	1.3	1.4
Sales growth	0.09	0.07	0.16	0.07	0.10
Dividend / profit	0.22	0.26	0.19	0.21	0.21
Debt / Assets	0.38	0.39	0.38	0.38	0.38

Source: Panel of French listed firms, over the 1994-2000 period. See appendix A for details and sources. Column 1 provides summary statistics for all firms in the sample. Column 2 to 5 detail these statistics by family status. ROA is defined as the ratio of earnings before income and taxes to book value of total asset. ROE is defined as the ratio of earnings to book value of equity.

it might be even larger in the French context, although a multivariate analysis needs to be run to estimate such an effect.

Even when we set founders aside, family firms are still more profitable than widely-held corporations, although to a lesser extent. The result is particularly striking for return on equity (ROE), but is also present when we look at returns on assets (ROA). This not too surprising as far as professionally-managed family firms are concerned, as these companies have the advantage of having large, long term shareholders. Anderson and Reeb [2003], and Amit and Villalonga [2005] find similar results in the cross sections of their sample of large US listed firms. For France, the concern could be that large shareholders might be using their voting rights to pursue value destroying projects that grant them private benefits. Results from table 2 suggest that the benefits from monitoring outweigh these potential costs of expropriation. Finally, the main surprise from table 2 is that family firms run by descendants also outperform widely-held corporations in terms of profitability. The existing literature on large US firms provides mixed evidence: While Anderson and Reeb [2003] have similar results, Amit and Villalonga [2005] and Pérez-Gonzalez [2005] exhibit opposite ones. In Canada, Morck

et al. [1998] find that heir-managed Canadian firms underperform all other types of firms. Overall, the balance of evidence from North American studies tilts in the direction of underperforming heir management.

The obvious problem with the univariate approach, however, is that family status in cross tabulations may be a proxy for other variables, notably age and size. That family firms are smaller than non family firms is confirmed by an examination of table 2, which also provides a comparison of the various types of firms in terms of size, age and capital structure. On all accounts, widely-held firms are much larger than family firms, and slightly older too. This conceals, however, a great heterogeneity between family firms. For example, family firms run by an outside CEO are those who resemble the most widely-held firms, both in terms of age and size. Firms run by descendants are on average smaller, but older than the average corporation in our sample. As expected, firms still run by their founders are young and very small.

3 Multivariate Evidence

Given that family firms tend to have a different age and size than widely-held firms, it is necessary to conduct a multivariate analysis. Our empirical strategy follows the approach taken by Anderson and Reeb [2003] in their cross-sectional analysis of US family firms.

3.1 Empirical Strategy

We estimate the following equation, for firm i at date t :

$$y_{it} = \alpha + \beta_1.F_{1i} + \beta_2.F_{2i} + \beta_3.F_{3i} + \gamma X_{it} + \varepsilon_{it} \quad (1)$$

where y_{it} is a measure of corporate performance (based on accounts, market value or dividend pay-out). $F_i = (F_{i1}, F_{i2}, F_{i3})$ is our family status variable, broken down into three dummy variables representing “founder-controlled” (F_1), “heir-controlled” (F_2) and “professionally managed” (F_3), the “widely-held” firm being our reference. F_i varies little with time, so we cannot identify firm fixed effects with this equation. As argued above, this is a major concern if we want to interpret our results in a causal way; we will therefore try to avoid it, and will postpone the discussion on endogeneity and selection. Given the absence of firm fixed effects, the best we could do was to allow for flexible correlation across residuals ε_{it} of a given firm, using White’s [1980] method.

The X_{it} ’s are various possibly time varying controls. They include year dummies, 13 industry dummies, the firm’s log assets, the firm’s log age. As further control, we also add a dummy equal to 1 when the firm has been, at some point, state-owned. As it turns out, 25% of now widely-held firms used to be government enterprises (that were nationalized in 1936, in 1945 or in 1981). Privatizations

started when the Right came back to power in 1986-1988, and after 1993, under both left-wing and right-wing governments. Many of these privatizations took place through IPOs on the stock market, in order to ensure political support from the population and to increase the size and depth of the French stock market. As it may be the case that widely-held firms underperform because they face difficulties to adjust to privatization, we need to control for this in our regressions.

We also added other controls, which can be both causes and effect of corporate performance. We will thus not comment on them since they are highly endogenous; Yet, we include them to replicate the regressions run by Anderson and Reeb [2003] on their US sample, and also because they could be argued to be correlated with both family status and corporate performance. To control for the effect of ownership concentration - which is likely to be correlated with the presence of a family among shareholders - we added the percentage of cash flow rights held by the largest shareholder (and its square, in non reported regressions). Using our data on stock prices, we also included the variance of past stock returns as a proxy for firm specific risk⁸. We also included firm leverage, measured by the ratio of debt to total assets. A theoretical reason for this additional control is for instance Jensen [1988]’s theory of free cash flows, which generates a positive correlation between leverage and performance, as debt is used as a disciplining device. On the contrary, high debt could also be the result of bad performance. As it turned out, leverage came out significantly negative in most performance regressions, which lends more credence to the second mechanism.

3.2 Family Firms Outperform Widely-Held Firms

We focus on four different measures of corporate performance: three measures of accounting profitability (return on assets, return on book equity and pay-out ratio) and one measure of market valuation (market value to book value⁹). The payout ratio is computed if and only if corporate pre-tax profits are positive. Table 3 reports two sets of regressions. In columns 2, 4, 6 and 8, we report the regressions of corporate performance on the explanatory variables as in equation 1. In columns 1,3,5 and 7, we group all family firms dummies together into one single “family ownership” dummy. This amounts to assuming that all management arrangements in family firms have an equal effect on performance, i.e. $\beta_1 = \beta_2 = \beta_3$.

We first turn to accounting measures of performance. A quick examination of table 3 shows that family firms outperform non family firms in our sample of

⁸For instance, families could simply be more profitable because they undertake riskier projects.

⁹Market to book was measured as the sum of market capitalization and (book value asset minus book value of equity) divided through book assets. Market to book is therefore a measure of the value of assets, though the lower quality of our consolidated accounts does not allow us to obtain as clean a measure as in US studies using COMPUSTAT.

Table 3: Performance of Family Firms

	Return on assets ($\times 100$)		Return on equity ($\times 100$)		Market to book		Dividend to profit ($\times 100$)	
Family firm	2.0*** (0.5)	-	9.6*** (1.7)	-	0.08* (0.05)	-	-5.5*** (1.8)	-
Founder CEO	-	2.1*** (0.6)	-	10.3*** (2.2)	-	0.15*** (0.06)	-	-7.6*** (2.3)
Heir CEO	-	2.2*** (0.6)	-	9.4*** (1.9)	-	0.04 (0.06)	-	-4.8** (2.1)
Professional CEO	-	1.7*** (0.6)	-	9.0*** (1.9)	-	0.06 (0.06)	-	-4.8** (2.0)
Log (Assets)	0.1 (0.1)	0.1 (0.1)	1.6*** (0.5)	1.7*** (0.5)	0.03** (0.01)	0.03*** (0.01)	-0.9** (0.4)	-1.0** (0.4)
Log(Firm Age)	-1.1*** (0.2)	-1.1*** (0.3)	-4.0*** (0.8)	-3.8*** (0.9)	-0.13*** (0.03)	-0.11*** (0.03)	1.9** (0.9)	1.4 (0.9)
Former SOE	-0.7 (0.7)	-0.7 (0.7)	1.0 (2.4)	1.0 (2.4)	-0.19** (0.09)	-0.18** (0.09)	1.7 (2.0)	1.5 (1.9)
Fraction equity of largest block	0.7 (0.8)	0.7 (0.8)	3.4 (2.8)	3.4 (2.8)	-0.04 (0.08)	-0.04 (0.09)	1.9 (3.1)	2.0 (3.1)
Debt / Assets	-10.5*** (1.0)	-10.6*** (1.0)	-15.6*** (4.4)	-15.8*** (4.4)	-0.55*** (0.09)	-0.56*** (0.09)	2.0 (3.5)	2.3 (3.5)
Stock return volatility	-7.7*** (1.6)	-7.7*** (1.6)	-16.5*** (5.7)	-16.4*** (5.7)	-0.75*** (0.12)	-0.73*** (0.13)	1.6 (6.8)	1.2 (6.8)
Industry FE	yes	yes	yes	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes	yes	yes	yes
Heir=Professional		.41		.79		.84		.98
Observations	2,328	2,328	2,329	2,329	2,248	2,248	1,138	1,138
Adj. R ²	.26	.26	.13	.13	.24	.23	.09	.10

Source: Panel of French listed firms, over the 1994-2000 period. See appendix A for details on data construction and sources. Note: Huber-White-Sandwich estimates, allowing for correlation of all observations of a given firm. Dependent variables are ROA (ratio of EBIT to book value of asset - column 1 and 2), ROE (ratio of earnings to book value of equity - column 3 and 4), Market to book ratio (column 5 and 6) and pay-out ratio (dividend divided by pre-tax profits - column 7 and 8). Family firms is a dummy indicating family ownership (column 1, 3, 5, 7). Founder CEO is a dummy indicating that the CEO is the founder of the firm; Heir CEO is a dummy indicating that the CEO is a descendant of the founder; Professional CEO is a dummy indicating that the CEO has been hired by the controlling family. Other explanatory variable are Log(Assets) (logarithm of the book value of total asset), Log(Firm Age) (logarithm of firm age measured in years plus one), Formerly SOE¹ (dummy equal to 1 if the firm is a former state owned enterprise), Fraction equity of largest block (cash-flow right of the largest identified shareholder), Debt/Asset (leverage ratio), Stock return volatility (standard deviation of the firm's stock price). These regressions control for 13 industry fixed effect (Industry FE) and year fixed effect (Year FE). Line "Heir=Professional" provides the p-value of an equality test between the coefficient "Heir CEO" and "Professional CEO".

listed firms (columns 1 and 3). The difference in ROA is 2 percentage points and the difference in ROE is as high as 9 percentage points. This difference is both statistically significant and economically large, since the sample standard deviation is 7 points for ROA and 23 points for ROE. Looking at columns 2 and 4, we see that the over-performance of family firms is present for all types of management, with a very slight and insignificant advantage to founders. Founders and outside CEOs working in family firms both outperform widely-held companies by 2 points of ROA and 9-10 points of ROE. More surprisingly, heir-managed firms are also more profitable than widely-held companies by the same amount. So all sub-categories of family firms outperform to a similar extent a benchmark of widely-held firms: As it turns out, a test of equality is far from being rejected (F-probability = 0.81). These estimates are robust to various specification checks (removing various subsets of the control variables) and to a year by year regression (see table 11 in appendix).

