
by

M. Corstjens
K. Maxwell
and
L. Van der Heyden

2004/37/IIFE

Working Paper Series

IIFE
The INSEAD Initiative for Family Enterprise

Marcel Corstjens
Unilever Chaired Professor of Marketing

Katrina D. Maxwell
Senior Research Fellow

and

Ludo Van der Heyden
Wendel Chaired Professor for the Large Family Firm & Solvay Chaired Professor for Technological Innovation

INSEAD
Boulevard de Constance
Fontainebleau Cedex 77305
France

Abstract

In this study we track the stock market performance over a 9-year period of equities listed in December 1993 in the primary French stock exchange, the so-called SBF250. We analyze the total shareholder return of two portfolios, family-owned firms and non-family firms, using four different methodologies: buy and hold, annual buy and sell, time series regression of excess return and cross sectional analysis. We find strong statistical evidence that family-owned firms outperform non-family firms over this time period. Furthermore, our results appear to indicate that the family firm portfolio’s superior performance is not due to differences in the industrial classification, the market value or the book-to-market value of the companies that form each portfolio. We also find that the superior performance over this period is obtained during years of relatively poor stock market performance and in the first year that the market turns around.
Introduction

Does the stock market consider family firms, ceteris paribus, in the same way as non-family firms? That is the question that we will examine in this paper, using data from the French stock market.

The stock market performance of firms is related to the market’s expectations of their future performance. Current results are representative of the past period, but are also interpreted as predicting something about the firm’s future performance. When the market’s expectations are revised downwards – for example, due to lower than expected results which the market believes are indicative of the near future – the stock price should decrease; when they are revised upwards, the stock price should increase.

It is easy to present arguments in favor of the relative performance of family firms versus that of non-family firms. And the converse holds as well. Both types of arguments contribute to shape the stock market’s expectations about such firms, and hence their stock price.

The following arguments can be made in favor of family firms:

- Family firms are more committed to their business. This will galvanize their employees and managers to better performance.
- Family firms are less reactive to short term pressures, events and fads. Their implementation of a longer-term vision will avoid the costs of a continuous sequence of short-run changes, many of which are necessitated by rather random perturbations in the stock market, and not to lasting changes in the fundamental economics of the firm.
- Family firms present a better form of corporate governance in the sense that managers and owners, but also suppliers (e.g. of capital) are more aligned, and have greater confidence in each other. Their relationships are less affected by principal-agent inefficiencies because they have an identifiable (as opposed to diffused) ownership, they know each other well, making breach of trust or of commitment more costly (including emotionally).

Common arguments against family firms are the following:

- Family firms are more likely to be governed by nepotistic relationships, and insufficiently based on merit. The pool of talent from which they select is of lower average quality than that available to non-family firms. In addition, they are less likely to be able to retain excellent talent that they might have been able to attract. Their professional talent is thus of lower average quality.
- Family firms are too anchored in the past and as a result resistant to change in the face of turbulent, even chaotic market conditions. In other words, they suffer from inertia.
- Family firms prefer independence and control over growth and performance – hence they sub-optimize performance in favor of independence and control.

What do stock market investors believe? These are strong arguments both for and against family-owned firms. It is not a priori clear if investors consider family ownership when making investment decisions, or if they do, on what side they will place their bets. Thus our research seeks to determine if it was beneficial, neutral or
The performance of family-owned firms in the French stock market 1993-2002

detrimental for investors to buy shares in family firms, as opposed to shares in non-
family firms, over a longer term period. We undertook our study on the French stock
market - or Société de Bourse Française (SBF) - over the 9-year period 1993-2002.

