Ownership structure, asset intensity and firm performance*

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This version: August 2016

ABSTRACT

This article studies the interrelation between ownership structure, asset intensity and corporate performance and risk in the hospitality industry. This industry is characterised by a strong presence of blockholders and a strong tendency to divest its real estate making it an ideal setting to analyse the impact on firm performance and risks. Using US and Western European companies over the period 2004-2013 we find that ownership structures affect the asset intensity and the disposal of assets by corporations. We further observe that both these variables have a significant influence on different measures of corporate risk and accounting and market performance. This study provides empirical support for the classic agency theory that ownership structures impact corporate performance through investments and the use of assets. It thus proposes an integrated framework which explains a way through which ownership has an effect on firm performance and risk.

Keywords: Ownership Structure, Hospitality, Real Estate, Family Firms, Asset Intensity, Asset Disposal

JEL codes: G31, G34, Z33

* The authors gratefully acknowledge financial support under the HES-SO grant SAGE-X N°37912

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INTRODUCTION

Academic literature and journalistic accounts suggest that ownership structures affect firm decisions and subsequently impact corporate performance (Schulze and Gedajlovic, 2010; Sharma, *et al.*, 2012). While literature on firm performance in the presence of family owners has received a lot of attention over the last decade (Maury, 2006; Villalonga and Amit, 2006), the drivers and means through which these performance divergences occur have been less examined. It is, however, important to understand the sources and corporate policies leading a company to out- or underperform its peers. One major source is at the core of agency theory and has been proposed by Jensen and Meckling (1976) who indicate that ownership structures affect corporate valuations through investments.

In this article we, therefore, want to build on this notion and document the interrelation between ownership structure, asset intensity and firm performance. We argue that different owners have different views on the optimal use of assets which has an effect on corporate performance and risk. Companies should implement their strategy as efficiently as possible by minimising the use of assets. This leads them to outsource corporate functions and dispose of superfluous assets. However, this rational behaviour of corporate efficiency may be diverging depending on ownership structure, investment horizon and risk-taking of the company.

We analyse these interrelations using companies in the hospitality industry. This choice is motivated by two main characteristics of this industry which make it an ideal setting to study. First, the mix of ownership structures in hospitality companies is very diverse. It is deeply rooted in entrepreneurship and family ownership. Individuals such as J.W. Marriott, Conrad Hilton or Berthold Kempinski not only developed their companies into household names, but also followed a dream and had enough foresight to shape the entire industry as we know it today. We consequently study an industry in which the term family is omnipresent at an industrial and corporate level. More recently, financial corporations such as Blackstone, 3G

Capital or Colony Capital have discovered hospitality companies. The ensuing financialisation of the industry and the occurrence of megadeals such as the acquisition of Hilton Hotels by Blackstone in 2007 for 26 billion USD makes it further interesting to study as the long term, conservative and service focused attitude of families meets the more dashing, short term approach of financial corporations.

Second, over the last two decades major hospitality companies have embarked on an asset-light strategy (Masset and Weisskopf, 2016). This method consists for companies to divest their properties and to focus on the management and service side of the business. To illustrate the concept consider the following example. Arriving at the Waldorf Astoria on Park Avenue in New York, you will likely see its brand everywhere: on the website, the building, the name tags of employees, paper headings and pens. What you don't notice is that the property is owned by Anbang Insurance Group. In a deal worth around two billion USD the Chinese insurance group bought this iconic property from Hilton in 2014. At the same time it entered a 100 year management agreement with Hilton who will continue to run the hotel on a daily basis (Bagli, 2014). While for the customer nothing changes, the repercussions for the businesses are vast. This approach should affect hospitality companies in multiple ways. Hospitality managers believe that being asset-light not only improves margins, but also shareholder returns through share buybacks, increased dividends and concentration on the core business (IHG, 2015). It further frees up capital to fund the future development of the group and reduces indebtedness through the sale proceeds of properties. Finally, it decreases financial risk through a more restraint use of debt and corporate risk as cash-flows become less volatile.

The combination of this large industry trend, in which a large portion of a company's assets may be divested, coupled with the diverging ownership structures and their ensuing behaviour makes this industry worthwhile studying. The decision to keep or sell properties will have an

influence on company risk and performance, but may strongly diverge depending on the identity of the firm owner.

Our sample consists of 154 hospitality companies and 1,124 firm-year observations over the period 2004 to 2013 for 15 Western European and North American countries. The results from fixed-effect panel regressions are threefold. First, we observe that the presence of a blockholder positively affects asset intensity, but only non-family blockholders positively relate to asset disposals. Second, companies with a blockholder display a lower profitability but a similar market performance as compared to widely-held companies. Family companies further exhibit a higher volatility but a similar market and specific risk than companies with other ownership structures. Third, asset intensity tends to be negatively related to firm profitability, market performance and leverage while it does not appear to affect company risk. Accounting for asset intensity, only family firms display a higher risk while they tend to have a lower return on equity.

This article offers several contributions. First, it examines the relationship between ownership and asset intensity and disposal. Several studies (Anderson, *et al.*, 2012; Lee and O'Neill, 2003) have looked into the investment behaviour of companies conditional on ownership. However, to the best of our knowledge, none has looked in depth at the degree of asset intensity and especially the disposal of large proportions of assets in the presence of diverging types of owners.

We further enrich the discussion on the performance of companies with a large shareholder. Research on company performance of family businesses is quite large (Anderson and Reeb, 2003a; Barontini and Caprio, 2006). The presence of institutional investors on corporate policies (Bushee, 1998; Hartzell and Starks, 2003) and performance (Gompers and Metrick, 2001) is equally large but mainly restricted to the U.S. market. The study allows us to directly

compare two types of blockholders, financials and families, which may have very different incentives and follow diverging corporate strategies.

We further add evidence to the literature on the relationship between ownership structure, asset intensity and firm performance and risk. The literature on corporate risk-taking and investments of family firms is quite large. However, it is rarely the case that these two elements are investigated in combination with firm performance and risk in one study. Further, we concentrate not on the decision to invest but rather on the decision of companies to become more efficient by selling non-core activities which eat up capital.

We also deepen our understanding of the behaviour of family capitalism. Evidence suggests that families do not always take value-maximising decisions but may be swayed by private benefits (Burkart, *et al.*, 2003; Dyck and Zingales, 2004) or emotions (Chrisman, *et al.*, 2003; Habbershon, *et al.*, 2003). The analysis of the use and disposal of properties which represent physical goods and may therefore be more prone to behavioural biases (Black, *et al.*, 2003; Salzman and Zwinkels, 2013) allows us to complement our knowledge of the working of families.

Finally, we contribute to research in the hospitality industry. Research on the effect to go asset-light on corporations is quite limited. Sohn, *et al.* (2013) constitutes one of the rare studies on the value creation of pursuing an asset light strategy. Evidence on the ownership structure of listed hospitality companies and its impact on firm policies and performance is equally scarce. We therefore contribute by studying both the asset-light strategy and the ownership structure of hospitality companies over two continents.