Our results are strikingly consistent with what Anderson and Reeb [2003] found for the US. Looking at ROA, they find that founder-controlled firms outperform widely-held firms by 3.5 percentage points - compared to 2 in our sample. Secondly, in their study, heir-controlled firms outperform widely-held corporations by 2 percentage points, exactly like in ours. Last, and still in line with our results, professionally-run firms only outperform the control group by 1 point of ROA, which is not statistically significant in their analysis. In contrast to Anderson and Reeb, we thus find that professional managers really are like the rest of the family group. Last reference to the cross-sectional analysis in the literature, our results are completely at odds with Morck et al. [1998]'s evidence from Canadian firms although they adopt a similar sample construction. Indeed, Morck et al [1998] find that heirs are the worse performers of all firms, family or widely-held. Moreover, in their sample, founders are out-performed by widely-held corporations. This very last result in their study is surprising in light of the extensive "founder effect" literature.

We then ask how, in the French context, the stock market prices the out-performance of family firms. As it turns out, not much (see columns 5-6). The difference in market to book ratios between family and non family firms is not statistically significant, and economically small (0.08 for a sample standard deviation of 0.7). This result does, however, conceal some heterogeneity between family firms. Founder-managed firm have higher Market to Book ratio than widely-held and other family firms: their MB ratio is 0.15 above widely-held companies, and significantly so. Family firms managed by a descendant of the founder or outside CEO do as well as the benchmark, neither better nor worse. This result stands in sharp contrast with our robust findings from accounting measures of performance.

A potential reason for this insignificant difference may be that family firms tend to pay less dividends. One reason why this should be the case is that families seek to keep more internal funds to fund their pet projects (the expropriation

hypothesis).¹⁰ We thus run in columns 7-8 similar regressions using the ratio of dividend to earnings as a dependent variable (defined only when corporate pre-tax profits are positive). The pay-out ratio is indeed significantly lower by almost 6 points for all family firms taken together. This is economically sizeable given that the sample average pay-out ratio is 20 points. When we look at all three subcategories of family firms separately, we see that they all tend to pay a significantly lower proportion of their profits as dividends. The extent to which they do so is similar (a formal F test cannot reject equality), but it seems that founders tend to pay out less than other types of family firms. This may be due to growth opportunities, but when we included sales growth as a control, this difference remained unchanged¹¹.

Another possible reason is the difference in how returns covary with the market return, i.e. that family firms have higher betas. It is often argued that family firms have a “long term” management policy. Such a view would state that, compared to non family firms, family companies invest less in booms, more in recessions and, for instance, commit to job preservation, such that they hoard labor in bad times, and hire less in good times. Therefore, the amount of money distributed to shareholders of family firms would be lower in downturns, and larger in upturns, implying a larger beta for family firms. Because they pay more when other assets have large returns, they are less valuable, which depresses the market to book ratio of family firms. Using our monthly stock returns data, we estimated, on the 1991 - 2002 period, betas for firms which do not change family status over the 1994-2000 period. We then regressed these estimated betas on family status, controlling for size, age, industry and book leverage (results available from the authors). Apart from founders, who tend to have higher betas, other family firms do not show systematic differences with widely-held corporations. Differences in betas are, apparently, not the explanation to the low valuation of family firms.

A last, more daring, explanation for this discrepancy between profitability and stock market valuation could be that the market has been mistakenly punishing family firms over the period. This would be consistent with the stock market returns evidence by Van Der Heyden [2004] on the largest listed firms: he finds excess returns for a buy-and-hold portfolio of family stocks as large as 10% over the 1994-2000 period. So either the market has misunderstood the potential held by family firms at the time, or it overestimated future returns of non family firms, many of them recently privatized by the government. Given that Van der Heyden does not use the same breakdown as we use, nor the same sample, this remains, however, a conjecture. In future work we plan to assess the abnormal stock returns of family firms, breaking down between founders, heirs and professional

¹⁰Since 1967, the French tax system is *a priori* neutral with respect to dividend taxation. A complex system of tax credit makes the tax rate on corporate profits equal to income tax for shareholders. Also, capital gains are taxed like income. So there is no obvious fiscal reason for which family firms would want not to pay dividends to themselves.

¹¹Regressions not reported here but available from the authors.

managers (while Van Der Heyden et al [2004] have only one “family” category). Such an analysis would, however, be beyond the main point of this paper, as stock returns mostly reflect changes in market perception of a company’s real performance, rather than its absolute level.

3.3 Discussion on Endogeneity Biases

The cross sectional evidence presented above, though robust and compelling, cannot be interpreted as evidence of a causal effect of family ownership/management on performance. A first, obvious, reason is that family status depends itself on performance. The performance of professionally-managed firms - be they widely-held or family-controlled - could be underestimated in a cross section if it were easier to transfer corporate control to a descendant when the firm performs well. This would create a simultaneity bias. To address this concern, we looked at firms who were transmitted to descendants, two years *before* the transmission. Due to the limited time frame of our panel, we only found 30 such events. As it turned out, these firms do *not* outperform their industry prior to transmission (see table 4). Thus, descendant managers do not seem to inherit the best firms in our sample. Then, we focused on family firms that were transmitted to professional managers (21 events). They tend to slightly, but not significantly, underperform their industry benchmark prior to transmission (see table 4). Thus, it does not appear obvious that only the best firms remain managed by the family, although the number of transitions we base our analysis on is too small to obtain a sufficient statistical power.

A more straightforward way to control for firm unobserved heterogeneity and its possible correlation with family status would be to compare the change in performance when the firm is transmitted to an heir and when it is transmitted to a professional manager, and to compare the difference in performance changes. This is the approach taken by Pérez-Gonzalez [2005] in his study on US firms. In our sample, it turns out that both heirs and professional CEOs tend to reduce the firm’s ROA to the same extent (around $-.01$, as is obvious from table 4). Consequently, the difference in difference estimator of the effect of heir management upon firm performance is nearly zero, and statistically insignificant. Once again, the number of transitions is likely to be too small to make realistic statistical statements.

A second source of upward bias is endogenous sample selection. Assume for example that heir-controlled firms who do badly have a higher tendency to go bankrupt, or to be sold out to a large group or private equity investors. In this case, the only heir-managed firms who would survive would be those who do relatively well, which would lead us to overestimate their performance. To check if this is the case, we look at the profitability of all types of firms prior to de-listing. From 1994 to 1999, we observe 142 de-listings in our data: 25 founder-controlled, 26 heir-controlled and 22 professionally-managed family firms de-listed over the

Table 4: Management Transitions

Industry adjusted ROA	Before transition	After transition	Change in adj. ROA
Firms transmitted to Heir CEO			
Mean	-0.00	-0.01	-0.01
Student's t	(.01)	(.01)	(0.61)
Number of observations	30	30	30
Firms transmitted to Professional CEO			
Mean	-0.03	-0.04	-0.01
Student's t	(.02)	(.02)	(0.44)
Number of observations	21	21	21

Source: Panel of French listed firms, over the 1994-2000 period. See appendix A for details on data construction and sources. Note: This table displays the evolution of industry-adjusted performance for family firms whose control is transmitted to heir or professional CEO. "Before transition" represents two years before the transition, "After transition" stands for two years after the transition.

period. Prior to de-listing, exiting firms have in general a level of profitability very similar to that of remaining firms. The only sizeable difference comes from heirs: staying heirs *underperform* those who go private by 3 percentage of industry adjusted ROA. This is economically significant and almost statistically so. This suggests that endogenous attrition, if anything, leads to *underestimating*, rather than overestimating, the performance of heir-managed firms.¹²

4 Explaining Family Firms Performance

This sections seeks to explain the cross-sectional differences in profitability shown in table 3. To shed light on the determinants of profitability, we first use the following decomposition of ROA:

$$ROA = \frac{L}{A} \cdot \left(\frac{Y}{L} - w \right) \quad (2)$$

where L/A measures capital intensity through the ratio of employment to assets. Y/L stands for labor productivity and w for the average wage paid to employees.