In December 1993, the SBF250 stock exchange consisted of equities from 248
companies. These were the largest publicly traded companies on the Paris exchange
with an average market value of 1525 million € (range: 59 to 18,359 million €). In a
study of ultimate ownership of such firms, Blondel, Rowell and Van der Heyden
(2002) identified 120 of these companies to be family firms. We here follow their
methodology to determine whether a firm belonged to the portfolio of family firms, or
to the non-family portfolio. When ownership was not direct, we tracked the ultimate
owner by going up the ownership chain. A family firm, according to this
methodology, is a company where one or several individuals or families are the
ultimate owners and represent the largest block of shares. The owning family is not
required to be descendants of the firm’s founder(s). It follows that non-family owned
firms are those firms in which a family is not identified as the ultimate owner. We
considered that we had found an identifiable owner when the stake of the owner(s) at
each step in the ownership chain was at least 10% of equity. Ownership type of each
compny was determined at the end of 1993, 1998 and 2002. It also is clear that
families like control and thus typically had shareholding (and especially voting
power) that most often substantially exceeded 10%.

Indicative of tremendous change, by the end of 2002, only 124 of the original 248
equities were still quoted. This means that half of the stocks were de-listed during
this 9-year period. A stock can be de-listed for various reasons, not all of which are
negative. For example, a company could have gone bankrupt, it could have merged,
been taken over, or it could have decided to buy back all of its shares and return to
private status. As can be seen in Table 1, family-owned firms are less likely to have
de-listed. Only 47.5% of family-owned firms de-listed over this period, as compared
to 57% of non family-owned firms. However, these observed differences are not
statistically significant. A further six companies quoted over the entire period
changed ownership type. Between 1993 and 2002, two companies moved from family
to non-family ownership, and 4 non-family companies became family-owned.

Table 1: Number of SBF250 equities listed in 1993 and still listed in 2002 by
ownership type

<table>
<thead>
<tr>
<th>Ownership type</th>
<th>Listed in 1993</th>
<th>Listed in 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family firms</td>
<td>120</td>
<td>63</td>
</tr>
<tr>
<td>Non-Family firms</td>
<td>128</td>
<td>55</td>
</tr>
<tr>
<td>Ownership type changed during time period</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>248</strong></td>
<td><strong>124</strong></td>
</tr>
</tbody>
</table>

1 Pearson chi-square test.
Data analysis methodologies

Buy and hold

In such investment strategy, we simulate what would have happened if we had invested an equal amount of money in two portfolios at the end of 1993 and held onto our investment for 9 consecutive years covering the December 1993-December 2002 time span. Family-owned firms and non-family firms at the end of 1993 and held our investment for 9 years. When a stock was de-listed, its value was equally divided and reinvested in the listed equities remaining at the end of the month. We used equally-weighted portfolios as we were interested in the average performance of companies – and not in the performance of value-weighted portfolios.

Annual buy and sell

Here we simulate what would have happened if we had invested an equal amount of money in two portfolios at the beginning (in December 1993): one consists of the family-owned firms and the second one of non-family firms. At the end of each year, the investment is sold and the portfolio is again reinvested (at zero investment cost) in the remaining stocks of each portfolio and in equal parts. When a stock is de-listed, its value is equally divided and reinvested in the remaining stocks quoted at the beginning of the next month.

Time series regression of excess returns

Finance researchers have identified four important equity characteristics that explain differences in total shareholder returns (Gompers et al, 2003). The best-known factor is the risk coefficient beta, or $\beta$. Beta is a measure of the volatility of an individual stock’s returns, or portfolio of stocks’ returns, relative to market returns. We studied return performance using excess return time series regression. Equation 1 is the continuous-time analog to the security market line of the classical Capital Asset Pricing Model (CAPM). A detailed argumentation can be found in Merton (Merton, 1973).

\[
\text{Equation 1: } R_i - RF_i = \beta (RM_i - RF_i) + \epsilon_i
\]

$R_i$ is the asset’s return in period $t$, $RF_i$ is the risk free rate in that period, $RM_i$ is the market rate prevailing at time $t$, and $\beta$ is the market risk factor, or beta. The remainder $\epsilon_i$ is an error term, presumably with zero mean, containing the other random factors yielding the asset’s actual return in period $t$.

