Managing with Style:

The Effect of Managers on Firm Policies

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Abstract

Previous work in corporate finance has given little consideration to manager specific effects when studying the determinants of corporate decisions. In this paper, we assess whether and how much the heterogeneity in firms' policies can be explained by differences in managerial style. We use firm-manager matched panel data where we can track the same managers across different firms over time. This data set allows us to isolate manager specific effects. We find that manager fixed effects matter for a wide range of corporate decisions. For example, differences in capital structure, investment-to-cash flow sensitivities, dividend payout ratios, acquisition and diversification policies are to a significant extent explained by executive fixed effects. We also find that different managers matter for different decisions, e.g. CFOs have the biggest impact on capital structure variables while segment CEOs matter the most for acquisition decisions. Moreover, we identify specific patterns in managerial decision making that seem to indicate general difference in "style," e.g. financial conservatism versus aggressiveness or internal versus external growth.

We also tie back these findings to some observable characteristics of the managers. The two characteristics we focus on are MBA graduation (and the specific business school attended) and birth cohort. We analyze whether and how corporate decisions are affected by these managerial characteristics (after controlling for firm fixed effects). Managers who hold an MBA degree seem on average to follow more financially aggressive strategies. On the other hand, executives from earlier birth cohorts are on average more financially conservative.

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1 Introduction

"In the old days I would have said it was capital, history, the name of the bank. Garbage - it's about the guy at the top. I am very much a process person, a builder. Sandy [Weil] is an acquirer. Just totally different."

-John Reed, CEO Citicorp

A large amount of research in finance and economics has been dedicated to understanding the determinants of corporate investment and financing policies. One persistent result that emerges from that literature is the enormous heterogeneity in outcomes between firms. Titman and Wessels (1988) and Smith and Watts (1992) look at the cross-sectional determinants of capital structure at the firm level. Both papers analyze the importance of firms' observable characteristics such as market-to-book values, the type of assets a firm operates or non-debt tax shields. However, a lot of variation remains unaccounted for by firm level characteristics. Bradley, Jarrell and Kim (1984) show that even after controlling for industry fixed effects a significant amount of intra-industry variation in capital structure remains.[1] Similarly, the ongoing debate about differences in the investment-cash flow and investment-q sensitivities between firms, started by Fazzari, Hubbard and Petersen (1987), shows that there is still considerable disagreement about how to explain the wide variation in firms' investment behavior.

The novel contribution of this paper is to explicitly introduce a people, and more specifically a manager, dimension in trying to explain part of this unexplained heterogeneity. Many practitioners would agree that CEOs and other top executives have different "styles" when making investment, financing or strategic decisions in their firm. Reading the business press, it becomes clear that some managers have a reputation for, say, being financially conservative or favoring acquisition-driven growth.[2] As the quotes above suggest, such perceptions of important differences in style also exist within the managerial profession itself. However, economic theory, and corporate finance research more specifically, give little consideration to such a "people factor." Overall, economists rarely regard managerial style as a key determinant of the heterogeneity in corporate decisions.[3]

[1] For a recent study of intra-industry variation in leverage see MacKay and Phillips (2001).

[2] An exmple is the Business Week article in May, 2001 that discusses the aggressive acquisition style of Dennis Koszlowski the CEO of Tyco, which is titled the "Koszlowski Method".

[3] Agency theory recognizes that conflict of interests can emerge between managers and owners inside of publicly

Our first concrete objective in this paper is to provide some measurement of the importance of managers' effects for a wide range of corporate decisions. Intuitively, one would like to quantify how much of the variance in firm policies can be attributed to manager fixed effects. One obvious problem with this simple approach is that manager fixed effects are correlated with other firm specific characteristics and may therefore capture much more than just style effects. Consequently, we propose to quantify the importance of manager fixed effects in a framework where we fully control for any time-invariant differences across firms as well as for important time-varying factors at the firm level.

To implement this approach, we construct a firm-manager matched panel data set where we can track the same top managers across different firms over time. We then ask, after controlling for firm fixed effects and time-varying firm characteristics, how much the unexplained variance in firm policies can be explained by the managers' fixed effects. In other words, we identify style effects from correlated deviations from expected corporate policy between firms when a particular manager moves from one firm to the other. In practice, the specific corporate decisions we study relate to investment policy (capital expenditures, investment to Q sensitivity, investment to cash flow sensitivity and acquisition policy), financing policy (financial leverage, interest coverage, cash holdings, and dividend payouts), as well as organizational strategy (R&D expenditures, advertising expenditures and diversification policy).

Our results show that manager effects are quantitatively important determinants of corporate decisions. On average, adjusted R^2's of corporate variables on firm fixed effects and firm time-varying characteristics increase by about 4 percentage points with the inclusion of manager fixed effects. Moreover, we find that manager effects matter much more for some decisions than others. For example, manager fixed effects explain an additional 12 percentage points of the variance in acquisition or diversification policy in our data set. Management effects also appear to be especially important in the determination of dividend policy and interest coverage. We also find that different managers matter for different decisions. For example, we find that CFOs have the biggest impact on capital structure variables. Maybe more surprisingly, segment-level CEOs have big effects on acquisition and diversification policies.

In a second step, we correlate the manager fixed effects across all corporate variables to try

held corporations. But most of the heterogeneity in outcomes in these models stems from heterogeneity in the board's ability to control managers and, in general, heterogeneity in the strength of corporate governance across firms.

to identify general patterns in managerial decision-making. Two broad dimensions of style emerge from this exercise. First, some managers appear to be generally more financially aggressive, displaying higher levels of financial leverage, lower cash holdings, more active acquisition policy, higher investment to q sensitivities and lower investment to cash flow sensitivities. Second, managers seem to differ in their approach towards internal versus external growth. Managers that engage in more external acquisitions and diversifications also display lower levels of capital expenditures and R&D.

In a third step, we tie back differences in style to observable managerial characteristics. For this specific exercise we exclusively focus on CEOs. The two characteristics we look at are birth cohort and MBA graduation. We analyze whether and how corporate decisions are affected by these two characteristics after controlling for any fixed differences across firms. Older generations of CEOs seem on average more financially conservative. Managers who hold an MBA degree seem on average to follow more financially aggressive strategies. We also study specific business school effects among the MBA graduates. We find some systematic differences in corporate decision-making across schools.

Why would managerial style matter in business decisions? While it is easy to believe that managers, like all people, have specific personality traits and skills, one needs to discuss why these personality traits get reflected in corporate outcomes. The existence of different managerial styles seem inconsistent with the idea that all corporate decisions are profit-maximizing decisions determined by *firm level* conditions. Why would anything beyond the firms' environmental variables matter in that case? We believe that there are two possible interpretations why managerial style may matter.

The first explanation relies on the assumption that managers have some discretion in decision-making, likely due to some imperfections in corporate governance, which allows them to impose their own way of doing business. The alternative interpretation assumes that there are differences in match-quality between the specific traits or styles of some managers and the current economic needs of a firm. The board may therefore optimally decide to appoint the managers that best fit those needs. For example, when the board foresees a period of rapid expansion it might hire a CEO who has been proven to be successful with this strategy in a previous job. However, in either case, the results rely on the fact that there is heterogeneity between managers. Our objective in this paper is not to attempt to separate these two interpretations. We instead take on the less

ambitious but first-order task of establishing the importance of the people factor.