¹²A similar bias could be that the exchange authorities require a better performance - or a more transparent governance - from family firms when they want to go public. Hence, entry in our sample would induce an upward selection bias: only the best family firms are listed. We looked at the first-year-of-listing profitability of heir managed firms, compared to an industry benchmark. It was not any different from the first performance of other categories.

This equation suggests that differences in profitability across firms can be broken down into three contributions:

$$\Delta ROA = \underbrace{\left(-ROA \cdot \Delta \log \frac{A}{L}\right)}_{\text{capital intensity}} + \underbrace{\left(\frac{Y}{A} \cdot \Delta \log \frac{Y}{L}\right)}_{\text{labor productivity}} + \underbrace{\left(-\frac{wL}{A} \cdot \Delta \log w\right)}_{\text{wage level}} \quad (3)$$

Unsurprisingly, firms are more profitable when other things equal, (1) their production process uses less capital, (2) labor productivity is higher and (3) wages are lower. Of course, all these variables are jointly determined: capital intensity depends on the relative price of labor and capital, labor productivity depends on organization, on the amount of capital per workers, and on the skill composition of the workforce. Finally, w is the outcome of a bargaining process involving both capitalists and workers, both of them considering their outside options on the capital and labor markets respectively, but also corporate performance as a whole. Therefore, we are not attempting here to perform a structural estimation of the behaviour of family firms, but simply taking a first step at understanding the causes of family firms' greater profitability.

4.1 Family Firms Pay Lower Wages

In the spirit of equations 2-3, we regress, on our family variables, (1) the log of value added over employment, (2) the average wage paid and (3) the log ratio of assets to employment. Table 5 reports the regression results using the aggregated family variable (columns 1,3 and 5) and the disaggregated ones (columns 2,4 and 6). Controls are firm size, age and whether the firm has been SOE, as well as industry and year fixed effects. Unsure of how they should affect the dependent variables considered, we did not add the other controls present in table 3. Yet, unreported regressions including these controls did not affect our results at all.

The main feature of table 3 is that heir and professionally-managed family firms pay wages that are lower by 10% than those paid by widely-held firms. This is economically very large. A look at decomposition 3 suggests that, for an average value of wL/A of 0.20 (sample average), the 10% wage discount can "explain" a ROA larger by 2 percentage points for family firms run by descendants or outside CEOs. This is exactly the difference in profitability estimated in table 3. Such evidence is therefore consistent with family firms being more profitable simply because they pay lower wages.

A potential explanation for these lower wages could be that family firms simply hire less skilled employees, but pay the market wage. Part of this effect is likely to be captured by industry effects, but there may be intra-industry variations in the skill structure of firms. To check this, we matched our dataset of listed firms with employer tax files which report, in theory, limited information on each employee, of each company (for a thorough description of these files, see Abowd, Kramarz and Margolis [1999]). In fact, the matching is far from perfect

Table 5: Breaking Down the Difference in ROA

	Log (Value added / empl.) ($\times 100$)		Log (assets / empl.) ($\times 100$)		log (wage bill / empl.) ($\times 100$)	
Family firm	-0.6 (0.6)	-	-10.9 (10.6)	-	-7.2** (3.4)	-
Founder CEO	-	1.9 (7.2)	-	-2.7 (13.6)	-	-0.07 (4.1)
Heir CEO	-	-3.6 (7.0)	-	-5.7 (11.9)	-	-10.4*** (4.1)
Professional CEO	-	-19.1*** (7.4)	-	-27.2*** (10.9)	-	-10.9*** (4.1)
Log(Assets)	1.6 (1.8)	2.2* (1.3)	21.0*** (2.4)	21.8*** (2.5)	0.3 (0.8)	0.6 (0.8)
Log(Firm Age)	-3.6 (2.8)	-1.9 (2.9)	-7.7 (5.2)	-6.3 (5.4)	-0.9 (1.6)	0.8 (1.8)
Formerly SOE	11.7 (10.0)	13.0 (10.1)	11.4 (16.1)	13.0 (16.0)	10.0** (4.6)	10.4** (4.8)
Industry FE	yes	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes	yes
“Heir=Professional”		.01***		.02**		.90
Observations	2,332	2,332	2,483	2,483	2,419	2,419
Adj R^2	.15	.16	.31	.32	.24	.25

Source: Panel of French listed firms, over the 1994-2000 period. See appendix A for details and sources. Note: Huber-White-Sandwich estimates allowing for correlation of all observations of a given firm. Dependent variables are the log of value added over employment (column 1), the log ratio of assets to employment (column 2) and the average wage paid (column 3). Control used in these regressions are Family Firm, Founder CEO, Heir CEO, Professional CEO, Log(Assets), Log(Firm Age) and Formely SOE, and are defined in table 3. These regressions control for 13 industry fixed effect as well as year fixed effect. Line “Heir=Professional” provides the p-value of an equality test between the coefficient “Heir CEO” and “Professional CEO”. *, ** and *** mean statistically different from zero at 10, 5 and 1 % level of significance.

for three reasons. First, given that the French workforce has some 25 million employees, and our limitations of computing power, we use an extract of the whole database (4%). Secondly, many employees are likely to work for a subsidiary of the listed firm present in our data. We thus need to track ownership relation between various subsidiaries of a same group in order to “consolidate” employment and wages. We do this with a survey (LIFI, INSEE), which is, by design, far from being exhaustive below a given threshold, in particular for new firms. Third, the data was available only until 1998 included.

Thus, when the information is available, the employer tax files provides us, for each firm, with the average annual wage and measures of the skill structure that would normally take place in individual wage regressions. We use: The share of male employees, their mean seniority and age, and finally the fractions of managers, supervisors, skilled employees and unskilled workers. We then regress this new measure of mean wage at the firm level on our family variable, the firm level controls of table 5 and these additional controls of skill structure.

Table 6 reports the estimates of such regressions. In column 1, using wage bill and employment figures from accounting data, we replicate the regression of table 5, column 6, restricting ourselves to observations where the employer tax files information is available. In doing this, we check that the wage results discussed above still hold for the firms reported in the tax files. This is the case: While we do lose slightly in statistical significance, the estimates of the wage discount remain at around 10%. In column 2, we run the same regression, using the average wage from the tax files instead of accounting data. We obtain similar estimates for descendant and professionally-managed firms (10%), but a lower estimate for founder managed firms. The reason for such a discrepancy comes from a different size-wage relation in founder firms : in unreported regressions¹³, we see that wages in large founder firms are significantly lower than in small founder firms, whereas such a relation does not hold for other type of firms. Considering the fact that the DADS Files over-represent the importance of large firms ¹⁴, this explains why the founder coefficient in column 2 differs from the one in column 1.

In columns 3 and 4, we include the skill structure controls progressively. As is apparent from these two columns, the wage discount of professionally-managed firms progressively vanishes, which suggests that family firms run by outside CEOs pay lower wages mostly because they have younger and less skilled workers. The discount remains, however, significantly different from zero for heir-managed firms. It thus seems that descendants manage to pay wages lower by 4-5%, even after controlling for the firm skill structure. In column 5, we run the same regressions as in column 4, except that we now weigh observations by the number of workers retrieved in the tax files. The reason why we do this is that the

¹³This regressions are available from the author upon request.

¹⁴This over-representation of large firms in the DADS sample comes from the LIFI files (see Appendix A3), which mostly tracks ownership for large firms.

Table 6: Wages in Family Firms: Accounting for Skill Structure

	log(wage bill / empl.) ($\times 100$)				
	Acc. Data (1)	(2)	Employer Tax files (3)	(4)	(5)
Founder CEO	-0.3 (4.8)	-10.6*** (4.2)	-6.4*** (2.3)	-2.8 (2.2)	-7.8*** (2.4)
Heir CEO	-10.0** (4.5)	-14.0*** (3.7)	-5.2*** (2.0)	-4.3** (1.9)	-3.8** (1.6)
Professional CEO	-9.4** (4.7)	-10.3*** (4.0)	-4.1* (2.3)	-2.5 (2.2)	-1.9 (1.6)
Fraction of managers	-	-	110.8*** (7.6)	107.7*** (6.1)	111.7*** (5.4)
Fraction of supervisors	-	-	35.3*** (5.8)	36.2*** (5.6)	47.6*** (7.1)
Fraction of skilled empl.	-	-	-7.9 (4.9)	4.0 (5.0)	14.9*** (5.7)
Mean age	-	-	-	1.2*** (0.2)	0.2 (0.2)
Mean seniority	-	-	-	0.5** (0.2)	1.9*** (0.3)
Fraction of male employees	-	-	-	8.4** (4.2)	2.0 (5.7)
Log(Assets)	1.72* (1.00)	1.88*** (.77)	2.12*** (.43)	1.52*** (.42)	-.14 (.35)
Log(Firm Age)	-1.35 (1.80)	.16 (1.32)	2.78*** (.94)	.93 (.94)	-.04 (.84)
Former SOE	13.7*** (5.64)	5.45 (4.04)	4.64** (2.37)	2.39 (2.09)	4.24*** (1.53)
Industry FE	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes
Observations	1,351	1,427	1,427	1,427	1,427
Adj R^2	.29	.25	.64	.68	.85

Source: Panel of French listed firms, over the 1994-2000 period. See appendix A for details on data construction and sources. Note: Huber-White-Sandwich estimates allowing for correlation of all observations of a given firm. Column 1 performs the same regression as column 6 of table 5, using the sub-sample for which the employer tax files are available: it regresses the log of average wage as measured with DAFSA Yearbook on family status and various controls (i.e. Log(Asset), Log(Firm Age) and Formely SOE defined in table 3). Columns 2 performs the same regression using the measure of wage given by the employer tax files. Column 3 adds variables controlling for the skill structure of the workforce (fraction of managers, fraction of supervisors, fraction of skilled employees). Column 4 controls additionally for mean age, mean seniority and the fraction of male employees. Finally, Column 5 weights observations by the number of workers retrieved in the tax files. All the regressions control for 13 industry fixed effect as well as year fixed effect. *, ** and *** mean statistically different from zero at 10, 5 and 1 % level of significance.

average wage is more precisely estimated when more workers were tracked using the tax files. As it turns out, the significant wage discount in heir managed firms sustains. As one can also notice, the coefficient on founder managed firms becomes significantly lower than it was in column 4. This is not surprising as, as we mentioned earlier, large founder-managed firms pay significantly lower wages than small founder-managed firms.