Jegadeesh and Titman (1993) expand this model from assets to portfolios. In their model, $R$ becomes $R_p$, the average return of the portfolio:

\[
\text{Equation 2: } R_{pt} - RF_i = \alpha_p + \beta_p (RM_t - RF_t) + \epsilon_i
\]

$R_{pt}$ the return on the portfolio $p$ in month $t$, $RM_t$ is the return on the value-weighted market index, and $RF_t$ is the interest rate on the 1-month Treasury bill. In this model, the alpha intercept, $\alpha_p$, is also expected to be zero. Alpha is known as the risk-adjusted return, or the “abnormal return”. If alpha is statistically significant, this
means either that the model is not well specified or that the portfolio is doing better (or worse) than the market would expect it to perform.

Fama and French (1993) found that portfolios constructed to mimic risk factors associated with firm size (market value) and book-to-market ratios captured strong common variation in returns when added to the market risk factor beta. Their research showed that small stocks outperform large stocks, and value stocks (high book-to-market ratio) outperform growth stocks (low book-to-market ratio). Fama and French named their two factors \( \textit{SMB} \) (Small Minus Big) and \( \textit{HML} \) (High Minus Low). The addition of these two terms results in a better-specified model. In such a model it is therefore more likely that any significant non-zero intercept must be due to the portfolio itself. In Fama and French’s model, alpha is the risk-adjusted, size-adjusted and book-to-market value adjusted return.

The Fama and French three factor model was then further improved by Carhart (1997) with the addition of a momentum factor. The variable \( \textit{UMD} \) (Up Minus Down) mimics what would happen if in a given month you bought the top 30% best performing stocks and sold the bottom 30% worst performing stocks of a prior pre-defined time period. Researchers and practitioners disagreed over whether momentum should be positive or negative over a given time period. Buying best performing stocks may pay off in the short term, but in the long term the worst performing stocks might do better. Contrarian strategies would buy bad performing stocks and sell the best performing. Relative strength strategies buy past winners and sell past losers (Jegadeesh and Titman, 1993). Carhart demonstrated that some mutual funds have persistently poor performance and that mutual finds with high return over the past year indeed have a higher than expected return the following year, but not in years thereafter. He finally concluded that these four factors, together with the fund’s expenses, account for almost all the predictability in mutual fund returns. His is thus a strong model to predict the return of a given portfolio.

One application of the four-factor model of Carhart is due to Gompers, Ishii and Metrick (2003). These authors examine the effect of governance practices on equity prices. They construct a governance index as a proxy for shareholder rights and look at the potential relation between their governance index and the returns of 1500 large US firms during the 1990s. At both extremes of governance, they construct two portfolios, labeled Democracy and Dictatorship. Their performance model is the one of Carhart (1997):

\[
\text{Equation 3: } R_t = \alpha + \beta_1 \textit{(RMRF}_t \textit{)} + \beta_2 \textit{(SMB}_t \textit{)} + \beta_3 \textit{(HML}_t \textit{)} + \beta_4 \textit{(UMD}_t \textit{)} + \epsilon_t
\]

where \( R_t \) is the excess return to some asset in month \( t \), and \( \textit{RMRF}_t \) is the month \( t \) value-weighted market return minus the risk free rate, \( \textit{SMB}_t \) and \( \textit{HML}_t \) are the two Fama and French size and book-to-market factors, while \( \textit{UMD}_t \) is Carhart’s momentum factor, again in period \( t \). The four factor model is their method of performance attribution. These authors then interpret the estimated intercept coefficient, alpha, as the abnormal return in excess of what could have been achieved by passive investment in these four factors. \( R_t \) can be either a portfolio minus the risk free rate, or the difference of two portfolios. The principal idea behind this methodology is that in order to determine if there is a real return difference between two portfolios, you must first control for the major differences in investment strategy.
These authors were able to conclude to a real return difference between the Dictator and Democracy portfolios, thus providing strong evidence in support of shareholder right provisions.