LITERATURE AND HYPOTHESES

Asset Intensity and Ownership

Classic theory posits that shareholders seek to maximise share value. However, investment horizons and preferences differ amongst shareholders which make these interfere in company management to promote their own interests (Chen, *et al.*, 2009). Prior evidence, thus, suggests that blockholders use their controlling stake to affect corporate decision-making according to their risk preferences (Fama and Jensen, 1985). Their decision rules may thereby not be aligned with the common investment rules favoured by other shareholders. Gompers and Lerner (2000) indicate that even short-term blockholders may direct investments towards their preferences, irrespective of the interest of other shareholders. Finally, the presence of a large shareholder may also be beneficial if it mitigates myopic investments by managers (Edmans, 2009).

Families, with their long-term perspective are incentivised to pursue corporate policies, such as investments, which enhance the long-term survival of their company. Additionally, family shareholders may act as monitors and mitigate the myopic behaviour of managers and constrain them to commit to more long-term investments (Stein, 1988). Thus the presence of a family blockholder may lead to a more long-term investment horizon than for companies with widespread shareholdings. This is further evidenced by literature on the short-term focus of corporate managers due to market participants discounting long-term investments (Poterba and Summers, 1995). This may be due to the uncertainty associated with future investment outcomes which create some share mispricing and hence entice short-term investors to forego such investments as opposed to families which may not be concerned about short-term share price deviations. Evidence on institutional investors is more nuanced on this issue. Some authors posit that this kind of investor exacerbates short-term myopia and as a result are detrimental to investments (Porter, 1991; Thurow, 1992). Others argue that institutional investors create a buffer with respect to short-term investors and thus drive investments (Jarrell

and Lehn, 1985; Wahal and McConnell, 2000). Building on this evidence we hypothesise that companies with a blockholder display a higher degree of asset intensity due to their long-term horizon. We further posit that family firms display a lower degree of asset disposal due to a sentimental attachment to physical assets in the form of properties. Companies with non-family blockholders, on the other hand, should dispose more of their properties to be able to restructure and unlock value potential in the company.

H1a: Firms with a blockholder display a higher asset intensity than widely-held firms.

H1b: Family firms have a lower rate of disposal of assets than widely-held firms.

H1c: Firms with a non-family blockholder have a lower rate of disposal of assets than widely-held firms.

Performance, Risk and Ownership

The first evidence on the performance of family firms emanates from US studies. Among these, Anderson and Reeb (2003a) show that family companies outperform non-family companies. This can mainly be attributed to founder CEO, as descendant CEO do not appear to affect performance in any way. Villalonga and Amit (2006) extend Anderson and Reeb's study and find complementing results. According to them the active management, generational stage of the family and the use of control-enhancing mechanisms all have an influence on company performance. Pérez-González (2006) examines CEO successions in family firms. He finds evidence of nepotism which leads to a lower market and accounting performance than for family firms with an external CEO. Miller, *et al.* (2007) further show evidence that corporate valuation is highest for companies with a lone founder, while other types of family companies do not appear to outperform. Fahlenbrach (2009) follows with a comprehensive analysis of the

founder effect and indicates that founder CEO lead to a higher valuation and an abnormal return as compared to a Carhart four factor model.

In Western Europe, two cross-country studies by Maury (2006) and Barontini and Caprio (2006) show that family firms do not display a higher market and accounting performance in all instances. Maury observes that active management is beneficial for profitability, but not for firm valuation. He further outlines a nonlinear relation between control and performance, indicating that family ownership becomes detrimental to firm valuation from a certain point onwards. On the contrary, accounting performance has a positive relation, demonstrating that family ownership improves corporate efficiency. Barontini and Caprio find parallels to Villalonga and Amit as founder CEO firms outperform other companies. On the other hand, for descendants the role in the company plays an important part. In non-executive positions, these firms tend to outperform while they perform equally with a descendant CEO and perform poorly for passive family investments.

Overall, evidence suggests that family companies are more profitable in both the United States and Western Europe. Concerning their valuation, results are more mixed. Subsequently we hypothesise that

H2a: Family firms display a higher accounting performance than non-family firms.

H2b: Family firms display a lower market performance than non-family firms.

Literature has also analysed the relation between ownership structures and corporate risk-taking and has found contradicting results. Family companies are meant to be conservative and long-living which leads family members to keep their company alive and in the hand of the family over multiple generations (Chua, *et al.*, 2003). To reach this goal family companies should therefore be more risk-averse to ensure the succession of the company to later

generations. In addition, families tend to have a majority of their wealth invested in the business which further enhances the wish to reduce risk (Bianco, *et al.*, 2013). This increased risk aversion of family firms has further been confirmed by Shleifer and Vishny (1986) and Gómez-Mejía, *et al.* (2007). Anderson and Reeb (2003b) further show that family companies display a higher operating risk which is surprising given the undiversified nature of the blockholder. Paligorova (2010) refines this results and finds evidence that it is the belonging to a business group which drives this positive relation. John, *et al.* (2008) on the other hand do not find a significant relation between corporate risk-taking and ownership structure.

On the other hand, the long-term orientation of families may also allow them to undertake riskier projects as compared to non-family companies which have to yield to the short-term pressure of (financial) investors (Sirmon and Hitt (2003); Zellweger (2007)). Kim and Lu (2011) further argue that external governance mitigates the relation between CEO ownership and risk-taking behaviour. This is further evidenced by Boubakri, *et al.* (2013) who find that state ownership is negatively influencing risk-taking while foreign ownership is positively related but heavily depends on governance.

It is not entirely clear if the relation between family ownership and debt (financial risk) is positive or negative. On the one hand, families will be reluctant to use equity financing due to the risk of dilution of their stake and the ensuing loss in control inside their company. Thus, financing should be more debt related. King and Santor (2008) and Croci, *et al.* (2011) show that family firms tend to minimise the chance of losing control by using more debt than other companies. This positive relation with debt has further been evidenced by Brailsford, *et al.* (2002) and Setia-Atmaja, *et al.* (2009) for Australian family firms. Moreover, the perception that family companies are more conservative and less risky should further facilitate the use of debt as these characteristics please debtholders and bankers (Margaritis and Psillaki (2010); Croci, et al. (2011)). On the other hand, the potential risk aversion and heavy wealth investment

of a family in a company may hinder the use of debt. As an increased indebtedness would lead to higher costs and probabilities of financial distress, families may be reluctant to use too much debt (Anderson and Reeb (2003b); Faccio, *et al.* (2011); Holmen, *et al.* (2007)). Debt would, in addition, put more scrutiny to the family's bearings and therefore reduce private benefit extraction which may not be wished for by the family (Volpin, 2002). Schmid (2013) confirms this argument by indicating that the direction of the relation between leverage and ownership depends on the level of monitoring by creditors. Finally, Anderson and Reeb (2003b) indicate that US family companies do not have a different financial leverage form non-family groups

Overall, evidence on the relation between ownership structure and risk is inconclusive. It, however, appears that ownership displays more of a positive relation to general risk and financial risk leading to the following two hypotheses.

H2c: Family firms display a higher risk than non-family firms.

H2d: Family firms display a higher financial risk than non-family firms.

Performance, Risk, Asset Intensity and Ownership

Evidence on the relation between ownership structure, asset intensity and company performance / risk is scarce. This is surprising as the issue has already been put forward by Jensen and Meckling (1976). They suggest that ownership structures affect corporate valuations through investments. As Cho (1998) points out the situation can thus be decomposed into two parts in which ownership structure first influences investments, which then impacts firm performance.