The rest of this paper is organized as follows. Section 2 gives a brief review of the related literature in economics and management science. Section 3 presents the different data sources, describes the construction of the data set and defines the main variables of interest. Section 4 quantifies the importance of manager fixed effects. Section 5 investigates broad style patterns based on a correlation of the fixed effects across corporate variables. Section 6 relates the manager fixed effects in corporate decisions to manager fixed effects in compensation. Section 7 studies MBA graduation and birth cohort as two specific determinants of managerial style. Section 8 summarizes and offers some concluding remarks.

2 Literature Review

The finance literature that this paper is the most closely related to is the literature on CEO turnover. Existing studies of CEO turnover in finance have primarily focused on one of two issues. A first set of papers looks at stock market reactions to the announcement of management turnovers. The results from these studies are ambiguous. For example, Warner, Watts and Wruck (1988) or Weisbach (1988) document abnormally high returns around outsider succession events, but no significant overall effect. Moreover, firm performance is slightly worse than average immediately prior to a CEO turnover, but poor performance is not a dominant factor in most CEO departures.[4] For a detailed survey of the findings in this literature see Kesner and Sebora (1994). Secondly several papers document that management turnover is more likely to occur during episodes of financial change within a firm's life cycle, e.g. bankruptcy or proxy fights (see Gilson (1989), Gilson (1990), DeAngelo and DeAngelo (1989) or Parrino (1997)). The paper that is the closest in spirit to ours is Weisbach (1995). Weisbach shows that the probability of asset divestitures increases after a CEO change. But differently from the present study, the paper does not distinguish whether this reversal of decisions is driven by firm level changes or related to the specific style of the new CEO.

While the topic of managerial style has been barely touched on by economics or finance, other fields of research have given it much more consideration. Specifically, there is a large management literature trying to understand the determinants of decision-making among CEOs. Yet, both the specific focus in this literature and the methodological approach it follows differ substantially from

[4]These findings are supported by Vancil (1987) who studies the CEO turnover process.

the study we propose to undertake here. First, the outcome variables considered in the management literature are mostly process-related variables rather than actual economic outcomes we care about. For example, various papers have studied how managerial background characteristics affect their leadership style, communication process or charisma.[5] While establishing such differences in the process of leadership is a central micro-foundation to the concept of managerial style, it tells little as to whether and how much these differences eventually impact corporate decisions. A few papers in that literature have studied performance variables such as market returns or accounting returns, but find inconclusive results.[6] One of the main problems with these outcome variables is that they can be affected by a number of unobservable factors, which are outside the control of management. Therefore, in this paper we propose more straightforward measures of management style, such as capital expenditures, acquisitions, leverage levels etc.[7]

Second, most of the existing work on CEO style in the field of management relies on case studies, laboratory experiments or subjective survey responses. While these research methods often offer a more controlled environment and a richer institutional setting, they lack the level of generality of our empirical approach. More specifically, these research methods do not generally permit the type of quantification exercise we propose to perform here.

3 Data and Construction of Variables

We construct a firm-manager matched panel data set that allows us to track managers across different firms and positions over time. Firm level information about accounting variables from 1960 to 1999 is obtained from the Compustat Industry Files. We concentrate our analysis on three different sets of managerial decision variables: investment policy, financing policy and organizational strategy. In particular we look at investment levels, investment-q and investment-cash flow sensitivity as well as number of acquisitions per year to describe the investment policy of a firm or manager. Variables characterizing a firm's the financing policy are leverage level, measured as total debt to total book value of equity, cash holdings on the balance sheet, interest coverage measured as ebitda over interest expenditures and dividends per share. Finally, to describe some dimensions

[5] See for example, Hambrick and Mason (1984) or Waldman, Ramirez, House and Puranam (2001).

[6] See for example Mahoney and Weiner (1981) or Thomas (1988).

[7] For the sake of completeness, we will however also investigate the effect of specific managers on accounting and financial measures of performance.

of a firm's organizational strategy we collect information on the number of diversifications made by the firms as well as R&D spending to total assets and advertising spending to total assets. All variables are obtained from Compustat except for information about the number of acquisitions and diversifications, which we obtain from the SDC merger and acquisition files.

Information about the identity of top managers of these firms and their job changes comes from several different sources. We use the Fortune 800 files to find out who was the CEO of the largest Fortune 800 firms from 1960 to 1991.[8] To complement this data we add ExecuComp information on the 5 highest paid employees of the largest 1500 US firms from 1992 to 1999. ExecuComp covers not only the firms' CEOs but also provides information about the top five highest paid employees of the firm. Most often this includes the CFO and other top executives of the firm, like COO or segment CEOs. We can identify the position of the individuals from the title description. We use the variable *titlean* from ExecuComp to form dummies indicating whether a manager is a CEO, a CFO, or anything else.

3.1 Sample of Executive Changes Between Firms

In the first part of the paper our aim is to understand whether firm policies change systematically with the manager making the decisions. Practically this means we want to separately identify *manager* specific effects from *firm* specific effects. Certain firms might have persistently higher investment or leverage levels due to some unobservable differences not captured in the cross sectional controls, but which is independent of the CEO in place. Moreover, a very sensible concern is that managers often move between firms and industries that are similar in their investment and financing policies, e.g. managers with experience in a firm or industry that has high investment levels might be more likely to transfer to another firm with similar characteristics. Again this underscores the importance of separating firm effects from manager effects.

This separate identification, however, is statistically only possible for managers who switch companies at least once during our sample period. Consider for example a CEO who stays with her company for the entire sample period from 1960 to 1999. In this case the CEO fixed effects will be co-linear with the firm fixed effect and separate identification is impossible. Even for cases where one can observe several different executives within a given firm, but no moves *between* firms,

[8] We thank Kevin Murphy for generously providing us with this data.

this identification problem still exists. De facto putting in fixed effects in this case, say one fixed effect for a CEO from 1970 to 1980 and another CEO from 1980 to 1990, is equivalent to adding time varying *firm* fixed effects. To see this point more dramatically, imagine a firm that in the 70s was closely related to a large bank and was therefore able to sustain high levels of leverage. In the 80s this relation could change for some exogenous reason and leverage levels went down. At the same time managers might change for some completely unrelated reasons in the beginning of the 80s. Putting in CEO fixed effects would now pick up the variation in leverage levels from the 70s to the 80s, even when there are firm fixed effects in the regression. However again, one would be confusing manager specific effects with firm level changes.

From the discussion of these potential biases it is obvious that the only way to identify person specific effects independently of firm fixed effects is through observing the same executives in at least two different firms. Therefore, we restrict our sample to firms where we can identify at least one executive who moves between two firms. Now, the CEO fixed effects estimate mean deviations of the dependent variable from the firm mean when a CEO is observed in two different companies. Though this is the cleanest way of estimating manager fixed effects, it is also the most conservative one and will only provide a lower bound on the manager "style" effects.

3.2 Descriptive Statistics

Table 2 shows that our sample overall contains almost 800 executive movers from 1960 to 1999 that we can track across firms. Of these, 230 are moves from a CEO position in one firm to a CEO position in another; 6 CEOs move to becoming CFOs and 90 move to other top positions in a different firm. We observe 9 CFOs becoming CEOs while 74 move between CFO positions. Finally, Table 2 shows that 132 CEOs held positions other than CEO or CFO in their previous firm and 257 managers switch between other managerial job. Among the latter category about 40% are moves of subdivision CEOs. Moreover, from the second row in each cell of Table 2 we see that a large fraction of the executives move between industries when they change companies. We report the fraction of movers in each cell that go to a different 2-digit industry. For example, 65% of the CEOs move across different 2-digit industries when they take up a new position, while 75% of the CFO change industries, but only 49% of the managers in the "Others" category change industries.