Our family firm performance study also uses the performance-attribution methodology of Gompers, Ishii and Metrick (2003) to examine any potential difference between family firm and non-family firm portfolios. We obtained monthly return data for equities traded on the French stock market from December 1993 through December 2002 from Datastream. We also found there the French risk free rate, . We calculated the value-weighted market return using a portfolio of 399 French equities. These 399 equities resulted from the union of the December 2002 Datastream French Market portfolio and the 1993 SBF 250 portfolio identified by Blondel et al. (2002). \( SMB, HML \) and \( UMD \) were calculated for the French market using the definitions of Rouwenhorst (1999).

**Cross sectional analysis**

We also looked at the impact of industrial sector, market value, book-to-market value and ownership on monthly lifetime shareholder return growth. We used OLS and stepwise ANOVA techniques (Maxwell, 2002) to study the potential impact of any of these factors. The normalized monthly lifetime shareholder return growth of an equity was calculated by dividing the total shareholder return growth during the equity’s lifetime by the number of months the equity existed. The maximum equity lifetime in this study is the 108 months between December 1993 and December 2002. Lifetime shareholder return growth is the equity’s last quoted total return index divided by its total return index in December 1993.

**Results**

Our initial sample consisted of the 248 equities that were quoted in the SBF250 in December 1993. The equities were split into two portfolios based on their ownership at the end of 1993. We were unable to obtain total return index data for two non-family firms (Spie Batignolles and Segic). Thus this analysis was undertaken on the remaining 246 equities, which according to Blondel et al. (2002), comprises, in December 1993, 120 family firms and 126 non-family firms.

**Buy and hold analysis**

100 Euros invested in an equally-weighted portfolio of French family firms at the end of 1993 would have grown to 281 Euros by the end of 2002 (see Figure 1). A similar investment in the non-family portfolio would have grown to 183 Euros. Therefore, over this 9-year time period, the family portfolio outperformed the non-family portfolio by approximately 54%. This result is significant at the 1% level.2

---

2 Medians tested using Wilcoxon rank-sum (Mann-Whitney) test. Cumulative non-family firm performance was significantly worse at the end of every year.
Figure 1: Monthly cumulative indices – all companies listed in 1993 SBF250

![Graph showing monthly cumulative indices for family and non-family firms from 1993 to 2002. The graph indicates that the Family Firm Index generally outperforms the Non-Family Firm Index.](image)

**Buy and sell analysis**

Figure 2 shows the yearly total shareholder return for each portfolio. We can see that the family firm portfolio had a higher return than the non-family firm portfolio for six of the nine years. We also tested the equality of mean yearly growth of equities quoted during each entire year using a t-test. Family firms performed significantly better at the 1% level in 1994, 1996 and 2002, and significantly better at the 5% level in 1998 and 1999. Non-family firms performed significantly better at the 1% level in 1997.

Figure 2: Yearly total shareholder return – all companies listed in 1993 SBF250


1 Welch’s formula was used to calculate the degrees of freedom in the t-test as the variances were not equal.
**Excess return time series regression analysis**

As can be seen in Table 2, when we consider the average monthly return of the family firm portfolio minus the risk-free rate the various factors introduced in our performance model are statistically significant in explaining performance. For example, the market risk factor, beta, is 0.79 and statistically significant at the 0.01% level. The coefficient of SMB is 0.32 and significant at the same 0.01% level. Thus when small stocks outperform large stocks, the family firm portfolio does better. The coefficient of HML is 0.14 with a significance of 1.8%. Thus when value stocks outperform growth stocks, the family firm portfolio also does better. Only the momentum factor UMD is not significant. The performance of the family firm portfolio appears not to be affected by momentum. A positive and statistically significant alpha means that the family firm portfolio outperformed the market. Here, alpha is positive 0.39 with borderline significance of 0.067%. The adjusted R-squared of this model is 0.79. This means that 79% of the variation in the average excess monthly returns of the family firm portfolio can be explained by the excess market return variation, and by the variation in SMB, HML and UMD.