That outside CEOs in family firms hire lower skilled workers may explain why, in these firms, labor productivity is 20% lower than in widely-held corporations and other family firms (as is apparent from table 5, column 2). Another possibility is that professional CEOs substitute unskilled labor to capital, to make invested capital more profitable. It is indeed obvious from table 5 (column 4), that outside CEOs have a capital to labor ratio that is nearly 30% lower than that of other firms. Such evidence is consistent with professional CEOs in family firms making a more parsimonious use of capital than descendants or widely-held companies.

This preliminary analysis suggests that family firms may be achieving higher profits by two different means: (1) descendants manage to pay lower wages for similar skill and productivity and (2) outside CEOs make a more parsimonious use of capital. We provide further evidence consistent with these two hypotheses in the following sections.

4.2 Descendants Can Commit on Long Term Employment

How do descendant CEOs succeed in paying lower wages, without recruiting low skill workers, and still obtain a high level of labor productivity ? We explore here a lead inspired from Shleifer and Summers [1988]: Dynastic management endows the family with enough credibility to enforce implicit contracts. Under implicit labor contracts, the firm promises that most workers will keep their jobs even if total sales decrease. The firm thus provides employment insurance to its employees. In exchange for this, workers accept a lower wage, or to work harder for the same wage. Since the employee is risk averse - his labor supply is not diversified - and the firm is risk neutral - in the absence of credit constraints, the arrangement is *ex ante* value creating. The problem with this theory is that usually, firms are not credible when making such promises. Their incentive to renegotiate *ex post* is too strong, in particular when the firm can easily be taken over by a management which is bound by such a commitment (Shleifer and Summers [1988]). Families might have an advantage in enforcing this type of contract. First, they have a longer horizon than salaried managers: Dynastic management can therefore create value that would be destroyed - both *ex ante* and *ex post* - by delegated management. Second, provided the family is involved in management, a culture irrationally tying top management to employees might prevent job losses in bad time, even if they were dynamically optimal. While this destroys *ex post* profit, it creates value *ex ante* (Kreps [1990]). Third, since families own the firm, they may be able to commit without fear of being taken over *ex post*. Professional

managers who are not owners completely lack this ability to commit.

We test this by looking at the sensitivity of firm employment to industry sales shocks. A possible concern with this approach is that our sample period is short (1994 - 2000). It contains only one cycle, with 1994-1996 being downturn years, and 1997-2000 being expansion years. Therefore, industry level sales shocks, because they are partly determined by aggregate shocks, will capture the upward trend of the economy over the period. If family and non family firms turn out to follow different trends of growth over this short period, we might attribute this movement to different responses in sales shocks.

To avoid this, we control for aggregate shocks, and allow firms to vary in their responses to economy wide shocks. More precisely, we estimate the following model:

$$\log Y_{it} = \alpha_i + \beta(X_{it}) \cdot \log sales_{st} + \gamma(X_{it}) \cdot \delta_t + \varepsilon_{it} \quad (4)$$

where Y_{it} stands for firm i 's total employment or sales at date t . α_i is a fixed effect. $\log sales_{st}$ is the log of total sales of the industry the firm i is in. δ_t is a year dummy indicating economy wide sales shocks.¹⁵ $\beta(X_{it})$ and $\gamma(X_{it})$ are elasticities to industry and economy wide shocks, which are supposed to depend on firms observables. We posit:

$$\begin{aligned} \beta(X_{it}) &= a + b.F_i + c.\log age_{it} + d.SOE_i \\ \gamma(X_{it}) &= a' + b'.F_i + c'.\log age_{it} + d'.SOE_i \end{aligned}$$

where F_i is the set of our family dummies, age_{it} is the firm's age and SOE equals 1 when the firm has been state-owned.

As recalled above, because $\log sales_{st}$ partly depends on the overall state of the economy, it may well be that $\log sales_{st}$ and δ_t are correlated. If we omit $\gamma(X_{it}) \cdot \delta_t$ in equation (4), we may capture a part of $\gamma(X_{it})$ in the estimate of the sensitivity of employment to shocks (the β s). If for some other reason, family firms have grown faster over the late 1990s, and therefore have a larger γ , then the estimate of β for family firms will be upward biased. This is why we control for aggregate shocks.

Estimation results are shown in table 7. Columns 1-2 study the response of firms' sales to industry shocks, while columns 3-4 look at employment. For industry s at date t , $\log sales_{st}$ uses average sales for all companies in the industry, except firm i . We take average sales, instead of total sales, in order to account

¹⁵We choose not to run directly a difference on difference equation because the fixed effect specification allows us to be much more agnostic on the timing of response of employment growth to sales growth. Assume for example that our model is slightly mis-specified in the following way: employment does not react to contemporary sales, but to sales lagged by one year. In this case, the fixed effect estimate is going to capture most of the effect by comparing the firm's average employment before and after the sales shock. In contrast to this, the difference estimate is not going to see any correlation given that in the very year sales change, employment remains fixed. Hence, while we prefer the fixed effect estimate of equation (4), it must be clear that what we have in mind is the response of employment *changes* to industry shocks.

Table 7: Do Family Firms Smooth Employment Shocks ?

Dependant variable	Log(sales _{it})		Log(employment _{it})	
	(1)	(2)	(3)	(4)
Log(sales _{st})	0.20 (0.15)	0.17 (0.16)	0.36* (0.20)	0.34* (0.21)
Log(sales _{st}) × Founder CEO	-0.05 (0.08)	-0.08 (0.08)	-0.12 (0.13)	-0.20 (0.13)
Log(sales _{st}) × Heir CEO	-0.17** (0.07)	-0.21*** (0.07)	-0.22** (0.11)	-0.27** (0.11)
Log(sales _{st}) × Professional CEO	0.04 (0.11)	0.04 (0.12)	0.07 (0.14)	0.01 (0.13)
Log(sales _{st}) × Former SOE	-0.18** (0.09)	-0.21** (0.09)	-0.22** (0.11)	-0.16 (0.11)
Log(sales _{st}) × Log(Age).	0.00 (0.03)	0.01 (0.04)	-0.05 (0.03)	-0.03 (0.04)
Firm FE	yes	yes	yes	yes
Year FE	yes	yes	yes	yes
Year FE × Founder	no	yes	no	yes
Year FE × Heir	no	yes	no	yes
Year FE × Professional	no	yes	no	yes
Year FE × SOE	no	yes	no	yes
Year FE × log(age)	no	yes	no	yes
Test Heir=Professional	.04**	.04**	.01***	.01***
Observations	1,977	1,977	1,898	1,898
Adj. R ²	.97	.98	.97	.97

Source: Panel of French listed firms, over the 1994-2000 period. See appendix for details on data construction and sources. Note: Huber-White-Sandwich estimates allowing for correlation of all observations of a given firm. Dependent variables are log of sales (column 1 and 2) and log of employment (column 3 to 4). Log(sale_{s,t}) is the log of average sales in industry s at date t. Column 1 and 3 estimate equation (4) assuming that $c' = d' = 0$. Column 2 and 4 relaxes all the constraint. All regressions control for firm fixed-effect as well as industry fixed-effect. Line “Heir=Professional” provide the p-value of a test of equality between the coefficient “Heir CEO” and “Professional CEO”. *, ** and *** mean statistically different from zero at 10, 5 and 1 % level of significance.

for attrition: if an average firm in the industry de-lists, our measure of industry sales will not be affected. Finally, we restrict ourselves to industries where at least 20 firms are present, to have a precise estimate of average sales. Columns 1 and 3 assume that $c' = d' = 0$, and columns 2 and 4 relax this constraints.

A look at columns 2-4 shows that indeed, employment reacts less to industry shocks in heir managed firms. The result is not present unless we control for firm's characteristics and especially the "Former SOE" dummy. This is not very surprising as there are reasons to believe that former SOEs also exhibit this pattern of labor hoarding and less volatile activity. Since most widely held firms are former SOEs, not including a control for Former SOE creates a composition effect that brings the reference group (widely held firms) artificially close to the group of interest (heir managed firms).

Heirs may be able to smooth out employment over the industry cycle, either (1) by choosing less risky projects or (2) by modifying their own mark-up across the cycle. Columns 1-2 suggest that the first explanation might be true, as firm's sales are much less sensitive - not at all, it turns out - to industry shocks in heir managed firms. In fact, if we use firm's profitability as a dependent variable (Y_{it}), we find - in non reported regressions - that firm's profitability is not more sensitive to industry shocks in family firms managed by a descendant.