In our analysis we will code a move between different job titles according to the *new* position

the manager holds afterwards. For instance, Edward Liddy was the CFO of Sears Roebuck in 1992 and 1993. In 1994 he became the CEO of Allstate Corporation. This event would be coded as a CEO move, since the person ends up as the CEO of the new company. We apply the same method to CFO and all other movers.[9]

However, constraining the sample to these firms where we can observe an executive switch may lead to a bias towards including larger firms in the data set, since executives from large firms are more likely to move between Compustat firms. Managers of smaller firms might have a higher probability to move to private firms or positions within large firms that are below the level of the top five employees and are thus not reported in our data sources. In fact, Table 1 column (1) shows that this conjecture is reflected in the characteristics of firms included in our sample. Column (2) contains the comparison sample of the total population of Compustat firms during the 1960 to 1999 period. On average the firms in our sample, column (1), are almost twice as large in terms of total assets, employment and sales as the average firm included in Compustat. Moreover, we see that the firms included in our sample to have slightly lower levels of capital expenditures to total asset than the model Compustat firm. Again, this indicates that these are larger firms. However, when we compare the other decision variables that will be of interest in our study we see that most of these do not differ too much between the two samples. For instance, average leverage and cash holdings as a fraction of total assets look very similar between the two samples. The same is true for the average number of acquisitions and diversifications and the ratios of R&D or advertising to total assets. While in general it seems that the firms in our sample are larger than the average firm, their operational decisions do not seem to vary too substantially from the average firm. However, to be conservative in the inference drawn from this study we emphasize that these results hold for a sample of executives in the largest publicly traded firms.

Yet, we believe that the limitations in the data collection in fact bias our test against finding a result of CEO effects. First, our intuition is that individuals might be more influential in smaller organizations with flatter hierarchies and more personal involvement of the CEO in day-to-day activities. Second, we believe that our results can only be a lower bound for the effect of managerial style on firm policies. Indeed, there are number of succession events that we have to exclude since they cannot statistically be separated from firm fixed effects, such as insider successions or CEOs

[9]We also repeated all our analyses where we separately identify CEO to CEO moves, CEO to CFO moves and so on. The results are qualitatively similar to the more aggregated results shown in the paper.

that come from private companies. Finally, it is important to repeat that by estimating only *within firm* effects of style we chose the most conservative way to test for manager specific style effects. For example, any sorting between managers and firms based on industry characteristics or firm specific styles, which could be partly attributed to managerial style, are not part of our identification strategy.

4 Is there Heterogeneity in Executive Styles?

4.1 Empirical Methodology

Our goal is to quantify the extent with which investment, financing and other organizational policies of a firm change when the executive with the decisions are made. For that purpose we separately estimate fixed effect models for the array of dependent variables that were described in the previous section. For each of these regressions the basic specification includes firm fixed effects and other standard controls at the firm level. This allows us to control for any *firm* level differences. We consecutively add CEO fixed effects, CFO fixed effects and fixed effects for all other managerial movers to account for the time varying changes that are related to executives that move from one firm to another. We also constrain the data set to firms where we can observe the executives for at least two years in their particular position. The idea is that executives who stay with their firms only for a very short period of time should be less able to influence the operations of their firm.[10] More specifically, we estimate the following regressions:

$$y_{it} = \beta X_{it} + \alpha_t + \gamma_i + \lambda_{CEO} + \lambda_{CFO} + \epsilon_{it} \tag{1}$$

where y_{it} stands for one of the corporate variables, λ_{CEO} and λ_{CFO} are CEO and CFO fixed effects, respectively and X_{it} represents a set of firm level control variables. Standard controls such as firm size measured as logarithm of total assets and return on assets are included in all specifications. For the investment regressions with also include q and cash flows as controls. In the financing regressions we include controls for assets uniqueness (measured as SGA expenses over sales) and tax advantage from debt.

[10]We repeat these regressions without the two year cut off. The results are quantitatively unchanged but the estimates are slightly noisier.

4.2 Results

Tables 3 to 6 report the results on F-test and R^2 for the different sets of dependent variables. The first row reports the fit of the basic specification before adding manager specific effects. The next three rows show the increase in R^2 when we consecutively add CEO fixed effects, CFO fixed effects and finally fixed effects for all remaining executives that move between firms. Moreover, Tables 3 to 6 report the results from a joint F-test on the set of fixed effects.

The findings suggest that manager specific effects matter a great deal for the policy decisions made by the firm. From Tables 3 to 6 we see that including CEOs as well as other managers' fixed effects increases the R^2 of the estimated model significantly. Similarly, we find that the F-tests on the different set of executive fixed effects are large and the constraints are jointly significant. Moreover, we see that there are differences as to which decision variables seem to be more affected by executive changes. And different managers matter for different decisions variables.

4.2.1 Investment Policy

Table 3 shows the results from the set of investment regressions. Overall we see that the R^2 of the model increases by more than 3% on average when adding executive fixed effects. Moreover, the F-tests on the constraints are large and the coefficients are jointly significant. First, lets look at the investment level regressions in the first four rows of Table 3. We see that for the basic specification in row (1) of Tables 3 the R^2 of the model is 93%. This specification includes controls for cash flows, Tobin's q, return on assets, the logarithm of total assets and firm fixed effects. Even though the initial fit of the model is already very high, the R^2 increases significantly when we include CEO, CFO and all other manager fixed effects , as reported in rows (2) to (4). When including the full set of fixed effects for all manager switchers the R^2 goes up to 98%. Also the F-tests on the constraints are large.

The results from the investment-q and investment-cash flow regressions in rows (5) to (12) show similar magnitudes of increases in R^2 after including manager fixed effects. R^2 goes up from 96% to 98% for the specifications with manager fixed effects. To obtain a benchmark for the economic significance of these changes in R^2 let us compare them to the inclusion of other control variables. For example, including q in the standard investment regression after controlling for cash flow and industry fixed effects increases R^2 by about 4% for the firms in our sample. Given the theoretical

underpinnings of q-theory on the economic significance of q the increase in R^2 from q should be a valuable benchmark for other explanatory variables. We see that the effect of q on R^2 are in the same order of magnitude as the effects we found on the manager fixed effects. Therefore, we believe that these effects are statistically as well as economically significant and add an important dimension towards our understanding of firm level investment decisions.

The last four rows of Table 3 show the results from the regressions of number of acquisitions on manager fixed effects as well as the standard controls mentioned above. For this variable we observe an especially large increase in R^2 of 12effects lead to a much bigger increase in R^2 than CFO fixed effects, which indicated that all managers do not affect all firm decisions equally. As we might have expected from prior intuition CEOs matter more for the acquisition decision than CFOs. Similarly including all other management movers has a very large effect on R^2 as well. When we break out segment level CEOs from the set of all remaining managers (not reported in the paper) we find that the segment CEOs drive the result on the last set of fixed effects. Interestingly these results seem to indicate that a lot acquisition decisions are made at the segment level.