Table 2: Performance-attribution regression results

<table>
<thead>
<tr>
<th>Family – Non-Family</th>
<th>α</th>
<th>RMRF</th>
<th>SMB</th>
<th>HML</th>
<th>UMD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>0.39</td>
<td>0.79</td>
<td>0.32</td>
<td>0.14</td>
<td>-0.05</td>
</tr>
<tr>
<td>(0.067)</td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td>(0.018)</td>
<td>(0.147)</td>
<td></td>
</tr>
<tr>
<td>Non-Family</td>
<td>-0.04</td>
<td>0.86</td>
<td>0.30</td>
<td>0.21</td>
<td>-0.06</td>
</tr>
<tr>
<td>(0.794)</td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td>(0.008)</td>
<td></td>
</tr>
</tbody>
</table>

The significance level is in parentheses.

When we look at the average monthly return of the non-family portfolio minus the risk free rate, beta is 0.86 and statistically significant at the 0.01% level. The coefficient of SMB is 0.30 and significant at the 0.01% level as well. Thus when small stocks outperform large stocks, the non-family portfolio does better. The coefficient of HML is 0.21 and significant at the 0.01% level. Thus when value stocks outperform growth stocks, the non-family portfolio does better. UMD is –0.06 and significant at the 0.8% level. Thus when the prior best performing stocks do better than the prior worse performing stocks, this has a negative impact on the performance of the non-family portfolio. Alpha is negative and not significant. The adjusted R-squared of this model is 0.89.

The most interesting result arises when we consider the average monthly return of the family firm portfolio minus the non-family portfolio. When we apply our performance model to evaluate the difference in returns, alpha is 0.43 and significant at the 4.9% level. **This means that the family firm portfolio outperformed the non-family portfolio on a risk-adjusted, size-adjusted, value-adjusted, and momentum-adjusted basis.** The family firm portfolio return is 0.43 base points per month higher than the non-family portfolio. The coefficients of RMRF, SMB, HML and UMD are not significantly different from zero, which strengthens the result. This is because the family firm portfolio and the non-family portfolio have similar

behaviors. For example, when small stocks outperform large stocks, both the family firm portfolio and the non-family portfolio do better.

**Cross sectional analysis**

In December 1993, family firms had, on average, a lower market value, and a smaller book-to-market ratio than non-family firms⁴ (see Table 3).

Table 3: Comparison of book/market and size of family and non-family firms at end of 1993

<table>
<thead>
<tr>
<th></th>
<th>Nobs</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Value</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Firms</td>
<td>120</td>
<td>1010</td>
<td>500</td>
<td>1641</td>
</tr>
<tr>
<td>Non-Family Firms</td>
<td>126</td>
<td>2306</td>
<td>615</td>
<td>3232</td>
</tr>
<tr>
<td><strong>Book-to-Market ratio</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Firms</td>
<td>103</td>
<td>-0.01</td>
<td>0.26</td>
<td>2.59</td>
</tr>
<tr>
<td>Non-Family Firms</td>
<td>107</td>
<td>0.46</td>
<td>0.39</td>
<td>0.53</td>
</tr>
</tbody>
</table>

We also were concerned that the industrial classification could have an impact on the results. As can be seen in Figure 3, family-owned firms are more predominant in the services and cyclical consumer goods industries, and most non-family firms operate in the financial sector. The financial sector includes banks, real estate, and insurance companies. These differences are statistically significant⁵ and could therefore have a bearing on our conclusions with regard to performance.

![Figure 3: Industry breakdown of family and non-family firms at end 1993](image)

⁴ Medians were tested using the Wilcoxon rank-sum test. This result is significant at the 5% level for market value.

⁵ Pearson chi-square test ($pr = 0.0001$)
In order to see if these differences could influence the stock market performance of the two portfolios, we built stepwise ANOVA models of each equity’s normalized monthly lifetime shareholder return growth as a function of its ownership, industry, market value and book-to-market ratio at the end of 1993. As the return growth and market values were not normally distributed we took their natural log. The non-ferrous metal industrial sector was dropped from the analysis because it represented only two companies. The results are shown Table 4. The best model was based on industry and ownership type. In this model, family-owned firms have higher returns than non-family firms, even after industry effects have been taken into consideration.