Thus, evidence from table 7 is consistent with descendants "smoothing out" industry shocks. One possible reason why they could commit to long term labor contracts is that they, as managers, have a much longer horizon than professional CEOs. To see this, we look at CEO turnover, and ask if it is lower in heir-managed family firms. We measure CEO turnover as a dummy equal to 1 if the current CEO does not run the company in the coming year. We then regress it on our family status variables and on usual determinants of CEO turnover such as corporate performance (measured as ROA or annual stock return), ownership concentration, firm size, age, year and industry dummies (for a typical study of CEO turnover see for example Weisbach [1988]). We also add, as their governance is likely to be different, a dummy for former SOEs.

Linear regression results are reported in table 8. Column 1 simply compares CEO turnover in family and non family firms, accounting for year and industry fixed effects. As it turns out, CEO turnover is much lower when the family is still in the management. In founder and heir-managed firms firms, the probability of changing CEO is lower by some 9 percentage points than in widely-held firms. This is a huge difference, given that the mean probability of CEO turnover is equal to .10 in our sample. When an outsider runs the family business, his chances to leave the job are lower by only 3 percentage points than if he ran a widely-held company. The difference is not significant; It is, however, significant when we compare heirs and professional managers in family firms. In this simplified regression, we can reject with 95% confidence that heirs and outside CEOs in family firms face the same probability of turnover. The difference, some 5 percentage points, corresponds to some 4 years of additional tenure. Finally,

Table 8: CEO Turnover in Family Firms

Dependent variable	Losing CEO position next year		
	(1)	(2)	(3)
Founder CEO	-9.8*** (1.9)	-8.7*** (2.0)	-9.3*** (2.5)
Heir CEO	-7.7*** (2.1)	-7.2*** (2.2)	-9.4*** (2.5)
Professional CEO	-3.0 (2.6)	-4.4* (2.4)	-6.4** (2.7)
ROA	-	-0.5*** (0.1)	-0.4*** (0.1)
Log(Assets)	-	-	0.5 (0.5)
Log(Firm Age).	-	-	1.7 (1.1)
Former SOE	-	-	-4.1 (2.9)
Fraction equity of largest block	-	-	5.8 (4.0)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Test Heir = Professional (p value)	0.05**	0.22	0.22
Observations	2,208	1,930	1,795

Source: Panel of French listed firms over the 1994-2000 period. See appendix A for details on data construction and sources. Note: Huber-White-Sandwich estimates, allowing for correlations of all observations of all observations of a given firm. Dependent variable is a dummy equal to 1 if the CEO loses his position in the following year. Column 1 simply controls for the family status. Column 2 adds profitability (ROA) as a control. Column 3 adds Log(Assets), Log(Firm Age), former SOE and “Fraction equity of largest block” as additional controls. All regressions control for 13 industry and year fixed-effect. *, ** and *** mean statistically different from zero at 10, 5 and 1 % level of significance.

columns 2 and 3 then ask whether this significant difference can be explained by differing firm characteristics. Including ROA as a right hand side variable reduces the difference between heirs and professionals a bit, and renders its estimate more noisy and insignificantly different from zero. In this context, it is thus likely that slightly larger ROA within heir-managed firms (see table 3) explains why CEO turnover is less frequent in these firms.

4.3 Outside CEOs Are More Financially Literate

We have seen previously that outside CEOs operate at lower ratios of capital to labor. We present here two further pieces of evidence consistent with the fact that professional managers make a more efficient use of capital.

The first piece of evidence are related to the cost of debt. Using very clean data on bond issues, Anderson, Mansi and Reeb [2003] find that, when compared to non family firms, the corporate yield spread on family firms is consistently 30-40 basis points lower. They argue that, as family firms are long term shareholders, they can commit more easily not to default, which reduces their risk premium. We run similar regressions to theirs, and present the results in table 9. Our measure of the cost of debt is, however, much noisier: Since we do not have bond yield spreads data, we have to content ourselves with the ratio of interest paid to financial debt. This measure should be approximately equal to the average of all spreads on all loans and bonds, weighted by the sizes of the various issues. We then regress this average cost of debt on the same controls as table 3, plus the firm's current profitability as measured by ROA. In our sample, we find that the average interest rate paid by family firms is on average lower by 30 basis points, albeit not significantly so. Although imprecise, the order of magnitude is consistent with findings of Anderson et al.'s study. When we look at the various subcategories of family firms, we find that those run by professional managers are the ones who pay significantly lower interest rates, by a huge 160 basis points. This is consistent with both the ability to commit of long term shareholders *and* the efficient financial management of professional CEOs.

Secondly, in the tradition of the corporate finance literature (see e.g. Loughran and Vijh [1997]), we look at acquisitions: acquisitions are typically important decisions, made by the firm's top management but also by the major shareholder if there is one, and involving the heavy use of capital (equity or debt depending on capital structure). To do this, we match our dataset with data on monthly stock returns provided by Euronext and data on acquisitions by French companies from SDC platinumium (see appendix A for further description).

Given that acquisitions are supposed to be value destroying to long term shareowners, we could expect family firms, whose investment is of long horizon, to make less deals. We thus start by regressing the number of acquisitions made by the firm on our family dummies, along with year and industry controls, and find that descendant-managed family firms indeed do significantly less acquisitions.

Table 9: Interest Rate Paid By Family Firms

	Average interest on debt ($\times 100$)	
	(1)	(2)
Family Firm	-0.3 (0.6)	-
Founder CEO	-	-0.1 (0.6)
Heir CEO	-	0.5 (0.8)
Professional CEO	-	-1.6** (0.7)
Log(Assets)	-0.5*** (0.1)	-0.4*** (0.1)
Log(Firm Age)	-0.1 (0.3)	-0.1 (0.3)
Former SOE	0.1 (0.1)	0.1 (0.9)
Fraction equity of largest block	-0.2 (1.1)	-0.1 (1.1)
Debt / Assets	-15.2 (1.4)	-15.3*** (1.4)
Stock return volatility	3.0* (1.6)	2.7 (1.6)
ROA	-4.8 (5.6)	-5.3 (5.6)
Industry FE	yes	yes
Year FE	yes	yes
“Heir=Professional”		.004***
Observations	2,200	2,200
Adj. R^2	.22	.23

Source : Panel of French listed firms, over the 1994-2000 period. See appendix A for details on data construction and sources. Note: Huber-White-Sandwich estimates allowing for correlation of all observations for a given firm. Dependent variables is the average interest rate paid on debt. Column 1 and 2 control for Log(Assets), Log(Firm Age), Former SOE, fraction equity of largest block, leverage, stock return volatility and ROA (defined in table 3. Both regressions also control for 13 industry fixed effect as well as year fixed effect. Column 1 controls for family ownership (Family firm) while column 2 controls for family management status (Founder CEO, Heir CEO, Professional CEO). Line “Heir=Professional” gives the p-value of an equality test between the coefficient “Heir CEO” and “Professional CEO”. *, ** and *** mean statistically different from zero at 10, 5 and 1 % level of significance.²⁶

This effect does, however, vanish once we start controlling for firm size (using log assets). Moreover, founders, who tend to run very small firms, become the ones who make more acquisitions than the others. Given their size, family firms therefore do not make less acquisitions than other firms, in particular widely-held ones. Does this mean that, albeit long-term investors, families willingly engage in value destroying transactions ?

To solve this apparent puzzle, we then ask whether acquisitions by family firms really destroy value. To do this, we look at long-term stock returns. For each firm in our sample, we then need to compute “surprise” returns, or abnormal return, i.e. the difference between realized returns and expected returns. The measure of abnormal returns thus depends on how we estimate expected returns. We use here three different approaches, fairly standard in the asset pricing literature (although the third one is, arguably, the best), on which we provide more detail in the appendix. First, we simply subtract the firm’s stock return from the market return. Secondly, we regress, separately for each firm, stock returns on the time series of market returns. The residuals of these regressions constitute our second measure of abnormal stock returns (assuming that the CAPM is a correct model for expected returns). Third, in the spirit of Fama and French [1996], we add to the market return two other factors to control for other risk dimensions that investors seem to value: SMB (the monthly excess return small firms) and HML (the monthly excess return of cheap firms). For each firm, we then regress the firm’s stock return on the three time series (market return, small firm return, cheap firms return), and take the residual return as our third measure of abnormal return. For the last two measures, which require the estimation of a statistical model to obtain expected returns, we use the pre-acquisition period as our estimation period, and then compute residuals on the post period. Given that we require at least 12 months of data before the transaction to estimate our models, we end up with 829 acquisitions for which we can compute abnormal returns in the month of acquisition.¹⁶ After that, given natural attrition and right censorship in the panel (our returns data stop in 2002), we can follow long term return for only 500 transactions after 3 years.

¹⁶All types of firms are well represented: 262 acquisitions have been performed by widely held corporations, 191 by founder, 71 by heirs and 125 by professional CEOs in family firms.