4.2.2 Financing Policy and Organizational Strategy

Table 4 documents the results for the firms' financing decisions. The results are of similar magnitude as in the investment regressions. The R^2 of the leverage regression increases from 53% to 57% when including manager fixed effects. Analogously, the R^2 of the cash holdings regression goes up by 5%, from an R^2 of 78% to 83%. Interestingly, CFOs have the strongest effect on interest coverage, a key financial indicator. R^2 increases by 7% when including CFO fixed effects, while CEOs only add a 1% increase in R^2. Maybe less intuitively, we also find that the payout of dividends per share seems to be more substantially affected by CEOs than CFOs. R^2 increases by 4% when including CEO fixed effects, while CFOs have only a marginal effect on R^2.

Table 5 looks at organizational strategy variables such as firm diversification, R&D expenditures as a function of sales and advertising as a function of sales. Again, we find that executives have large effects on the realization of these variables. The fit of the diversification regression improves by 13%. And the R^2 of the R&D and advertising regressions increase by 5% and6% respectively. In line with general intuition we see that CEOs and other managers seem to have much larger effects

on the organizational strategy variables than CFOs.[11]

4.2.3 Firm Performance

Finally, we look at manager fixed effects on performance variables, such as return on assets total and q. Here we find a striking difference in the effects on accounting performance and stock market performance. Table 6 show that managers have a significant impact on the return on assets in their firms. The F-test on the manager fixed effects is large and the R^2 increases by more than 5%. However, there are absolutely no fixed effects of managers on q, which is a market based measure of performance.[12] This is in stark contrast to all other specifications we looked at before, where we found that mangers differ in varying degrees for all aspects of firm policy. One potential explanation for the results on q is that markets rationally forecast a manager's effects on the company and incorporate it in the stock price as soon as the new hire is announced.

4.3 The Magnitude of Manager Fixed Effects

So far we have seen that manager specific effects explain a significant fraction of the variance in firm policies and outcomes. Additionally we want to understand how big are the observed differences in these variables between managers at opposite levels of the "style' spectrum. The fixed effects allow us to rank managers according to their "style." This allows us to analyze for example how much leverage does a manager at the 75% of the leverage style distribution contribute relative to one who is low on leverage. In Table 7 we report the size distribution of the manager fixed effects from the regressions reported in Tables 3 to 6. We report the mean, standard deviation as well as the outcomes at the 25%, 50% and 75% of the distribution of manager fixed effects.

The results in Table 7 document substantial differences in policy outcomes go together with different managers. For example, while the median manager fixed effect on the firm's investment level is zero, [13] the difference between a manager at the 25% percentile of the distribution of investment level fixed effects and one at the 75% is 0.21. As a comparison, the average ratio of investment to assets in the sample of management movers from Table 1 is 0.33 with a standard

[11] Again, if we break out the subdivision CEOs from the set of other manager moves, we find that subdivision CEOs are the ones that drive the effect on diversification in the last category of fixed effects.

[12] We also repeated the estimation with a market return measure instead of q and found no effect of managers on performance.

[13] Remember that these effects are estimated after controlling for firm fixed effects.

deviation of 0.64. Benchmarked against the distribution of this variable in the population the CEO style effects constitute a significant fraction of this variation.

Similar magnitudes can be observed for the other dependent variables. The leverage effect for the median manager is -0.06 and the difference between the 25% and 75% percentile is 0.20. Compared with the average leverage level of 0.41 in the population with a standard deviation of 0.36, manager specific fixed effects show large variation.

4.4 Discussion

Let us emphasize an important nuance in the possible interpretation of these findings. While we show unambiguously that there is heterogeneity in the way different managers do business, there are two possible interpretations of why we observe these management styles in the data. One is that managers impose their particular styles on a firm when they are hired. In that case the board or other decision makers at the firm might or might not be aware of the existence of style. Alternatively, one can imagine that firms and boards of directors hire a manager *because of* his or her particular style. For example, imagine a firm that had a very conservative investment strategy for a time and at some point the board of directors decides that firm policy has to become more aggressive, e.g. make a number of deals, acquire other firms etc. For that purpose they might hire somebody who has successfully implemented this "style" in his or prior job. A well-known example of this view is Mike Armstrong at AT&T, who according to Business Week was hired because the board of AT&T had decided that the firm needed to acquire companies in several areas. Keep in mind these have to be firm varying trends, since any firm fixed effects in management style are already controlled for.

The difference between the two interpretations is somewhat subtle. In one case the manager initiates the change in style possibly against the intentions of the board. In the second interpretation style is a sought after characteristic of the manager that the company wishes to implement, i.e. the firm tries to find the right match quality for the new policy it wishes to adopt. However, in either case the important lesson is that changes in firm strategy are tightly linked to specific managers and their particular style. Since even in the case of the second interpretation, it is not enough that the board decides a change in management style is called for and communicates this goal to the existing managers. In stead these changes are accompanied by management turnovers.

Overall this section documents that managers appear to be strongly related to the way firm level decisions are made, even after we control for differences in firm characteristics. The wide varieties of firm policies that are affected as well as the magnitude of the effect are surprising. The results seem particularly interesting in the light of the large economic and finance literature on capital structure and investment decisions which model these variables as being fully determined at the firm level. We believe that it is important to open the dimension of the executive labor market to get a better understanding how firm level differences in these policies are determined.

5 Differences in Management Styles

The previous section documents that there is wide heterogeneity in the way managers conduct their businesses. In the following we want to go a step further and investigate whether there are overall patterns of managerial decision-making that move together. For example, we ask whether some managers are overall more financially aggressive than others or whether certain managers rely more heavily on internal growth while others grow through external acquisitions.

To answer these questions we analyze the correlation structure between the manager-specific fixed which we retrieve from the set of regressions above. We form a data set that contains, for each manager, the estimated fixed effects for the various corporate variables. In other words, the different variables in this new data set are the manager fixed effects from the investment level regression, the investment-q regression, the leverage regression, etc. This way we can estimate whether managers who rank above the average in their leverage decisions, i.e. high fixed effect from the leverage regression, have more or less cash holdings on the balance sheet, i.e. low fixed effect from the cash regression.

The proposed estimation is the following, where we estimate the correlation between different sets of manager fixed effects. As an example take the relation between leverage policy and cash holdings on the balance sheet:

$$F.E.(Leverage)_j = a + \beta F.E.(CashHoldings)_j + \epsilon_j \tag{2}$$

Here j varies with the identity of the managers. Similar regressions are repeated for all other correlations between the decision variables. Since the left hand side is an estimated variable that is

noisy by definition, which would lead to attenuation bias in a standard OLS regression. This would bias the coefficient towards zero. However, in this specific case we can do better than simple OLS, since we know the precision with which the fixed effects are measured. Therefore, we can use a GLS type adjustment to account for the different measurement error in the right hand side variables. In practice, we weight each observation by the inverse of the standard errors of the independent variables, which we obtain from the first step regressions.