One of the few examples on these relations comes from Parrino (1997) who studies the spin-off by Marriott of its real estate division into Host Marriot while keeping its operations as Marriott International. He observes that the spin-off led to a wealth transfer from bondholders

to shareholders and reduced corporate value. It further seems that the Marriott family was able to extract private benefits from the deal posing questions on the influence families may have on the decisions to reduce asset intensity.

Considering the prior hypotheses we test four additional hypotheses. As a lower degree of asset intensity is suggested to boost firm performance and family firms tend to be more asset heavy we suggest that the positive performance of family companies should on average be offset by their higher asset intensity. As for the risk components, the higher risk for both family companies and asset heavy firms makes us propose that overall risk should combine and be higher accentuated in family businesses.

H3a: Family ownership and asset intensity offset any profitability gains or losses.

H3b: Family ownership and asset intensity lead to a lower market performance.

H3c: Family ownership and asset intensity lead to a higher risk.

H3d: Family ownership and asset intensity lead to a higher financial risk.

RESEARCH DESIGN

To investigate the different hypotheses we resort to multiple, partially hand-collected, data sources. Following a Hausmann test, we use fixed-effect panel models to test the hypotheses mentioned in the previous section.

Sample

The sample includes all companies in the lodging, casino and food & beverage (F&B) industries listed in the United States or in one of 15 Western European markets[1]. First, we

[1] These markets include Austria, Belgium, Denmark, Finland, France, Germany, Italy, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

restrict the sample to companies on an exchange-traded market. This allows us to exclude companies which are OTC traded and thus too illiquid and lacking information to infer unbiased results. The companies must further have been part of one of these industries for at least one year to be included in the study. The sample period starts in 2004 as many European regulators have only started to demand more detailed corporate governance and ownership data since the beginning of the 2000s. The period ends in 2013 with a final sample including 154 companies (1,124 firm-year observations).

As the research is focused on ownership, it is critical to have reliable information on the ownership structure of these companies. This is mainly achieved through two sources. First, the data is collected from companies' annual reports and classified by shareholder type, such as widely-held firms, companies with a family shareholder, or with a non-family shareholder as an ultimate blockholder. Second, all ownership data is cross-checked with Bureau van Dijk ownership data to exclude any error. In concluding the process, the ownership data is merged with accounting and financial data from Thomson Reuters Worldscope.

Variables

Ownership variables. Following existing literature on ownership structures, a corporation is defined as widely held if no shareholder holds more than 20% of ultimate voting rights (see among others Villalonga and Amit (2006), Sraer and Thesmar (2007), Isakov and Weisskopf (2014)). Although a threshold of 20% may appear low, it is normally enough for influencing company policies and management due to low annual meeting attendance and informal communication channels with management and boards. Blockholders are consequently further categorised into families and other blockholders. Families encompass both single individuals or multiple individuals or family members who act in concert. This would be the case for Hyatt Hotels which has been shaped and developed by Jay Pritzker in the 1960s. Today, around 75%

of voting rights are still held by the Pritzker family. Other blockholders include any non-family blockholder which, in this specific case, are mostly financial corporations. As an example Accor Hotels, one of the largest hotel groups in the world, has Eurazeo, a French investment company, as its largest shareholder holding around 30% of votes.

Asset intensity variables. Asset intensity can be static or dynamic. We, therefore, analyse both dimensions. For the static measures we use the ratio of fixed assets over total assets and depreciation over sales. We expect both to be higher the more asset intensive a company is. The dynamic component is defined as disposal of assets over fixed assets. In this case, we expect the ratio to be higher the more a company reduces its asset intensity.

Performance and risk variables. Performance is measured in multiple ways throughout the paper and includes both accounting and market performance variables. The market performance includes total shareholder return measured as the stock price return and dividend yield over the respective year. It further displays Tobin's Q as a valuation proxy which is calculated as (market value of equity plus book value of total debt) divided by book value of total assets. From an accounting perspective we use return on invested capital which is defined as net income plus interest expense adjusted for taxes over average total capital and return on equity calculated as net income divided by average equity over the year. We complement this by looking at the operating profit margin measured as operating income divided by sales.

Risk is equally measured in different ways and split in general and financial risk. Volatility is calculated as the annualised standard deviation of the weekly stock returns of each company while specific risk is calculated as the square root of (1-R2) multiplied by the annualised variance of weekly stock returns. The beta coefficient is measured on weekly stock and market excess returns. Financial risk is measured with leverage defined as total debt over total capital, and the interest coverage ratio measured as EBIT over interest expense.

Control variables. The following variables are used to control for industry- and firm-specific characteristics for each year. Firm size is defined as the natural logarithm of total assets; age is measured as the natural logarithm of years since the incorporation of the firm; leverage is equal to book value of total debt over (book value of total debt and equity); pay-out is represented by dividend per share divided by earnings per share and growth opportunities by the one year sales growth. All models include dummy variables for each respective year. Performance models further include the yearly volatility of a company, while risk models include Tobin's Q and return on invested capital as control variables. Finally, financial risk models exclude the leverage measure.

Methodology

This section describes the different models used to study the hypotheses between ownership structure, firm performance and asset intensity. As is common in the context of a sample which both draws from a cross-section and a time-series we use fixed-effect panel regressions in our analysis. Furthermore, we report standard errors in parentheses which are heteroskedasticity-consistent and allow for clustering at the firm level. To reduce the effect of outliers, we further winsorize all variables at the 5 and 95 percent levels[2]. This approach controls for unobserved firm heterogeneity and reduces problems commonly encountered using OLS regressions.

Hypothesis 1 is tested using the subsequent model with firm and year fixed effects and robust standard errors:

$$AI_{i,t} = \propto + \beta_1 OWN_{i,t} + \beta_2 CONTR_{i,t} + \varepsilon_{i,t} \quad (1)$$

where $AI_{i,t}$ is the degree of asset intensity or asset disposal of firm *i* in year *t* and $OWN_{i,t}$ represents a dummy taking the value one if for company *i* and year *t* there is a blockholder in

[2] Winsorising at the 1%, 2.5% level or skipping this process yields qualitatively similar results.

the company and 0 otherwise. $CONTR_{i,t}$ denotes the different control variables used in the model for each firm and year.

Hypothesis 2 uses a similar model to the one presented above:

$$PERF/RISK_{i,t} = \propto + \beta_1 OWN_{i,t} + \beta_2 CONTR_{i,t} + \varepsilon_{i,t} \quad (2)$$

where $PERF/RISK_{i,t}$ is the performance respective the risk of firm *i* in year *t*. All other variables follow the same definition as before.

Hypothesis 3 is estimated with a combination of models (1) and (2) in which all variables are defined as above:

$$PERF/RISK_{i,t} = \propto + \beta_1 OWN_{i,t} + \beta_2 AI_{i,t} + \beta_3 CONTR_{i,t} + \varepsilon_{i,t} \quad (3)$$

EMPIRICAL RESULTS

In this section, we first report descriptive statistics and then turn to testing the three blocks of hypotheses described beforehand.