Table 4: Stepwise ANOVA results for normalized monthly lifetime shareholder return growth

<table>
<thead>
<tr>
<th>Normalized Monthly Lifetime Shareholder Return Growth is a function of:</th>
<th>Number of observations</th>
<th>Amount of variance explained</th>
<th>Additional variable’s significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1-Variable models</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership</td>
<td>244</td>
<td>3.9%</td>
<td>0.0011</td>
</tr>
<tr>
<td>Industry</td>
<td>244</td>
<td>10.2%</td>
<td>0.0001</td>
</tr>
<tr>
<td>Book-to-market ratio</td>
<td>209</td>
<td>1.7%</td>
<td>0.032</td>
</tr>
<tr>
<td>Market value</td>
<td>244</td>
<td>-</td>
<td>Not significant</td>
</tr>
<tr>
<td><strong>Best 2-Variable model</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry + Ownership</td>
<td>244</td>
<td>15.2%</td>
<td>0.0002</td>
</tr>
<tr>
<td>Industry + Book-to-market ratio</td>
<td>209</td>
<td>12.8%</td>
<td>0.0245</td>
</tr>
<tr>
<td>Industry + Market value</td>
<td>244</td>
<td>-</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

*No further improvement possible*

The final equation for this ANOVA is:

**Equation 4: avegrow = 0.0300 * industry_mult * owner_mult**

where **avegrow** is the normalized monthly lifetime shareholder return growth, **industry_mult** is the industry multiplier and **owner_mult** is the ownership multiplier. Equation 4 can be interpreted using Table 5 in the following way. The baseline equity is a family-owned company operating in the financial sector. It’s normalized monthly lifetime shareholder return growth is 0.030. If this equity is non-family owned its return growth is 0.017, or 43% less. It is interesting to note that over this time period, only the cyclical consumer goods and information technology sectors had significantly lower returns than the financial sector. Our results indicate that while gains due to the cyclical variation of industry tend to cancel out in the long term, family ownership continues to build shareholder value through both good times and bad times.
Table 5: Ownership and Industrial Sector multipliers

<table>
<thead>
<tr>
<th>Ownership</th>
<th>Ownership Multiplier</th>
<th>Industrial Sector</th>
<th>Industry Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>1</td>
<td>Financials</td>
<td>1</td>
</tr>
<tr>
<td>Non-Family</td>
<td>0.5713</td>
<td>Cyclical Consumer Goods</td>
<td>0.3294</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Information Technology</td>
<td>0.1556</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other sectors (not significantly different from the financial sector)</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusions**

This study was motivated by the question as to whether it was beneficial, neutral or detrimental for investors in the stock market to buy shares in family firms, as opposed to shares in non-family firms, over a long-term period.

We undertook our investigation using data from the French stock market during the 9-year period 1993-2002. Our empirical analyses show that family firms quoted on the French stock market outperformed non-family firms during this time period. The superior performance of family firms is apparent even after accounting for the volatility of the family firm and non-family firm returns relative to the total market returns, the value versus growth effect, the firm size effect, the momentum effect and the industry effect. This is a strong result and a surprising one.

This result implies that either investors did not consider family ownership when making investment decisions, or that the investors’ expectations about firm performance were determined more by the arguments of those against family firm ownership than by those in favor of this type of ownership. Indeed, investors may as a result have been biased against the family firm.

If investors had been aware of the herewith demonstrated family firm effect, it would have been quickly corrected in an efficient market. We would then not have been able to find any real performance difference between the family and non-family portfolios. Thus we appear to have found an inefficiency in the French stock market. As such, this inefficiency should disappear as soon as investors become aware of the family firm effect demonstrated in this paper.

We believe this is the first paper demonstrating such an effect using stock market data using a financially valid performance model.
References