After estimating all the coefficients in the above manner we can construct a matrix of correlations between the different decision variables. Table 8 reports only the coefficients and standard errors from the different fixed effect regressions. The R^2 for all regressions lies in the vicinity of 10%. Two distinct clusters seem to emerge from the table. First, managers apparently differ with respect to their financial aggressiveness or conservatism. Table 8 reports that managers who are more investment-q sensitive also are less cash flow sensitive. The coefficient of a regression of the investment-q fixed effects on the investment-cash flow fixed effects in column (2) row (3) of Table 8 is -0.47 with a standard error of 0.09. This relation is economically large and highly significant. It implies that managers follow one of two strategies: either to use the firm's market valuation or the cash flow generated by operations as a benchmark for their investment decisions. This result potentially has important implications for the debate on investment cash flow sensitivity in firms. So far most research has analyzed the difference in investment-q and investment-cash flow sensitivity across firms along the dimension that firms can be more or less capital constraint. Our results suggest that we need to be aware of another dimension in investment decisions that is due to manager specific heterogeneity.

A number of additional results in Tables8 support the hypothesis that there are persistent differences in managers' financial aggressiveness or conservatism. For instance, investment-q sensitivity is positively related leverage. Managers that are sensitive to market opportunities in their investment choices are also more likely to finance these investments by taking on debt. The relation between leverage and investment-q sensitivity is not necessarily mechanically correlated, since the firms have the choice to use other external financing sources like equity or off-balance sheet financing. Moreover, leverage as well as investment-q sensitivity are positively related to the number of acquisitions and diversification a manager makes. In contrast, higher investment-cash flow sensitivity is negatively related to acquisitions and diversifications. This reinforces the assessment

that some managers seem to be more aggressive in their strategic choices and act less constraint by the firm's existing scope of operations. Finally, if we believe that cash holding proxy for financial slack in the balance sheet, the relation between leverage and cash holdings is negative as expected. But the coefficient is not significant. Also, cash holding is positively and very strongly related to investment-cash flow sensitivity; and it is negatively related to acquisitions and diversification.

A second dimension along which managers seem to differ is their approach towards external versus internal growth. We see from the last two rows of column (1) in Table 8 that there is a strong negative correlation between capital expenditures, which can be interpreted as internal investments, and external growth through acquisitions and diversifications. The coefficients on acquisitions and diversification are -0.57 and -0.36, respectively. But only the first effect is statistically significant. In a similar vein, managers who follow expansion strategies through external acquisitions and diversifications make less R&D expenses. Row (7) of Table 8 shows that the coefficients from a regressions of R&D on either of these variables are -0.01 with standard errors of 0.002. At last, capital expenditures and R&D are almost mechanically positively correlated, row (6) of column (1) shows a positive coefficient of 0.01, but the results are not significant.

Finally, the last column of Table 8 shows some interesting results about the relation between the manager fixed effects from the return on asset regressions and the other firm policies. We observe the strongest results for the correlation with investment-cash flow sensitivity and cash holdings. Managers who have higher investment-cash flow sensitivity and more cash on the balance sheet have significantly lower returns on assets. But we also find that managers with higher leverage levels have lower returns on assets, though this result is only significant at the 5% significance level. In combination these results suggest that a strategy of relying primarily on internal cash flows to finance investments is negatively related to asset returns. However, it also becomes evident that greater financial aggressiveness is not unambiguously beneficial for returns, since managers who prefer high leverage levels also have lower returns on assets.

5.1 Benchmark of Firm Level Correlation

An interesting comparison benchmark for the correlation structure between manager fixed effects is the correlation of these decision variables at the *firm level*. This allows us to check, if manager fixed effects just replicate the relations at the firm level. Moreover, we can analyze if there is

assortative matching along certain characteristics. For example, do firms with high leverage levels hire managers whose style favors more financial leverage and similar for other policies.

Table 9 replicates the fixed effect correlations from Table 8 for firm level fixed effects. We find that the firm level correlation structure varies in several dimensions from the CEO level correlations. In row (3) of column (2) we see that investment-cash flow and investment-q sensitivity are positively though not significantly correlated at the firm level, while we know from Table 8 that the manager fixed effects have a negative and strong significant correlation between investment-q and investment-cash flow sensitivity. The same is true for the relation between R&D and acquisitions or diversification. While at the manager level there seems to be a strong negative correlation, at the firm level we see a significant positive relation. This might indicate that industries that are very R&D intensive also engage in a lot of acquisitions. However, conditional on the industry average, we showed that individual managers tend to favor either one or the other policy. Similarly, firm fixed effects from the return on assets regression are negatively related to fixed effects from the acquisitions regression, while this relation is positive but not significant for the manager fixed effects. Finally it is interesting to note from row (3) of the last column in Table 9 that the strong negative relation between returns on assets and investment cash flow sensitivity, which we observed at the *manager* level, does not hold at the *firm* level. Firms with higher investment cash flow sensitivity do not perform worse than the rest, but managers who have a style of high investment cash flow sensitivity also show lower returns on assets. The same is not true for the relation of returns on assets to cash holdings on the balance sheet. Here Table 9 shows that the negative relation observed at the manager level also holds at the firm level.

6 Management Style and CEO compensation

Finally, we want to understand whether the fact that certain managers can be related to different styles is reflected in their compensation package. The question we are asking is whether the executive labor market pays a premium for managers with a certain style. For example, do managers who are more financially aggressive, i.e. have higher leverage levels, and less cash holdings etc. are paid more than others.

Parallel to before the goal is to separate out the person specific effects on compensation from the

firm effects. Therefore we estimate a compensation regression at the manager level where we control for firm level characteristics that are known to drive manager wages. We regress the logarithm of total compensation, salary and bonus, on controls for firm size measured as sales, lagged market returns, industry and year fixed effects. We also include controls for the CEOs tenure on the job and dummies for whether the person is a CEO or CFO.[14] More specifically, we estimate the following regression:

$$log(comp)_{ijt} = \beta X_{ijt} + \lambda(CEO) + \delta(CFO) + \alpha_t + \gamma_{ind} + \epsilon_{ijt} \tag{3}$$

In the second step we form residual compensation measures for each executive. These are regressed on the fixed effects from the executive style regressions. Similar to the estimation of the correlation between fixed effects, the left hand side is an estimated variable. Therefore, we again use the GLS type adjustment described above to account for the different measurement error in the right hand side variables.

Table 11 shows an interesting pattern. Most importantly, in column (8) of this table, we find that managers with high return on assets fixed effect also are paid more than those with low returns on assets. This relationship is statistically and economically significant. The point estimate is 0.79 with a standard error of 0.22. In fact this variable has the strongest relation to residual compensation of all the style variables. It is particularly surprising that we find such a strong relation given that we already control for return on assets at the firm level in our compensation regressions. This result seems intuitive and also supports the validity of our estimation results. Firms are willing to pay a premium for managers that are associated with higher returns.

Moreover, managers with an investment style of higher investment-q sensitivity also have higher residual compensation than those with lower q-sensitivity. The coefficient from a regression of residual compensation on manager fixed effects from the investment-q regressions in Table 11 column (2) is 0.05 with a standard error of 0.018. Additionally, column (3) of Table 11 reports that managers with high investment-cash flow sensitivity than the average have lower residual compensation. The coefficient on the investment-cash flow fixed effects is -0.043 with a standard error of 0.019. Even though we do not think that we are in a position to judge the economic viability of different

[14]The results also go through when we include measures of income form stock options in the total compensation measure.

management styles, it is interesting to note that firms seem to reward managers who engage in a style that favors more investment-q sensitivity. For the rest of the style variables we do not observe such a clear-cut and significant relation with compensation.