Descriptive Statistics

Table 1 looks at the distribution of ownership across different dimensions. Panel A illustrates the proportion of companies that are either a family company, a firm with a non-family blockholder or a widely-held company for each sub-industry of the hospitality sector. It can be seen that around 53% of companies are widely-held, a third is family-owned and about 14% have a non-family blockholder. The proportions, however, vary amongst the three sub-groups. Family companies are predominant for casinos (52%), to a lesser extent for hotels (43%) but are less present in the F&B industry (22%). Non-family blockholders are, on the other hand, proportionally more present in the hotel and F&B industry and nearly inexistent for casinos. Panel B shows the proportion of observations for each year in the sample period. It can be seen

that the proportions remain fairly constant over time and that ownership type does not appear to significantly change over the sample period. Finally, panel C indicates the geographic distribution of ownership structures. The trends are in line with those found by La Porta, *et al.* (1999) and Faccio and Lang (2002). Widely held companies are predominant in common law, Anglo-Saxon countries while civil law, Continental European markets tend to have a larger proportion of companies with a blockholder.

Insert Table 1 about here

Table 2 shows descriptive statistics for different variables used in the empirical study. Average ROIC is 8.93% while average ROE is 8.66% and operating margin stands at 11%. From a market performance perspective, Tobin's Q is 1.62, while annual total shareholder return averages 14.9%. The firms in the sample display a rather high risk of around 40% but a rather low beta of 0.79. Companies further exhibit an average of 53% of debt in their capital and display a good solvency as shown by an interest rate coverage of around 15.8%. Turning to the asset intensity, companies have 53% of total assets in form of fixed assets and depreciate on average 4.93% in terms of sales. They equally dispose of around 3.3% of their fixed assets. Finally, they have an average size of 478 million USD, an average age of around 20 years, pay out 21% of their available earnings and display a one-year sales growth of 12.6%.

Insert Table 2 about here

In Table 3 the results of univariate tests of means are reported. It is apparent that family companies perform less well than non-family companies both from an accounting and market perspective. Concerning risk both groups tend to be similar apart from leverage where family

companies use less debt than their counterparts. Concerning asset intensity results are inconclusive with one measure showing a higher intensity for non-family firms and one being insignificant. For asset disposals, on the other hand, family firms appear more conservative and reduce them significantly less than other companies. Finally, family firms are on average older but smaller in size.

Insert Table 3 about here

In Table 4, we report the correlation coefficients of all accounting and market variables. Performance tends to be negatively correlated with asset intensity and positively correlated with asset disposal as expected. For risk it is the opposite, again as expected. Overall, variables, however, show rather low correlations.

Insert Table 4 about here

Asset Intensity and Ownership

Table 5 gives evidence on the relationship between ownership and asset intensity. While the first two indicators (fixed to total assets and deprecation to sales) look into a static asset intensity of companies the third indicator (disposal over fixed assets) takes a more dynamic approach by analysing the disposal of fixed assets by firms.

Insert Table 5 about here

As indicated in the table the presence of a blockholder has an influence on all three indicators. Companies with a blockholder appear to be more asset heavy meaning that they own more properties than widely-held companies. On the other hand, the significantly positive

coefficient for asset disposal indicates that these blockholder companies also try to sell more their properties to ultimately attain an asset level which is more in line with widely-held companies. Looking more in detail into the identity of the blockholders one can observe that these are not all behaving equally. Family companies tend to own more real estate but they do not appear to sell these assets at a faster rate. We interpret this result as the wish of families to keep their properties due to non-pecuniary reasons. The ownership of buildings constitutes an investment in a physical asset to which some emotional value may be attached. Furthermore, it may be easier to manage during successions as multiple buildings can be more easily sold than a single business. Non-family blockholders, on the other hand, do not have this sentimental value. Thus they own asset heavy companies and dispose of their properties when an opportunity arises. This leads them to unlock value by restructuring the business into a more asset light company. Overall, it seems that the owner identity has an influence on asset intensity. Not all have the same degree of asset intensity and not all of them have the same wish and capacity to dispose of assets.

Our results partially confirm our first block of hypotheses as companies with a blockholder display a higher asset intensity (H1a). While family companies indeed remain at this higher asset level by not accelerating their properties sales (H1b), we find the opposite to be true for companies with a non-family blockholder (H1c) which contradicts our initial hypothesis.

Performance, Risk and Ownership

Table 6 looks into the accounting and market performance of companies depending on their ownership structure. Companies with a blockholder show a lower accounting performance than widely-held companies. This is true for the return on invested capital, the return on equity and the operating margin. Looking at blockholder identity both family and non-family blockholders display a negative albeit non-significant ROIC and ROE. Only for the operating margin do both

types of owners exhibit a significantly and rather similarly negative coefficient. These results are contradicting previous evidence in which family companies tend to show a higher profitability.

Insert Table 6 about here

Turning to market performance results are in line with past evidence. Neither a company's valuation, as measured by Tobin's Q, nor its total shareholder return is significantly impacted by its ownership structure.

Table 7 presents results on the relationship between ownership structure and company risk. Specific risk displays positive coefficients while systematic risk shows a negative relation. However, both are not significant at conventional levels. Only total risk as measured by volatility is higher for family companies. It, therefore does not seem that ownership structure has an impact on risk.

Insert Table 7 about here

We further look into financial risk by examining leverage and interest coverage ratios. Here again coefficients are negative albeit not significant. This shows that companies with a blockholder hold on average less debt, but interestingly this does not increase their interest coverage ratio. This is due to their low overall profitability that probably does not allow them to take excessive levels of debt.

Overall, we find a negative influence of blockholders on profitability but non-significant results for market performance and different risk measures. Consequently, we reject all hypotheses but hypothesis 2c on the positive relation between family ownership and risk.

Performance, Risk, Asset Intensity and Ownership

In this section, we look at the simultaneous effect of asset intensity and ownership structure on firm performance and risk. As companies with blockholders do not tend to exhibit a uniform asset intensity or disposal of assets it could influence our initial performance and risk outcomes. Table 8 indicates results for accounting performance measures. We find evidence that a lower asset intensity tends to lead to a higher profitability. This is in line with sources from practice which put forward an increased profitability as a reason for turning increasingly asset light. This is confirmed by the positive relation between return on invested capital and asset disposal. The more companies shed properties and reduce their asset intensity the higher the profitability. Including asset intensity further influences results on ownership structure. Concerning operating margins findings remain similar to the previous section. The presence of a blockholder, irrespective of the identity, leads to a lower margin. Return on equity, however, is now significantly negative for companies with a non-family blockholder when taking asset disposals into account. Family firms tend mostly to have the same profitability as widely held companies but for one specification where return on invested capital turns negative.

Insert Table 8 about here

Table 9 looks into the market performance of companies. A lower asset intensity here leads to an increased valuation which may be explained by a translation of the aforementioned higher profitability into value. Total shareholder value, however, does not appear to be influenced by asset intensity and disposal. Finally, as before ownership structures do not impact firm market performance.

Insert Table 9 about here

Results reported in Table 10 show that generally asset intensity and disposal do not affect company risk. There is only a weak relation between asset intensity and systematic risk. This could be explained by an exposure to the real estate market which is dependent on interest rates. Turning to ownership structures we find that family companies exhibit a significantly positive relation towards total and firm-specific risk. This result is in line with prior evidence.