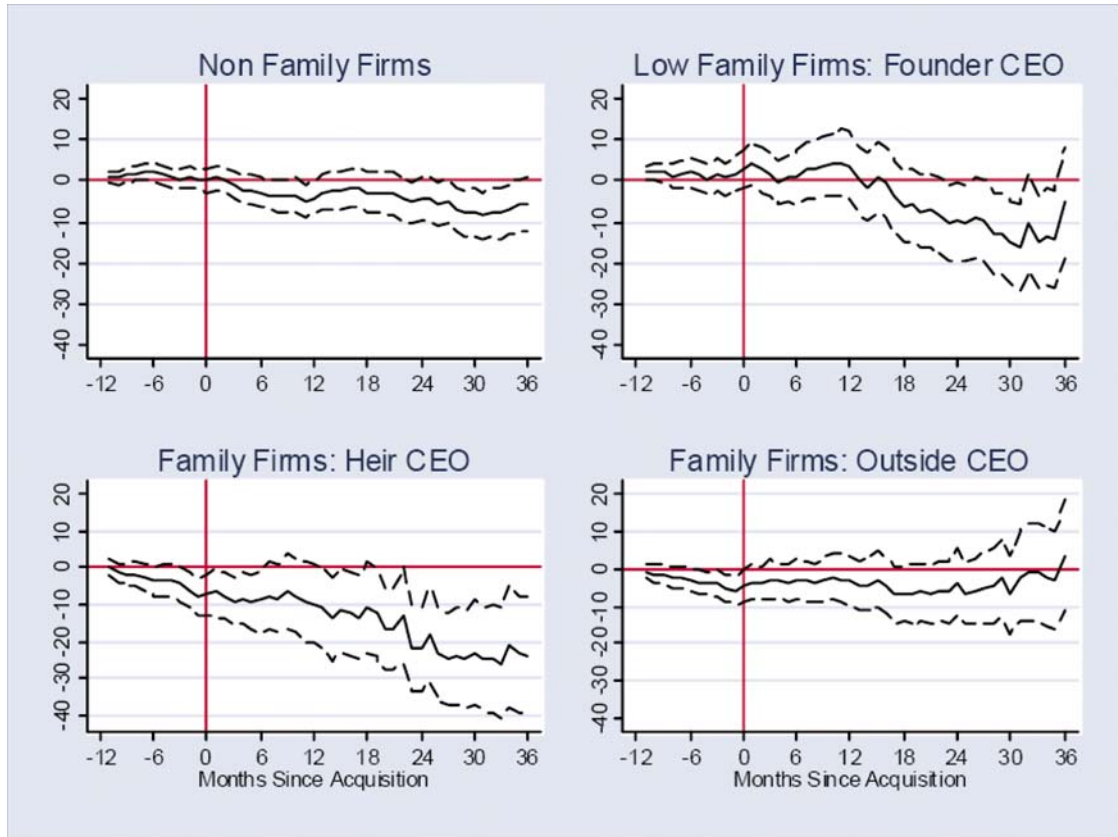


Figure 1: Long Run Cumulative Returns of Acquiring Firms (With 95% Confidence Bands)

We then compute, for each deal, the firm’s cumulative abnormal returns from 12 months before the acquisition is done, until 36 months after. The vast majority of US studies find in general that cumulative abnormal returns are negative in the long run. For example, Loughran and Vijh [1997] find that long-term shareholders of acquiring firms lose in general 14% over the five years following friendly takeovers. The loss is even more severe when the deal is financed through equity (25%). Only hostile acquisitions, paid with cash, generate positive returns to long-term shareholders of the acquiring firm. The same is true for our French sample, where the cumulative abnormal returns of acquiring firms are on average, starting 12 months before the deals, 6-7% (depending on which measure of abnormal returns we chose).

All methods of estimation deliver similar insights, so we present results using the Fama-French approach (the third approach). Figure 1 plots average cumulative returns to long-term shareholders who bought the acquirer’s stock 12 months before the deal, until 36 months after the acquisition. 95% confidence bands are drawn with dotted lines. We break down acquisitions into those made by non family firms, and those made by our three subcategories of family firms.¹⁷

¹⁷Family status of the acquirer for each acquisition is defined at the time of acquisition. So for example, an acquisition is disclosed when a descendant is in command, but the firm becomes

Table 10: Abnormal Returns to Long Run Shareholders of Family Firms

Months since acquisition	Widely	Family firms, run by			Test
	held firms	founder	heir	professional	heir=professional
-6	2.0* (1.1)	1.9 (1.8)	-3.8* (2.0)	-2.7* (1.5)	0.68
0	-0.1 (1.4)	3.0 (2.4)	-7.3*** (2.8)	-4.6** (2.2)	
+6	-3.0* (1.8)	0.7 (3.3)	-9.1** (4.4)	-2.9 (2.7)	0.20
+12	-4.3** (2.1)	3.7 (4.1)	-10.0* (5.4)	-3.3 (3.5)	
+18	-2.9 (2.5)	-6.5 (4.4)	-11.1* (6.3)	-6.6* (3.8)	0.53
+24	-4.4* (2.6)	-9.7** (4.8)	-22.1*** (5.8)	-3.6 (4.6)	
+30	-7.5*** (3.0)	-15.1*** (5.1)	-23.2*** (7.2)	-6.9 (5.3)	0.07*
+36	-5.5* (3.3)	-5.4 (7.0)	-24.0*** (8.1)	-3.6 (7.5)	

Source: Panel of French listed firms, over the 1994-2000 period. See appendix A for details on data construction and sources. Note: OLS estimates. Dependent variable is cumulative abnormal returns. Explanatory variable are time after (or before) completion of the acquisition. Column 1 gives long term abnormal returns for widely-held firms, column 2 for family firms with a founder CEO, column 3 for heir-managed family firms and column 4 for professionally-managed family firms. Column 5 provides an equality test for the coefficient of the regression in column 3 and 4. *, ** and *** mean statistically different from zero at 10, 5 and 1 % level of significance.

As it turns out, long-term shareholders of family firms run by professionals do not lose, nor gain, any wealth. Acquisitions done in widely-held companies are slightly value destroying, with long-run abnormal returns averaging 10% after 2-3 years. Then come founder-managed firms, whose acquisitions seem to destroy 15% after 2-3 years, but the result is so noisily estimated that value destruction is not statistically significant. The worse acquisitions seem to be performed by descendants, whose long term shareholders lose out a large statistically significant 25% after 2-3 years.

More formal tests and actual figures are reported in table 10: For each period after the acquisition, we compute the average long term (cumulative) return of each type of acquiror, and its standard error. Given the relatively small number of acquisitions of each type, and the right censorship of our sample (we have acquisitions until 2000, but stock returns until 2002 only), it is difficult to run statistically meaningful tests. Nonetheless, it is clear that heir-managed acquisition do significantly poorly, while deals initiated by professionally-managed family firms do not destroy value.

5 Summary of the Results

The previous sections have allowed us to show the specificity of management in family versus non family firms. Let us briefly summarize these findings and try to make sense of them.

On the one hand, we have shown that heir managers in family firms had two distinctive features in their way of managing labor. First, they pay significantly lower wages. Second, they provide insurance across the business cycle to their workers. These two results are certainly not independent. We believe they are consistent with an implicit insurance theory : heir managers, because they are less likely to be replaced in the near future by an outsider than professional managers are able to sustain reputational contracts with their worker, providing them more insurance in exchange of lower wages. Professional managers, whether in family firms or in widely held firms may lack the credibility necessary to implement such implicit contracts, resulting in higher wages and lower

On the other hand, we have also shown that professional managers in family firms have particular ways of managing their capital, compare to heir managers. First, they pay on average lower interest rate on their outstanding debt. Second, they are more efficient in their acquisition's decisions. We believe these results to be consistent with Bertrand and Schoar [2003]'s finding that there are heterogenous management styles across companies. In particular, Bertrand and Schoar show that CEOs holding an MBA degree are more financially "agressive" than others. Here, we presented evidence that professional managers in family

widely-held the year after, the acquisition still counts as "heir-managed".

firms have a particular style compare to family managers, namely their ability at managing capital efficiently.

Overall, these two main findings combine in higher performance of all kind of family firms, whether family or professionally managed. We therefore believe that, beyond ownership, which is usually the principal variable of interest for financial economists, control is a key determinant of firm behavior and performance.

6 Conclusion

The present paper has shown that in a cross section of French firms, family firms, and surprisingly heir-managed firms do outperform widely-held corporations. As far as we can tell by looking at exits and transitions, this result does not seem to be driven by simultaneity nor selection biases. This paper has focused on *real* effects of family management. When we look at stock returns, it turns out that family firms, in particular those run by professional managers, have beaten the market over the 1990s, even after taking into account the risk factors that the asset pricing literature considers as important. Our data thus delivered results consistent with Van der Heyden et al [2004]. This is not easy to interpret: Does this mean that the market has suddenly understood the virtues of family management ? Does this mean that non family firms have done particularly badly over the decade ? Can this be interpreted as further evidence that professional managers in family firms are good at communicating to (and persuading) analysts and propping up the stock price ?

Another possibility is that family firms are subject to particular risks, because they are more likely to be taken over when market conditions are good. As a result, their beta (correlation with the market return) is time varying and covaries negatively with the market. This is the question we plan to address in future work.

7 References

ABOWD J., F. KRAMARZ and MARGOLIS D. [1999], “High-Wage Workers and High-Wage Firms”, *Econometrica*, 67, N°2, pages 251-333.