7 Observable Managerial Characteristics and Corporate Decisions

7.1 Motivation

The previous sections have demonstrated that managers do matter for a wide array of corporate decisions. However, the significance of managerial fixed effects does not tell us about which specific managerial traits or characteristics might influence their decision making. In this section, analyze the possible role of two such managerial characteristics: education and birth cohort.

Education is likely to be an important factor in managerial decision-making. Most top executives in the United States hold a college degree.[15] However, the specific field of study they majored in may matter for corporate decisions. This might be the case due to the specific human capital accumulation they did in college or due to the selection of certain types of individuals into certain fields of study. For example, an executive that majored in engineering may have a better understanding of technological matters and may decide to undertake more of the R&D in house than a liberal arts executive would, everything else equal. Alternatively, an executive that majored in engineering may have a positive bias towards technology, leading her to spend more on R&D than a liberal arts executive would.

Unfortunately, we could not obtain detailed information on college majors for a wide range of top executives. However, we were able to collect information on another, maybe even more important, element of top executives' education: whether or not the executives went to business school. As it is the case for college major, it is likely that MBA graduation will affect managerial decision either through a human capital accumulation effect or through a selection effect. Over they two years of training in business school, MBA students (hopefully) accumulate knowledge about best business practices in fields such finance, marketing or operation management.[16] Also,

[15] More than 92 percent of the CEOs in the sample we study below hold an undergraduate degree.

[16] Besides human capital accumulation, business schools are also known to play an important role in the accumulation of social capital. MBA students develop social and professional networks that they may also affect some of their decisions. For example, MBA graduates may have more contacts in other firms and industries, which might ease any acquisition or diversification attempt.

individuals that decide to come to business school may have a different attitude towards risk and discounting that might also influence, for example, their financial practices once in a top position on the corporate ladder. It therefore seems very relevant to ask whether business school training is at least in part reflected in decision making. In practice, we will consider both the effect of MBA graduation and, in case of graduation, the effect of the specific business school attended. It is important to note that these two variables in no way capture the full richness of the MBA graduation effect. For example, one would also like to know the specific field a student concentrated in (e.g. finance versus marketing) and more detail information about grades and overall performance while in business school. Unfortunately, there is no easy way for us to gather this information for a large number of executives.

The second managerial characteristic we propose to consider is birth cohort. It has been anecdotally suggested that older generations of managers behave differently from younger generations. One specific dimension where these differences have been highlighted is in attitude towards financing decisions. Some have argued that older generations are less trustful of external sources of finance and might prefer to rely on internal capital markets (Chew (1998)). More generally, older generations are often believed to be more financially conservative.

It is important to stress that the two specific managerial characteristics we propose to analyze constitute only a small subset of the individual characteristics that we believe are relevant to decision making. For example, one would like to know more about family background, past professional experience and personal psychology. Unfortunately, obvious data constraints limit the richness of our analysis.

7.2 Data Sources and Summary Statistics

For this section of the study, we limit ourselves to a sample of CEOs.[17] We used the panel of Fortune 800 companies from 1960 to 1991 and Execucomp from 1992 to 1999 to construct a list of CEO names. We then went to two different data sources to collect background information (year of birth, MBA graduation or not, business school attended) for the CEOs on the list. The first data source we consulted is S&P Directory of Corporate Executives. We then went to a second data

[17] We originally tried to collect background information for other top executives than CEOs. Unfortunately, these other top executives are less likely to be represented in the two data sources we consulted. We therefore decided in the end to focus exclusively on CEOs for this part of the paper.

source, Who is Who of Corporate America, to try to fill in as much of the missing information as possible. In the end, we were able to find MBA information (whether completed or not) for about 65 percent of the CEOs and birth cohort information for about 75 percent of the CEOs.[18]

We now briefly discuss some summary statistics for the MBA and birth cohort variables. Maybe somewhat surprisingly, the fraction of CEOs that have completed an MBA is not very large. Only about 40 percent of the CEOs that we were able track completed business school. The distribution of business schools attended is consistent with prior intuition. The most popular business is Harvard Business School (25 percent of the sample). More than 50 percent of the CEOs holding an MBA graduated from one of the following top 8 universities: Harvard University, Stanford University, University of Pennsylvania, Columbia University, MIT, University of Chicago, NYU, and University of Michigan. Because there is a discrete jump when one moves from the eight most popular school (University of Michigan) to the ninth most popular school (Northwestern University), we will focus on these 8 top schools in our study of school effects.

The average CEO in our sample was born in 1928. There is a large variation in birth cohort. The earliest year of birth is 1884 and the latest is 1966. Also, it is important to note that this variation does not merely reflect a time trend. For example, in 1990, the oldest CEO was born in 1904 while the youngest CEO was born in 1952. In other words, even within years, there is a large amount of variation in birth cohorts.

Finally, it is interesting to ask whether MBA graduation and birth cohort are correlated. Because MBA graduation and birth cohort are available for different subsets of the data, we will estimate their effects separately in some of the regressions in order to increase sample size. One would therefore like to know whether any systematic bias is potentially introduced in these regressions. We regressed MBA graduation on birth cohort for the sample of CEOs for which both variables were observable. We found that younger generations of CEOs are more likely to have attended business school.

[18]We were most successful in finding birth cohort information as some of this information was readily available in Execucomp.

7.3 Empirical Methodology

For all the corporate decisions y_{ijt} we considered above, except investment to cash flow sensitivities and investment to Q sensitivities, we propose to estimate the following regression:

$$y_{ijt} = \beta X_{it} + \delta MBA_j + \eta Cohort_j + \alpha_i + \lambda_t + \epsilon_{ijt} \tag{4}$$

where i indexes firms, j indexes CEOs, t indexes time, X_{it} is a vector of firm characteristics, MBA_j is a dummy variable that equals 1 if CEO j completed an MBA, $Cohort_j$ is the birth cohort of CEO j, α_i are firm fixed effects, λ_t are year fixed effects and ϵ_{ijt} is an error term. The set of controls X_{it} we will use for most specifications are Tobin's Q, the logarithm of total assets and the rate of return on assets. To compute standard errors when we estimate equation (4), we allow for group effects at the individual level.

There are two points worth emphasizing about equation (4). First, it is important to note that equation (4) includes firm fixed effects. Our identification is therefore not driven by average differences across firms in corporate decisions. One might indeed worry, had we not net out firm effects, that firms that tend to hire more CEOs with MBA degrees or younger CEOs are systematically different from firms that do not. For example, one might imagine that firms in the high tech sector have younger CEOs than firms in the consumer goods sector. If this is the case, ignoring firm (and industry) effects may lead us to unduly attribute differences in say, financial leverage, to differences in managerial characteristics. By controlling for firm fixed effects, we instead ask, given the average level of financial leverage in a firm, whether that level is systematically higher when the CEO is an MBA graduate or when the CEO belongs to a younger cohort. In other words, our identification comes, as before, from CEO turnover within a firm and more specifically, within-firm changes in the MBA status of the CEO or in the birth cohort of the CEO.

Second, the identification of equation (4), in contrast to equation (1), no longer solely relies on our ability to track the same manager into different firms over time. While managerial turnover still drives our empirical test, the only requirement for identification is changes in CEO characteristics within firm over time. One implication of this feature is that, in contrast to our prior analysis, we can rely on both internal and external hires to isolate the effect of MBA graduation and birth cohorts.