Insert Table 10 about here

Table 11 extends results on risk to financial risk and indebtedness. The use of debt tends increase with asset intensity which has an influence on leverage and interest coverage ratios. This is explained by the heavier use of debt to finance the large amounts needed to purchase and maintain properties by hospitality companies. This higher use of debt thus also reduces interest coverage ratios due to higher debt-related payments. Ownership structure, on the other hand, does not have an influence on debt levels.

Insert Table 11 about here

Overall, findings indicate that asset intensity has an effect on performance and indebtedness but not on risk. This confirms anecdotal evidence according to which an asset light model yields a better performance whilst reducing risk, especially financial risk. Taking into account asset intensity, however, only has a marginal effect on the relation between ownership and performance and risk. In general, results are similar but for the more pronounced risk-taking of family companies and a tendency for companies with a blockholder to underperform. These results, subsequently, confirm hypothesis 3a and 3c but infirm the remaining two hypotheses.

CONCLUSION

As Chris Nassetta, President and CEO of Hilton Worldwide, stated “we are not emotionally tied to our real estate. There are ways to accomplishing that [increase shareholder value] without owning the hard assets” (Mayock, 2014). Hilton’s expansion has been relatively cheap since it has been following an asset-light strategy. Since 2007, it was able to develop an additional 180’000 net rooms for a mere investment of 47 million USD. At the same time it has plans to divest the remaining hotels it owns. These thoughts by Mr. Nassetta, a hospitality veteran who oversaw the spin-off by Marriott of its real estate in the 1990s and who took over as Hilton CEO under Blackstone’s ownership clearly summarise the perception of professionals on the asset-light strategy. Once detached from emotions it makes sense to shed properties to create additional shareholder value, reduce indebtedness and finance corporate expansion. Many hospitality companies have followed this path due to pressure from financial investors.

At the same time, hospitality companies owned by families have not followed this trend and have kept properties on their balance sheet. This may be due to emotional ties to this physical asset which may hinder them to take more rational decisions. It can also involve, a fear to lose control in the company once the business changes. All in all, we find that ownership identity plays an important role on the decision to keep real estate inside the company or to sell them off. We further indicate that the degree of asset intensity affects company risk and performance and thus all shareholders. The presence of a family shareholder coupled with a higher degree of asset intensity leads to an increase in risk and a tendency for a lower accounting performance.

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Table 1
Ownership Dispersion

Panel A: Ownership per Sub-industry

	Hotel	FB	Casino	Total
Widely-held	140	402	62	604
Family	161	138	71	370
Non-family blockholder	70	77	3	150
Total	371	617	136	1'124

Panel B: Ownership per Year

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Widely-held	51	57	62	64	63	61	59	61	60	66
Family	31	34	38	36	36	36	37	38	41	43
Non-family blockholder	14	14	15	12	14	14	15	13	18	21
Total	96	105	115	112	113	111	111	112	119	130

Panel C: Ownership per Country

	AUT	BEL	DEN	ESP	FIN	FRA	GBR	GER	ITA	MAL	NOR	POR	SUI	SWE	USA
Widely-held	0	0	0	4	0	16	189	4	1	0	2	1	5	0	382
Family	10	3	0	18	1	73	35	13	23	4	0	15	0	22	153
Non-family blockholder	0	3	10	0	0	28	34	0	1	0	0	10	0	0	64
Total	10	6	10	22	1	117	258	17	25	4	2	26	5	22	599

This table shows the number of observations for each ownership category in the sample per sub-industry, year and market. Widely-held denotes a company with no shareholder holding more than 20% of voting rights in the company. Family indicates a company with a family or individual having more than 20% of voting rights and non-family blockholder shows any blockholder holding more than 20% of voting rights that is not a family

Table 2
Summary Statistics

	Mean	Std. Dev.	Min	Max
ROIC	8.934	14.187	-23.020	43.160
ROE	8.665	21.370	-44.120	54.870
Operating profit margin	10.925	13.009	-14.680	42.380
Tobin's Q	1.620	1.152	0.520	4.910
Total shareholder return	14.894	44.528	-61.280	107.840
Volatility	39.651	20.209	15.750	91.730
Specific risk	35.844	17.903	14.500	81.460
Beta	0.790	0.597	-0.170	1.950
Leverage	53.212	43.205	0.000	156.190
Interest coverage ratio	15.826	37.962	-11.770	162.780
Fixed assets / total assets	53.534	25.526	5.340	89.010
Depreciation / sales	4.930	2.633	1.010	10.820
Asset disposal / fixed assets	3.310	6.124	0.000	24.390
Firm size	13.078	1.998	9.320	16.280
Firm age	2.970	0.735	1.609	4.407
Pay-out ratio	20.664	30.713	0.000	100.000
1y sales growth	12.571	23.833	-17.070	87.640

This table shows the mean, the standard deviation and the minimum and maximum values for the different variables of the sample.

Table 3
Univariate tests

	All firms	Family firm	Non-family firm	Family firm vs. Non-family firm
	Mean	**Mean**	**Mean**	**t-stat**
ROIC	8.934	8.360	9.617	1.373
ROE	8.665	6.818	10.305	2.478**
Operating profit margin	10.925	8.009	12.750	5.624***
Tobin's Q	1.620	1.478	1.690	2.842***
Total shareholder return	14.894	12.184	16.473	1.452
Volatility	39.651	39.467	39.059	-0.310
Specific risk	35.844	35.807	35.256	-0.482
Beta	0.790	0.708	0.827	3.139***
Leverage	53.212	48.965	56.168	2.556**
Interest coverage ratio	15.826	17.609	15.506	-0.824
Fixed assets / total assets	53.534	50.418	55.018	2.759***
Depreciation / sales	4.930	5.087	4.865	-1.244
Asset disposal / fixed assets	3.310	2.706	3.543	2.018**
Firm size	13.078	12.921	13.240	2.510**
Firm age	2.970	3.102	2.898	-4.286***
Pay-out ratio	20.664	22.714	20.349	-1.173
1y sales growth	12.571	13.709	12.386	-0.847
Observations	1'124	370	754	

The variables for the sample of 1124 firm-year observations include ROIC, ROE, operating margin, Tobin's Q, TSR for performance; volatility, specific risk and beta for general risk; leverage and interest coverage ratio for financial risk. Fixed assets over total assets, depreciation over sales, asset disposal over fixed assets indicate asset intensity and firms size and age, pay-outs and sales growth control variables. Tests are performed on the difference of means between family and non-family firms.
***, **, * show significance at the 1%, 5%, 10% levels, respectively