AMIT R. and VILLALONGA, B.[2005] “How Do Family Ownership, Control, and Management Affect Firm Value? ” *Journal of Financial Economics* (forthcoming).

ANDERSON, Ronald and REEB D. [2003], “Founding family ownership and Firm Performance: Evidence from the S&P 500”, *Journal of Finance*, vol. 58, issue 3, pages 1301-1327.

ANDERSON, Ronald C., MANSI, S. A. and REEB, D., [2003]. "Founding Family Ownership and the Agency Cost of Debt", *Journal of Financial Economics*, Elsevier, vol. 68(2), pages 263-285.

ADAMS, Renée, ALMEIDA, H. and FERREIRA, D. [2003], "Understanding the Relationship between Founder-CEOs a Firm Performance", mimeo SITE-Stockholm School of Economics.

BARONTINI, Roberto and CAPRIO, L. [2005], "The Effect of Family Control on Firm Value and Performance. Eviden from Continental Europe", *ECGI - Finance Working Paper*, No. 88/2005.

BENNEDSEN, Morten, NIELSEN K., PÉREZ-GONZALEZ, F. and WOLFENZON D. [2005], "Inside the Family Firm: The Role of Families in Succession Decisions and Performance", *CEBR DP* 2005-14.

BERTRAND, Marianne and MULLAINATHAN, S. [1999] "Is There Discretion in Wage Setting? A Test Using Takeover Legislation", *Rand Journal of Economics*, Vol N°30, pages 535-54.

BERTRAND, Marianne, MEHTA, P. and MULLAINATHAN, S. [2001] "Ferretting Out Tunneling: An Application to Indian Business Groups", *Quarterly Journal of Economics*, Vol N°117, pp. 121-48.

BERTRAND, Marianne and SCHOAR, A. [2003] "Managing with Style: The Effect of Managers on Firm Policies", *Quarterly Journal of Economics*, Vol N°118(4), pages. 1169-208.

CHANDLER Alfred [1990], "Scale and Scope", Cambridge MA.

FACCIO, Mara and LANG, L. [2002], "The Ultimate Ownership of Western European Corporations", *Journal of Financial Economics*, Vol. N°65, pages 365-395.

FAMA, Eugene and FRENCH, K. [1996], "Multifactor Explanations for Asset Pricing Anomalies", *Journal of Finance*, Vol LI, n°1, pages 55-84.

HOLDERNESS, C. and SHEEHAN D. [1988], "The Role of Majority Shareholders in Publicly-Held Corporations", *Journal of Financial Economics*, Vol. N°20, pages 317-346.

HOLTZ-EAKIN, Douglas, JOULFAIAN D., and ROSEN H. [1993], "The Carnegie Conjecture: Some Empirical Evidence", *Quarterly Journal of Economics*, Vol N°108(2), pages 413-436.

JENSEN Michael [1986], "Agency Costs of Free Cash Flow, Corporate Finance and Takeovers", *American Economic Review*, Vol. 76, pages 323-339.

KREPS, David [1990] “Corporate Culture and Economic Theory”, in James E. Alt and Kenneth A. Shepsle, eds., *Perspectives on Positive Political Economy*, New York: Cambridge University Press.

LA PORTA Raphael., LOPEZ DE SILANES F. and SHLEIFER A. [1999], “Corporate Ownership Around The World”, *Journal of Finance*, Vol N° 54, pages 471-517.

LOUGHRAN, T. and VIJH, A., [1997], “Do Long-Term Shareholders Benefit from Corporate Acquisitions?”, *Journal of Finance*, Vol N°52 (December), pages 1765-1790.

MORCK Randall., STRANGELAND D. and YEUNG B. [1998], “Inherited Wealth, Corporate Control and Economic Growth: the Canadian Disease?”, NBER Working Paper No. W6814.

PAGANO Marco, and VOLPIN P. [2005], “Managers, Workers and Corporate Control” , *Journal of Finance*, Vol N° 60(2), pages 841-868.

PÉREZ-GONZALEZ, Francisco [1999], “Inherited Control and Corporate Performance”, mimeo Columbia University.

SHLEIFER, Andrei, and SUMMERS, L. [1988], “Breach of Trust in Hostile Takeovers”, in Alan J. Auerbach Ed., *Corporate Takeovers: Causes and Consequences*, The University of Chicago Press.

THESMAR David, and THOENIG M.[2004], “Financial Development and the Rise in Firm-Level Uncertainty”, mimeo CREST.

VAN DER HEYDEN, Ludo [2004], “The Performance of Family-Owned Firms in the French Stock Market: 1993-2002”, mimeo INSEAD.

WEISBACH, Michael [1988], “Outside Directors and CEO turnover,” *Journal of Financial Economics*, Vol N° 20, pages 431–460.

WHITE, H. (1980): “Using Least Squares to Approximate Unknown Regression Functions”, *International Economic Review*, Vol N° 21(1), pages 149-170.

A Data Appendix

This study uses 5 distinct sources of data.

A.1 Corporate Accounts

The initial sample is drawn from the DAFSA yearbook of all firms listed on the French stockmarkets¹⁸ over the 1994-2000 period.¹⁹ There are on average some 700 such firms each year. This yearbook mostly collects data from annual reports and therefore provides us with the firm's consolidated accounts (balance sheet and profit accounts) as well as more "organizational information" such as: total employment, major shareholders, all board members and part of the top management - including the CEO. Firm's age and industry are also provided, although the industry classification only has 13 different names.²⁰

Overall, there were 682 firms listed on the French stockmarket in 1999, and 549 for which we have value added figures - therefore excluding mostly financial firms. Also the number of these firms is modest when compared to the overall population (some 2 millions of firms exist in France, among which some 700,000 corporations), these firms tend to be heads of groups, and thus to control a large number of other firms. Most of the time, these subsidiaries are legally different firms, but effectively mere "divisions" of the group. Less frequently, these firms really are separate entities that are controlled by the listed holding, but with other shareholders. This is why it is critical here to use *consolidated accounts*; without them, our information on employment, assets, sales and costs would be almost meaningless (a holding company has no sales and just checks in dividends, for example). Given that listed firms tend to be large and group leaders, it turns out that they represent a large share of aggregate activity. Total sales generated by these firms represent some 900 bn euros, or 66% of French GDP. For those 549 firms for which we have value added figures in 1999, the sample we have represents 14% of total GDP. Total employment amounts to some 6 million jobs (a third of private sector employment), although many of them abroad - in particular in very large groups. Last, total market capitalisation of firms listed on the French stock exchange amounts to 119% of GDP.

A.2 Family Ownership and Management

Taking all firms listed on the stock exchange in 1999, we begin by determining whether these firms are "family firms" or not. To do so, we looked at the firm's shareholders. When we found that the founder or the founder's family was a

¹⁸Until 1997, France had no less than 7 stock exchanges (Bordeaux, Marseilles, Nancy, Nantes, Lille, Lyons and Paris), where most firms (70%) were listed in Paris. All exchanges were merged in 1997.

¹⁹The DAFSA yearbooks in fact collected firm level information since at least the mid-1960s, but they have been computerized only since 1994.

²⁰Another, finer and more standard, classification was also provided, but it turns out that under this classification more than a third of all firms simply appears as "holdings", with no further information on the group's activity. This is why we chose to focus on the data-specific, unconventional, industry classification.

blockholder of the company, we labeled the firm as “family firm”. We also add as an additional requirement that the blockholder owned more than 20% of the voting rights, taking into account the pyramidal structure of certain family groups. This requirement was almost useless as in only very few cases did a family own less than 20% of the voting rights. A few additional remarks are needed at this point. First, we dealt with the problem of multiple founders by considering that it was sufficient that one of the family was still present among the shareholders to label the firm as a family firm. Second, in few instances, we stumbled upon raiders, that is individuals who started with a very tiny firm - sometimes a family firm - and became progressively major players through a series of successful market operations and acquisitions - for instance François Pinault, or Vincent Bolloré. We labelled these firms as family firms (and more precisely as “founder-controlled”) - even though they did not create, *per se*, the companies in question.

In addition to the basic DAFSA informations, the informations on the company’s history and the identity of the owner were collected from three main sources. First, we directly looked into the annual company reports obtained mainly through the Internet. As it turned out, in many cases, the ownership structure provided in the annual reports remained somewhat opaque, especially since in many circumstances French families tend to hold control through pyramids of holding corporations (see Faccio and Lang [2002]). To get at the identity of the ultimate controlling owner, we then used information collected since 1997 by the *Conseil des Marchés Financiers* (CMF). This administrative body is an outlet of the Treasury; an act passed in 1997 made it mandatory to individuals or firms who cross various thresholds in a listed firm’s capital to declare it to the CMF.²¹ In turn, the CMF has to make it public, and, in order to improve the transparency of the French financial system, the CMF publication provides us with the ultimate owners of the holdings generally responsible for the transactions. Last, we complemented these two sources of information with the use of various French business newspaper websites (*L’Expansion*, *Le Nouvel Economiste*).

Following Anderson et al. [2003], we then broke this category down into three sub categories. First, the firm is said to be “founder-controlled” when the founder of the firm still holds the family block and is CEO. Second, the firm is said to be “heir-managed” when the founder no longer holds control over the firm - most of the time because he retired or died - but when heirs of the founder collectively control the company votes, and an heir - direct or indirect - of the founder is the actual CEO of the company. Third, a firm is said to be family-owned, but professionally-managed, when the family (founder or heirs) still holds the controlling block, but the CEO position is held by an outsider.