A study of the effect of managerial characteristics on investment to cash and investment to Q

sensitivities requires a somewhat different empirical specification. We estimate the effect of MBA and birth cohort on investment to cash and investment to Q sensitivities by estimating the following regression:

$$\begin{aligned} I_{ijt} &= \beta X_{it} + \delta_1 MBA_j + \delta_2 MBA_j * CF_{it}/K_{i(t-1)} + \delta_3 MBA_j * Q_{i(t-1)} \\ &\quad +\eta_1 Cohort_j + \eta_2 Cohort_j * CF_{it}/K_{i(t-1)} + \eta_3 Cohort_j * Q_{i(t-1)} \\ &\quad \alpha_1 + \alpha_2 * CF_{it}/K_{i(t-1)} + \alpha_3 * Q_{i(t-1)} + \lambda_t + \epsilon_{ijt} \end{aligned}$$

where $\alpha_2 * CF_{it}/K_{i(t-1)}$ is a vector of interactions between firm fixed effects and cash flow availability, $\alpha_3 * Q_{i(t-1)}$ is a vector of interactions between firm fixed effects and lagged Tobin's Q and all the other variables are defined as above. By analogy with equation (4), equation (5) allows for firm specific differences in investment to cash and investment to Q sensitivities. In other words, we ask, given the average sensitivities of investment to cash and or Tobin's Q in a firm, whether these sensitivities are systematically affected by changes in the MBA status or birth cohort of the CEO.

7.4 Results

Table 12 investigates the effect of MBA graduation and birth cohort on four investment policies: level of capital expenditures, investment to cash flow sensitivity, investment to Q sensitivity and number of acquisitions. All regressions in Table 12 also control for the logarithm of total assets.[19]

We start in columns (1) to (4) with a study of capital expenditures. Column (1) shows that CEOs' birth cohort has a negative effect on internal growth. Each 10 year increase in year of birth increases log(capital expenditures) by about .01 log point. Column (2) shows that MBA graduation also matters for capital expenditures. MBA graduates appear to invest more, everything else equal. An MBA degree increases the logarithm of capital expenditures by about .015 log points.

Because birth cohort and MBA graduation are positively correlated, as we discussed above, one might worry that the results in columns (1) and (2) suffer from an omitted variable bias. In column (3), we allow for birth cohort and MBA graduation to both affect capital expenditures at the same

[19]We have verified that all the findings in Tables 12, 13 and 14 are robust to allowing for firm-specific trends in the dependent variables. These results are available from the authors upon request.

time. This reduces the size of our sample to about 10,000 observations. The qualitative effect of birth cohort and MBA graduation on investment are however unaffected, even though the effect of MBA graduation become noisier.

Finally, in column (4), we include an additional control for the number of years the CEO has been in office. This control should account for any type of career concern or entrenchment effects. Indeed, if career concern and entrenchment also affect investment levels, one might worry that the effect of birth cohort on investment might be biased in the absence of this additional control. In fact, we find no statistically significant effect of CEO tenure on investment. In fact, the effect of birth cohort on investment appears even stronger in column (4). Each 10 year increase in the year of birth of a CEO increases the logarithm of capital expenditures by nearly .02 log point, everything else equal. In summary, our results in columns (1) to (4) are consistent with the idea that younger generations of CEOs and CEOs with MBA training both engage in a more aggressive investment policy.

Columns (5) to (8) consider the effect of year of birth and MBA graduation on investment to cash and investment to Q sensitivities. These results come from the estimation of regression 5. Let's start with the effect of MBA graduation. We find that MBA graduates on average respond more to Tobin's Q and less to cash flow availability when deciding of capital expenditures. The effects are however only statistically significant in columns 7 (and 8), i.e. when we also control for birth cohort (and CEO tenure). This pattern is interesting. CEOs with MBA education appear to more closely follow "textbook guidelines" when making investment decisions. They are less responsive to the availability of internal sources of funds but more responsive to the presence of growth opportunities as embodied in Tobin' Q.

Let's now discuss the effects on birth cohort on investment sensitivities. We find that older generations of CEOs are less responsive to Tobin's Q when deciding of investment level. This finding is robust to controlling for the effect of tenure on investment to Q sensitivity. However, somewhat more surprisingly, we do not find that younger generations weight less internal sources of financing when making investment decisions. To the contrary, we find that investment to cash sensitivities are larger among younger cohorts.

Finally, in columns (9) to (12), we consider the effect of birth cohort and MBA status on the number of acquisitions. None of these results are statistically significant. It is interesting that the

large manager fixed effects we found earlier on acquisition policy cannot at all be explained by the two, rather first-order, individual characteristics considered here. The decision or not to undertake an acquisition must therefore be driven by much more subtle individual traits than simply education or birth cohort.

In Table 13, we study the effect of the two CEO characteristics on financial policy. Additional controls included in each regression in Table 13 are the logarithm of total assets, lagged Tobin' Q and the rate of return on assets. The first variable we consider is financial leverage. Interestingly, we find that older generations of CEOs choose lower levels of financial leverage, everything else equal. This finding is robust to controlling for MBA graduation and CEO tenure. The effect of birth cohort on financial leverage is also economically large. Each 10-year increase in year of birth increases financial leverage by about 2 percent.

To give a better perspective as to how big this effect is, we run in Table 17 a regression of financial leverage on firm fixed effects, all the time-varying firm controls included in Table 13 and a linear time trend. As it is already well known, financial leverage has been increasing within firms over time. In our sample, the average annual increase in leverage is about .4 percent. We then re-estimated the same regression adding a control for the birth cohort of the CEO. We found that the annual trend coefficient dropped to .2 percent per year. In other words, about 50 percent of the linear increase in leverage over the period under study can, at least in our sample, be explained by changes in CEOs' birth cohort.

The point estimate on the effect of MBA graduation on financial leverage is consistently positive but only statistically significant in the larger sample where we do not control for birth cohort effects (column (2)). In other words, MBA graduates, like younger cohorts, appear to choose higher level of financial leverage.

The second corporate decision we study are cash holdings (columns (5) to (8)). The stronger patterns appear here again for birth cohort effects. There is a stable and statistically significant negative relationship between cash holdings and year of birth. If one regards lower levels of cash holdings as the sign of a more sophisticated or more aggressive financial policy, these results indicate that older generations might lack that kind of sophistication or aggressiveness.

The effect of MBA graduation appears economically and statistically insignificant. This is surprising as one might have suspected that the financial training received in business school would

have warned against the cost of holding too much liquid assets.[20]

Finally, columns (9) to (12) study the effect of managerial characteristics on dividend policy. Here again, we find no statistically significant relationship between MBA graduation and dividend payout ratios. The point estimates, however, suggest that CEOs with MBA degrees pay less dividends on average. However, there is a strong positive relationship between cohort effects and dividend policy. Older cohorts appear to retain higher levels of earnings, everything else equals. This appears consistent with an overall picture of older generations choosing to put more financial slack in their balance sheet.[21]

Table 14 focuses on our organizational strategy variables. We first study diversification policy. As before, we control in this regression for the number of acquisitions. We ask, given the number of acquisitions undertaken in a given firm in a given year, whether CEOs' year of birth and business school attendance affect the number of diversifying acquisitions. Our results suggest that older generations of CEOs, and CEOs with MBA degrees, have a stronger tendency to engage in diversification moves. These findings are however significant only in the smaller samples where we control for both CEO characteristics at the same time (columns (3) and (4)).