Table 4
Pairwise Correlation Coefficients

	ROIC	ROE	Operating profit margin	Tobin's Q	TSR	Volatility	Specific risk	Beta	Leverage	Interest coverage ratio	Fixed assets / total assets	Depreciation / sales	Asset disposal / fixed assets	Firm size	Firm age	Pay-out ratio	1y sales growth
ROIC	1.000																
ROE	0.859	1.000															
Operating profit margin	0.494	0.417	1.000														
Tobin's Q	0.391	0.377	0.129	1.000													
Total shareholder return	0.194	0.180	0.089	0.312	1.000												
Volatility	-0.429	-0.389	-0.249	-0.149	-0.177	1.000											
Specific risk	-0.448	-0.420	-0.284	-0.133	-0.141	0.973	1.000										
Beta	-0.124	-0.047	0.018	0.034	-0.014	0.461	0.328	1.000									
Leverage	0.062	0.078	0.372	-0.111	-0.062	0.022	-0.006	0.058	1.000								
Interest coverage ratio	0.381	0.241	0.093	0.385	0.112	-0.198	-0.180	-0.157	-0.382	1.000							
Fixed assets / total assets	-0.084	-0.097	0.111	-0.064	-0.035	0.090	0.102	0.076	0.142	-0.088	1.000						
Depreciation / sales	-0.289	-0.244	-0.109	-0.147	0.001	0.158	0.146	0.118	-0.010	-0.204	0.373	1.000					
Asset disposal / fixed assets	0.146	0.081	0.031	-0.021	0.025	-0.087	-0.092	-0.025	0.108	-0.084	-0.222	-0.105	1.000				
Firm size	0.167	0.204	0.382	-0.077	0.042	-0.137	-0.249	0.408	0.379	-0.194	-0.049	0.034	0.089	1.000			
Firm age	0.122	0.079	0.179	-0.181	0.009	-0.212	-0.238	-0.095	0.059	-0.025	-0.091	0.044	0.115	0.213	1.000		
Pay-out ratio	0.211	0.160	0.178	-0.015	-0.036	-0.274	-0.312	-0.115	0.168	0.034	-0.180	-0.156	0.140	0.260	0.243	1.000	
1y sales growth	0.049	-0.036	-0.007	0.112	0.021	-0.061	-0.023	-0.140	0.048	0.080	-0.051	-0.011	-0.059	-0.100	-0.189	0.002	1.000

This Table presents the pairwise correlations for all variables used in the empirical part.

Table 5
Ownership and asset intensity

	Fixed assets / total assets		Depreciation / sales		Asset disposal / fixed assets	
	(1)	(2)	(3)	(4)	(5)	(6)
Blockholder	3.373**		0.527**		2.188**	
	(1.503)		(0.253)		(1.104)	
Family firm		3.432		0.824***		0.440
		(2.107)		(0.263)		(1.141)
Other blockholder		4.216***		0.281		4.046**
		(1.587)		(0.445)		(1.708)
Tobin's Q	-1.564**	-1.469**	-0.238**	-0.280**	-0.138	-0.201
	(0.680)	(0.705)	(0.107)	(0.109)	(0.425)	(0.424)
ROIC	-0.074	-0.034	-0.023***	-0.022***	0.067*	0.073*
	(0.058)	(0.053)	(0.007)	(0.008)	(0.036)	(0.038)
Firm size	1.242	0.638	0.070	0.086	-0.787	-0.816
	(2.347)	(2.390)	(0.279)	(0.284)	(0.983)	(0.969)
Firm age	-1.524	-1.459	0.509	0.534	-1.139	-0.730
	(5.318)	(5.435)	(0.648)	(0.645)	(2.465)	(2.387)
Volatility	0.022	0.030	0.004	0.003	0.001	-0.001
	(0.042)	(0.046)	(0.006)	(0.006)	(0.016)	(0.015)
Leverage	0.073**	0.059**	0.001	0.001	-0.015	-0.014
	(0.030)	(0.028)	(0.004)	(0.004)	(0.019)	(0.019)
Pay-out	0.003	0.006	0.001	0.001	0.000	0.000
	(0.014)	(0.014)	(0.003)	(0.003)	(0.012)	(0.013)
Sales growth	0.006	0.008	-0.006*	-0.006**	-0.022*	-0.019
	(0.020)	(0.020)	(0.003)	(0.003)	(0.012)	(0.012)
Constant	43.023	50.013	3.390	3.114	15.432	14.982
	(32.444)	(32.965)	(3.699)	(3.735)	(15.341)	(14.785)
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
R-squared	0.084	0.065	0.098	0.103	0.072	0.079
Observations	999	968	969	938	955	925
Number of companies	135	132	132	129	132	129

Table 6
Ownership and firm performance

	ROIC		ROE		Operating margin		Tobin's Q		TSR	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Blockholder	-2.470*		-4.608**		-4.052***		0.021		-3.978	
	(1.482)		(2.246)		(1.136)		(0.084)		(5.006)	
Family firm		-2.857		-4.514		-4.430***		0.095		-2.771
		(2.308)		(2.867)		(1.594)		(0.138)		(6.942)
Other blockholder		-2.059		-5.205		-4.022***		-0.031		-6.666
		(1.616)		(3.171)		(1.339)		(0.080)		(5.946)
Tobin's Q	2.819***	2.887***	4.438***	4.386***	1.973***	2.060***				
	(0.772)	(0.827)	(1.244)	(1.331)	(0.565)	(0.597)				
ROIC							0.013***	0.013***	0.862***	0.856***
							(0.003)	(0.004)	(0.175)	(0.183)
Firm size	1.419	1.871	-0.970	-0.264	-0.603	-0.668	-0.432***	-0.420***	-2.908	-1.822
	(1.483)	(1.402)	(2.303)	(2.173)	(1.250)	(1.277)	(0.133)	(0.136)	(4.490)	(4.407)
Firm age	4.716	3.932	7.023	5.744	4.286	4.277	-0.152	-0.114	13.186	10.273
	(4.216)	(3.834)	(7.349)	(6.973)	(4.018)	(4.119)	(0.340)	(0.345)	(14.241)	(13.478)
Volatility	-0.115***	-0.100***	-0.250***	-0.219***	-0.052***	-0.045**	-0.002	-0.003	0.325**	0.279**
	(0.035)	(0.034)	(0.053)	(0.052)	(0.019)	(0.020)	(0.003)	(0.003)	(0.129)	(0.131)
Leverage	-0.029	-0.021	-0.028	-0.013	0.019	0.019	0.002	0.002	-0.155*	-0.139*
	(0.031)	(0.031)	(0.056)	(0.057)	(0.024)	(0.024)	(0.002)	(0.002)	(0.079)	(0.081)
Pay-out	-0.068***	-0.071***	-0.098***	-0.101***	-0.018	-0.019	0.001	0.001	-0.084	-0.085
	(0.018)	(0.018)	(0.031)	(0.032)	(0.024)	(0.024)	(0.001)	(0.001)	(0.056)	(0.057)
Sales growth	0.046**	0.042**	0.018	0.011	0.021	0.021	0.003**	0.003**	0.186***	0.179***
	(0.020)	(0.020)	(0.037)	(0.037)	(0.013)	(0.013)	(0.001)	(0.001)	(0.064)	(0.064)
Constant	-20.703	-24.916	6.993	0.329	5.589	6.263	7.462***	7.232***	26.157	22.964
	(20.607)	(19.572)	(31.475)	(30.645)	(18.821)	(19.007)	(2.137)	(2.164)	(67.731)	(69.279)
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R-squared	0.169	0.177	0.145	0.142	0.132	0.134	0.298	0.305	0.378	0.386
Observations	1,010	979	952	921	1,009	978	1,010	979	1,004	973
Number of companies	135	132	131	128	135	132	135	132	135	132