Following this methodology for our starting year 1999, we were able to track the family status of 470 companies among the 549 non financial / non real-estate

²¹These thresholds are 5, 10, 20, 33 and 50% of all votes.

firms present on the market this year. We then tracked back any family status changes between 1994 and 1999 by looking at CEO changes in the period. We found 161 such CEO changes and tried, for every one of them, to determine whether the nature of the family status was affected: only 52 of them did actually turn out to correspond to such transitions. We also tracked with the same method any family status changes in the year 2000.

Finally, we repeated this whole operation on firm exiting the market before 1999 but present at some point on the market after 1994, so that we finally looked at the family status of any firm present on the French stock market between 1994 and 2000.

Out of a total sample (i.e. including all years) of 731 non financial / non real-estate firms, we were able to track the family status for 595 firms.

A.3 Employment Data

Total firm employment (consolidated) is reported in the DAFSA yearbook. Computing the skill, seniority and age structure within the firm required more detailed firm-level employment data.

To do this, we used the social security files made available to the statistical office by the tax administration. For each subsidiary that belongs to the listed group, these files gave us the wage, occupation, age and seniority of 4% of the employees - all employees born in October of an even year. We then used another survey (“Liaisons Financières”, described for instance in Thesmar and Thoenig [2004]) to track the group that each subsidiary belongs to. This survey on financial relations between firms is exhaustive on all firms that have more than 500 employees or more than 1.5 million euros of shares of other firms. Consequently, most subsidiaries of our listed groups are likely to be covered by the sampling technique. We restricted ourselves to subsidiaries that are controlled 100%, directly or indirectly by the group leader (who is in general the listed firm of the group).

We first used these employee level data to recalculate total employment and average wage in the firm. In general calculated total employment is smaller than employment reported by DAFSA²², for two reasons. First, most of these firms, in particular the largest ones, have foreign subsidiaries and thus foreign employees that do not enter our social security records. Secondly, some of these firms include in their consolidated statements employees of firms that they do not control 100%. Since accounting regulation is not clear on consolidating rules, there is little we statisticians can do on that front.

We then used these data to add information on the firm’s gender, occupational, age and seniority structure. Unfortunately, education based measures of

²²In 1998 for instance, domestic employment of french listed firms (computed using social security files) accounted for about 37% of total employment of these firms (computed using reported employment in the DAFSA Yearbook).

skill are not available from this dataset; Yet, as can be made clear from the Labour Force Survey which includes both informations, the occupation variable proxies education. We computed the fraction of Managers, Supervisors, Skill workers/clerks and Unskilled workers/clerks as well as the average age, age squared and average seniority of workers. Finally, we also retrieved the fraction of women employed.

A.4 Stock Prices

Daily stock price data over the 1991 - 2002 period are provided by Euronext, the French stock exchange. For each day the stockmarket is open, Euronext provides in particular, for each firm listed, the price at which the last transaction of the day was realized. For each month, we take the price of the last transaction of the last day of the month, and compute monthly returns using these prices. Euronext price data take account of dividends payments, but not always of stock splits, which creates sometimes huge variations in calculated monthly stock returns. To account for this, we simply trimmed the stock returns data by deleting the top and bottom 1% of the distribution.

To compute abnormal returns, we need a model of expected returns. We estimate three different models of expected returns. The first model simply assumes that a stock's expected return equals the market return. Unfortunately we cannot directly compute the market return with our data, because we have Euronext does not provide any figure for the number of shares outstanding before 1997. To simplify, we use as proxy for the market return the monthly return on the leading French stockmarket index, the CAC40, which is provided since 1988.

The second model of expected returns is the CAPM. We first take our measure of the riskless rate of return from EUROSTAT, which provides a monthly time series on the rate of return of French T bills (10 years) since 1980. After de-annualization, we use this measure to compute excess returns on various stocks and the market. Then, for each firm, we regress the excess stock return on the excess market return, and take the residuals of these regressions as our second measure of abnormal return.

The third model takes into account the fact, well documented in the asset pricing literature, that small firms, and value firms (with low market to book value of assets), show consistently positive abnormal return in a CAPM model. As it has become standard in this literature, we follow Fama and French [1996] and add to our model of expected returns, in addition to the market return, the excess return of small firms (SMB), and the excess return on value firms (HML). SMB is computed by sorting firms according to the past year capitalisation. We call big, the 20% largest firms, and small the 20% smallest. To compute SMB each month by subtracting the value weighted monthly return of the largest firms (by last year's standard) from the value weighted monthly return of the 20% largest firms (again, by last year's standard). To compute HML, we then sort firms by

past year book to market value of assets. We call value firms firms with the 20% highest book to market in the past year, and glamor, firms with the lowest 20%. HML is the different in value weighted, monthly returns between the portfolio of value and glamor firms. Then, for each firm, we regress stock excess returns on the time series of excess market return, SMB and HML, and take the residual as our third measure of abnormal returns.

In the last two cases, the models of expected returns are estimated separately for each transaction (acquisition), in all the months available since 1991 *before* the deal. We also require that the acquiring firm has at least 12 months of stock returns prior to the transaction.

A.5 Acquisitions

The data source for large acquisitions is SDC platinum, a firm that collects publicized transactions (repurchases, LBOs, M&A) undertaken by companies in various countries. For France, SDC reports since 1990 some 1,000 completed acquisitions per year. We focus on all successfully completed acquisitions where the bidder (1) belongs to our sample, (2) owns less than 50% before the transaction and more than 50% afterwards. From SDC, we then retrieve the month and year of the acquisition.

For the firms in our sample, we end up with some 100 acquisitions per year between 1994 and 1998. In 1999 and 2000, we have some 150 acquisitions, which is not surprising given excellent financial market acquisitions. The number of firms making acquisitions is somewhat lower, given that some firms undertake several acquisitions (sometimes as much as 5 in a given year): over the whole period, some 80 firms (out of 650) make at least one acquisition. For the few observations for which target size is reported (a third of the total), we find that the average cost of the transaction stands around \$ 180 million.

B Additional Tables

Table 11: Year by Year Regressions of Performance of Family Firms

	ROA			ROE		
	Founder CEO	Heir CEO	Professional CEO	Founder CEO	Heir CEO	Professional CEO
1994	.025 (.01)**	.022 (.008)***	.019 (.009)**	.124 (.039)***	.113 (.033)***	.099 (.03)***
1995	.017 (.01)*	0.012 (.009)	.016 (.009)**	.078 (.039)**	.039 (.03)	.081 (.033)***
1996	.01 (.009)	.017 (.008)**	.002 (.009)	.043 (.042)	.099 (.029)***	.041 (.03)
1997	.012 (.01)	.021 (.009)**	.01 (.01)	.101 (.037)***	.116 (.033)***	.083 (.034)**
1998	.02 (.013)*	.02 (.011)*	.003 (.012)	.123 (.038)***	.089 (.034)***	.082 (.033)***
1999	.01 (.013)	.021 (.011)*	.016 (.013)	.092 (.034)***	.047 (1.64)*	.105 (.03)***
2000	.015 (.013)	.025 (.014)*	.015 (.015)	.046 (.044)	.068 (.037)*	.044 (.042)
Fama-Mc Beth Coefficient	.02 (.002)***	.02 (.001)***	.017 (.003)***	.10 (.01)***	.09 (.01)***	.08 (.01)***

Source: Year by year OLS estimates. Dependent variable is ROA (column 1 to 3) and ROE (column 4 to 6) on the three family dummies and the controls as reported in table 3. Estimates of the coefficients on all three family dummies, along with their standard errors, are reported for each year (lines). Columns 1-3 report the results of the regressions using ROA as a dependent variables. In columns 4-6, ROE is the dependent variable. *, ** and *** mean statistically different from zero at 10, 5 and 1 % level of significance.

Table 12: Performance of Family Firms: Further Robustness Checks

	ROA	ROE	Market to book	Log(wage bill / empl.)
Founder CEO	.02 (.008)**	.08 (.02)***	.3 (.1)***	-.009 (.05)
Heir CEO	.03 (.007)***	.095 (.02)***	.17 (.1)*	-.10 (.05)**
Professional CEO	.014 (.009)*	.074 (.02)***	.14 (.12)	-.09 (.05)*
Ln(Assets)	-.0007 (.002)	.007 (.005)	.04 (.02)*	.01 (.01)
Ln(Firm Age)	0 (.003)***	-.02 (.01)***	-.17 (.05)***	.002 (.02)
Fraction equity of largest block	.01 (.01)	.02 (.03)	.05 (.14)	-.02 (.06)
Former SOE	-.0006 (.008)	.02 (.03)	-.34 (.15)**	.12 (.06)**
Stock Return Volatility	-.12 (.03)***	-.23 (.07)***	-1.49 (.28)***	.13 (.15)
Focus	.01 (.01)	.01 (.03)	.35 (.15)**	.1 (.06)*
Obs.	1852	1826	1753	1758

Source: Huber-White-Sandwich estimates, allowing for correlation of all observations of a given firm. The table is similar to table 3 adding as control *focus* (herfindhal index using 2 digits classification of industries - equal 1 when firm operates in a unique sector and goes to 0 as the firm becomes very diversified). *, ** and *** mean statistically different from zero at 10, 5 and 1 % level of significance.