Table 7
Ownership and firm risk

	Volatility		Specific risk		Beta		Leverage		ICR	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Blockholder	2.121		2.435		-0.003		-3.617		-2.736	
	(2.191)		(1.625)		(0.084)		(4.082)		(4.720)	
Family firm		5.405*		3.934		-0.020		-3.540		-4.478
		(2.836)		(2.447)		(0.116)		(5.600)		(6.885)
Other blockholder		-2.129		0.551		-0.019		-4.499		-0.509
		(3.242)		(1.708)		(0.101)		(5.142)		(2.626)
Tobin's Q	-0.269***	-0.238***	-0.244***	-0.223***	-0.002	-0.002	-0.160	-0.124	0.604***	0.583***
	(0.077)	(0.082)	(0.070)	(0.075)	(0.001)	(0.002)	(0.165)	(0.179)	(0.111)	(0.117)
ROIC	-0.775	-1.344	0.086	-0.414	0.002	-0.004	2.030	2.584	4.870**	5.219**
	(1.424)	(1.326)	(0.834)	(0.711)	(0.028)	(0.027)	(2.674)	(2.823)	(2.396)	(2.495)
Firm size	-2.801	-2.569	-4.610**	-4.194*	0.079	0.070	8.308	7.929	0.558	0.707
	(3.114)	(3.114)	(2.168)	(2.248)	(0.050)	(0.053)	(6.151)	(6.285)	(3.832)	(3.900)
Firm age	-2.090	-1.657	-2.090	-1.478	-0.486***	-0.445***	-15.535	-17.106	9.774	10.365
	(7.914)	(8.049)	(6.702)	(6.844)	(0.158)	(0.163)	(12.051)	(12.373)	(11.023)	(11.152)
Volatility							0.211***	0.210***	0.030	0.034
							(0.058)	(0.059)	(0.066)	(0.068)
Leverage	0.088***	0.084***	0.067***	0.064***	0.001	0.001*				
	(0.023)	(0.021)	(0.023)	(0.022)	(0.001)	(0.001)				
Pay-out	-0.066**	-0.066**	-0.058**	-0.062**	-0.000	-0.000	0.032	0.033	-0.018	-0.022
	(0.031)	(0.031)	(0.024)	(0.025)	(0.001)	(0.001)	(0.047)	(0.048)	(0.033)	(0.034)
Sales growth	-0.033	-0.034	-0.012	-0.012	-0.001	-0.001	0.055	0.059*	0.027	0.028
	(0.033)	(0.033)	(0.030)	(0.030)	(0.001)	(0.001)	(0.035)	(0.035)	(0.049)	(0.049)
Constant	74.312**	70.926**	94.344***	88.513***	0.915	0.914	-21.534	-13.909	-30.595	-33.932
	(35.541)	(34.715)	(23.188)	(23.462)	(0.669)	(0.691)	(94.295)	(96.151)	(55.775)	(56.337)
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R-squared	0.481	0.486	0.439	0.441	0.122	0.131	0.095	0.095	0.112	0.108
Observations	1,010	979	1,038	1,007	1,045	1,014	1,010	979	951	921
Number of companies	135	132	142	139	142	139	135	132	134	131

Table 8
Ownership, asset intensity and profitability

	ROIC			ROE			Operating margin		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fixed assets / total assets	-0.026			-0.042			0.018		
	(0.040)			(0.068)			(0.035)		
Depreciation / sales		-0.831***			-1.962***			-1.115***	
		(0.312)			(0.612)			(0.368)	
Disposal / fixed assets			0.145**			0.169			-0.191***
			(0.069)			(0.118)			(0.057)
Family firm	-3.279	-3.101	-3.075	-5.052*	-3.489	-4.448	-4.483***	-3.921**	-4.201**
	(2.384)	(2.371)	(2.448)	(2.940)	(2.824)	(3.004)	(1.582)	(1.737)	(1.721)
Other blockholder	-2.014	-1.889	-3.032*	-4.901	-4.538	-5.729*	-4.081***	-3.797**	-3.246**
	(1.550)	(1.630)	(1.642)	(3.025)	(3.376)	(3.018)	(1.354)	(1.466)	(1.340)
Tobin's Q	2.947***	2.709***	3.271***	4.522***	3.644***	4.894***	2.083***	1.618***	2.083***
	(0.851)	(0.795)	(0.883)	(1.361)	(1.278)	(1.440)	(0.617)	(0.597)	(0.633)
Firm size	0.834	0.088	0.734	-1.125	-1.509	-0.935	-0.607	-0.584	-0.676
	(1.225)	(1.231)	(1.251)	(2.273)	(2.290)	(2.325)	(1.330)	(1.435)	(1.326)
Firm age	4.895	5.517	5.316	7.182	7.719	8.972	4.458	4.532	4.908
	(3.941)	(3.749)	(4.018)	(7.046)	(6.795)	(7.212)	(4.169)	(4.078)	(4.300)
Volatility	-0.078**	-0.081**	-0.093***	-0.205***	-0.208***	-0.220***	-0.045**	-0.038*	-0.051**
	(0.032)	(0.032)	(0.032)	(0.053)	(0.048)	(0.053)	(0.021)	(0.022)	(0.023)
Leverage	-0.018	-0.040	-0.016	0.006	-0.016	0.013	0.020	0.022	0.022
	(0.034)	(0.030)	(0.035)	(0.061)	(0.056)	(0.064)	(0.027)	(0.025)	(0.027)
Pay-out	-0.060***	-0.075***	-0.063***	-0.088***	-0.100***	-0.094***	-0.020	-0.018	-0.019
	(0.014)	(0.022)	(0.014)	(0.030)	(0.034)	(0.031)	(0.025)	(0.024)	(0.026)
Sales growth	0.031*	0.033	0.031*	0.003	-0.017	-0.001	0.022	0.015	0.019
	(0.017)	(0.021)	(0.017)	(0.038)	(0.039)	(0.038)	(0.014)	(0.013)	(0.013)
Constant	-13.463	-0.398	-15.000	8.499	22.884	-1.773	3.600	10.806	5.028
	(19.538)	(18.016)	(19.521)	(34.070)	(31.767)	(34.395)	(20.265)	(20.819)	(19.927)
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
R-squared	0.171	0.201	0.185	0.138	0.172	0.143	0.135	0.182	0.157
Observations	968	938	925	910	883	870	971	943	927
Number of companies	132	129	129	128	125	125	131	129	129

Table 9
Ownership, asset intensity and market performance

	Tobin's Q			Total shareholder return		
	(1)	(2)	(3)	(4)	(5)	(6)
Fixed assets / total assets	-0.006**			-0.204		
	(0.003)			(0.145)		
Depreciation / sales		-0.050**			0.023	
		(0.020)			(1.167)	
Disposal / fixed assets			-0.002			0.073
			(0.004)			(0.204)
Family firm	0.111	0.155	0.056	-3.125	-1.010	-6.761
	(0.148)	(0.142)	(0.152)	(7.216)	(7.909)	(7.031)
Other blockholder	-0.016	-0.030	-0.000	-5.400	-7.109	-6.860
	(0.083)	(0.066)	(0.089)	(5.604)	(6.085)	(6.427)
ROIC	0.015***	0.013***	0.016***	0.850***	0.841***	0.860***
	(0.004)	(0.004)	(0.004)	(0.203)	(0.199)	(0.202)
Firm size	-0.444***	-0.337***	-0.440***	-0.813	-2.498	0.161
	(0.153)	(0.114)	(0.142)	(5.319)	(5.196)	(5.101)
Firm age	-0.127	-0.033	-0.195	12.805	13.262	8.366
	(0.357)	(0.351)	(0.360)	(13.407)	(14.193)	(14.045)
Volatility	-0.002	-0.001	-0.002	0.268*	0.319**	0.284*
	(0.002)	(0.002)	(0.002)	(0.140)	(0.145)	(0.148)
Leverage	0.002	0.003	0.001	-0.080	-0.136	-0.084
	(0.002)	(0.002)	(0.002)	(0.074)	(0.085)	(0.078)
Pay-out	0.001	0.001	0.002	-0.088	-0.110*	-0.068
	(0.001)	(0.001)	(0.001)	(0.058)	(0.060)	(0.060)
Sales growth	0.003**	0.002	0.003**	0.212***	0.167**	0.215***
	(0.001)	(0.001)	(0.001)	(0.063)	(0.067)	(0.065)
Constant	7.936***	6.135***	7.779***	11.758	23.410	-0.027
	(2.286)	(1.689)	(2.153)	(73.077)	(77.779)	(73.193)
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
R-squared	0.321	0.316	0.327	0.390	0.389	0.391
Observations	968	938	925	962	935	919
Number of companies	132	129	129	132	129	129

Table 10
Ownership, asset intensity and risk

	Volatility			Specific risk			Beta		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fixed assets / total assets	0.054			0.002			0.004*		
	(0.083)			(0.067)			(0.002)		
Depreciation / sales		0.280			0.280			-0.007	
		(0.473)			(0.411)			(0.015)	
Disposal / fixed assets			-0.003			0.006			-0.002
			(0.066)			(0.065)			(0.002)
Family firm	3.794*	6.609**	4.760**	2.796	5.703**	4.191**	-0.020	-0.045	0.026
	(1.990)	(2.930)	(2.020)	(1.813)	(2.464)	(1.696)	(0.122)	(0.118)	(0.126)
Other blockholder	-2.307	-0.331	-2.324	0.303	0.072	0.105	-0.029	-0.002	-0.014
	(3.031)	(2.242)	(3.624)	(1.501)	(1.374)	(1.473)	(0.099)	(0.102)	(0.096)
ROIC	-0.182**	-0.177**	-0.210***	-0.174**	-0.178***	-0.195***	-0.002	-0.002	-0.002
	(0.078)	(0.073)	(0.080)	(0.071)	(0.065)	(0.071)	(0.002)	(0.002)	(0.002)
Tobin's Q	-1.131	-0.444	-0.938	-0.448	-0.060	-0.421	0.007	-0.003	-0.001
	(1.150)	(1.003)	(1.054)	(0.704)	(0.688)	(0.724)	(0.027)	(0.028)	(0.029)
Firm size	1.409	0.238	1.109	-0.810	-1.422	-0.993	0.088	0.080	0.094
	(2.066)	(2.093)	(1.832)	(1.437)	(1.463)	(1.423)	(0.059)	(0.061)	(0.061)
Firm age	-9.693*	-6.596	-8.221	-7.936	-4.584	-5.740	-0.445**	-0.497***	-0.431**
	(5.493)	(5.834)	(5.563)	(5.090)	(5.391)	(5.199)	(0.175)	(0.168)	(0.187)
Leverage	0.078***	0.091***	0.082***	0.059***	0.076***	0.060***	0.002*	0.001*	0.002**
	(0.020)	(0.024)	(0.021)	(0.021)	(0.024)	(0.022)	(0.001)	(0.001)	(0.001)
Pay-out	-0.040**	-0.042**	-0.040**	-0.043**	-0.044**	-0.040**	-0.000	-0.000	-0.000
	(0.019)	(0.021)	(0.020)	(0.017)	(0.018)	(0.017)	(0.001)	(0.001)	(0.001)
Sales growth	-0.015	-0.039	-0.022	0.005	-0.022	-0.004	-0.001	-0.001	-0.001
	(0.033)	(0.033)	(0.034)	(0.030)	(0.031)	(0.031)	(0.001)	(0.001)	(0.001)
Constant	36.620	42.790	39.362	61.056***	57.179**	57.574**	0.445	0.963	0.557
	(32.828)	(31.056)	(28.217)	(23.131)	(22.622)	(22.258)	(0.735)	(0.758)	(0.767)
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
R-squared	0.522	0.531	0.537	0.468	0.478	0.484	0.141	0.142	0.140
Observations	968	938	925	996	966	953	1,003	970	958
Number of companies	132	129	129	139	136	137	139	136	137

Table 11
Ownership, asset intensity and financial risk

	Leverage			Interest coverage ratio		
	(1)	(2)	(3)	(4)	(5)	(6)
Fixed assets / total assets	0.261**			-0.246*		
	(0.115)			(0.130)		
Depreciation / sales		0.249			-1.194	
		(0.771)			(0.828)	
Disposal / fixed assets			-0.165			-0.136
			(0.239)			(0.116)
Family firm	-6.039	-7.874	-6.564	-1.861	-3.859	-0.846
	(5.937)	(5.546)	(6.195)	(6.883)	(7.439)	(7.308)
Other blockholder	-6.806	-4.601	-6.878	0.623	-0.235	0.054
	(4.844)	(5.030)	(4.735)	(2.718)	(2.693)	(2.984)
ROIC	-0.105	-0.229	-0.093	0.570***	0.552***	0.599***
	(0.189)	(0.166)	(0.203)	(0.121)	(0.126)	(0.127)
Tobin's Q	1.807	3.663	1.577	4.800*	5.040**	5.009*
	(2.771)	(2.636)	(2.944)	(2.447)	(2.538)	(2.577)
Firm size	1.507	1.648	1.083	-0.491	-0.069	0.318
	(4.649)	(5.794)	(4.884)	(4.152)	(4.194)	(4.160)
Firm age	-16.671	-14.905	-21.643*	11.371	11.590	7.137
	(12.154)	(13.137)	(12.433)	(11.003)	(11.462)	(9.527)
Volatility	0.193***	0.240***	0.214***	0.069	0.047	0.051
	(0.061)	(0.081)	(0.066)	(0.072)	(0.075)	(0.074)
Pay-out	-0.006	0.016	0.001	-0.016	-0.022	-0.017
	(0.039)	(0.044)	(0.041)	(0.035)	(0.036)	(0.037)
Sales growth	0.037	0.075**	0.043	0.015	0.028	0.005
	(0.032)	(0.037)	(0.033)	(0.042)	(0.049)	(0.044)
Constant	57.842	59.201	91.992	-7.387	-20.213	-21.190
	(67.818)	(92.646)	(72.707)	(59.677)	(61.180)	(58.196)
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
R-squared	0.103	0.092	0.097	0.118	0.114	0.109
Observations	968	938	925	915	884	875
Number of companies	132	129	129	130	128	128