Columns (5) to (8) look at research and development expenditures. Here again, it does appear that year of birth and MBA graduation of the CEO have a systematic effect on R&D expenditures. More specifically, younger generations and MBA graduates engage in less R&D. Finally, we find no consistent relationship between advertising expenditures and CEO characteristics (columns (9) to (12)). This lack of statistical significance may in part reflect the fact that our sample becomes much smaller in these regressions due to the many missing values for advertising expenditures in Compustat.

In summary, our results in Tables 12, 13 and 14 suggest that the important manager fixed effects we identify in the first part of the paper can in part be attributed to observable individual characteristics such as education and year of birth. Some general patterns emerge from our analysis in these last three tables. CEOs with MBAs appear to be on average more aggressive, choosing to

[20] However, as we will see in Table 16, this lack of a negative relationship between MBA graduation and cash holdings is mostly driven by two specific schools in the sample, namely Harvard and Stanford.

[21] While the trend in financial leverage in the economy can be explained in part by birth cohort effects, our findings in columns (9) to (12) indicate that this is not the case for the trend in dividend payouts. In fact, our results show that accounting for birth cohort effects makes the apparent negative trend in dividends over the last decades even more of a puzzle.

engage in higher level of capital expenditures and to hold more debt. CEOs from older generations appear to be less aggressive on average, choosing lower level of capital expenditures, lower financial leverage, higher cash holdings and lower dividend payout ratios. It is however also very clear from these tables that birth cohort and MBA graduation are only a small component of what drives managerial style.

For the sake of completeness, we also investigate in Table 15 the effect of MBA status and birth cohort on accounting and financial performance. The most striking finding in this table is the positive effect of MBA graduation for both performance measures. The rate of return on assets increases on average by about 1 percentage point when a firm moves from a CEO without an MBA to a CEO with an MBA. The effect of MBA graduation on Tobin's Q is also positive but only significant in the smaller sample (columns (7) and (8)). On the other hand, we find no statistically robust relationship between birth cohort and either of the performance measures.

Finally, our last table (Table 16) investigates specific school effects for the all set of corporate variables. As before, all the regressions include firm fixed effects, the appropriate vector of firm time-varying controls, a dummy for MBA graduation and the 8 specific school dummies. To increase sample size, we exclude the birth cohort control from these regressions. Unfortunately, likely due to small sample sizes within each school, a lot of the effects, while large in magnitude, are not precisely estimated. We however discuss some of the most striking correlations. There appears to be a strong "Columbia effect" in acquisition policy. The number of acquisitions in a year increase on average by .48 when a firm moves from a CEO without an MBA to a CEO from Columbia Business School. MIT graduates display the highest level of financial leverage. (The point estimate is actually a little larger for Chicago graduates but not statistically significant). Harvard and Stanford CEOs distinguish themselves from other CEOs by holding significantly more cash. Stanford and Wharton CEOs pay significantly more dividends than other CEOs. Finally, two schools seem to be consistently associated with higher levels of both accounting and financial performance: Stanford and Columbia.

8 Conclusion

The first objective of this paper is to analyze the importance of the "people dimension," i.e. managers, in the observed variation in corporate policies. We find that there is a lot of heterogeneity in "style" across managers. The realizations of all investment, financing and other organizational strategy variables we looked at depend significantly on the executives that make the decisions. A couple of overarching style patterns also emerge from our analysis. For example, some managers seem financially more conservative than others; they have lower leverage, higher cash holdings and make fewer acquisitions. In another dimension, some managers tend to favor internal growth, through capital expenditures and R&D, while others favor growth through acquisitions.

One finding of special interest is the strong negative correlation we find at the manager level between investment-q and investment-cash flow sensitivities. Some managers use cash flow while others use Q as their benchmark for investment decisions. While we do not intend to judge the economic validity of different managerial styles, it is important to note that managers with greater investment-cash flow sensitivity also have lower rate of return on assets and lower compensation.

The second major result of the paper is that differences in styles can in part be tied back to managers' observable characteristics. We concentrate on birth cohort and educational background, e.g. does the executive have an MBA and if yes, from which school. We find that older generations of managers are on average financially more conservative, while managers who hold an MBA degree follow financially more aggressive strategies. Even across business schools we find some systematic differences in management styles.

Once we have acknowledged the importance of managerial style, a whole new dimension opens up for the analysis of corporate decision making. The current paper barely scratches the surface of all the possible questions one would want to ask in this context. For example, one may need to pay closer attention to institutional constraints or supply and demand conditions in the executive labor market to understand the nature of firm decisions. Also, if style effects are indeed large, one may need to invest more energy in figuring out which other specific managerial traits, besides education and birth cohort, help us better predict corporate policies. One may also ask whether style effects are likely to be more pronounced in certain industries than others, or at different points in the lifecyle of firms.

Another important dimension that needs further investigation are the efficiency implications of

managerial style. It seems that those will differ greatly depending on where exactly style comes from. Two potential interpretations for the existence of style effects come to mind. The first one assumes that managers have discretion in decision-making, likely due to some imperfections in corporate governance, which allows them to impose their own way of doing business.[22] The second interpretation instead assumes that there are differences in match-quality between the specific traits or styles of some managers and the economic needs of a firm. The board may optimally hire managers *because of* their specific style. Even though in this interpretation managers are not the sole originators of style, they are crucial in its implementation. One important direction for future work will be to disentangle these two interpretations.

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[22] Existing agency theory acknowledges that managers might have varying degrees of discretion to alter firm decisions in order to advance their own objectives. However, this literature does not address the possibility of difference in styles across managers. Most contracting theories assume a homogeneous objective function across all managers. The only extent to which this literature helps explain heterogeneity in corporate decisions is through heterogeneity in boards' ability to control managers and, in general, heterogeneity in the strength of corporate governance across firms. In contrast, the view that managerial style matters assume that managers differ in their preferences, skills or risk-aversion levels and that these differences get reflected in corporate decisions, maybe due to some agency problems inside of firms.

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Table 1: Descriptive Statistics[a]

Sample:	Managerial Moves		Manager Characteristics		Compustat	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
K_t	9,038	6,720	5,275	7,941	5,731	2,161
S_t	3,015	3,351	3,299	8,753	1,799	2,130
I_t	357	776	245	806	233	680
I_t/K_{t-1}	0.33	0.64	0.30	0.17	0.40	0.78
$CFt/Kt-1$	0.46	0.36	0.44	0.33	0.47	0.41
Q_t	1.68	0.89	2.01	1.25	1.70	1.04
$Cash_t/K_{t-1}$	0.10	0.08	0.11	0.15	0.09	0.08
Leverage	0.41	0.36	0.38	0.33	0.39	0.65
N of Acquisitions	0.68	1.30	0.68	1.47	0.65	1.42
N of Diversification	0.26	0.89	0.26	0.90	0.24	0.81
$R\&D_t/K_{t-1}$	0.04	0.04	0.04	0.04	0.04	0.04
$Advertising_t/K_{t-1}$	0.04	0.03	0.05	0.03	0.04	0.03
N obs	9,491		15,482		31,611	

[a]Firm level characteristics for Compustat listed firms from 1969 to 1999. "Managerial Moves" describes the sample of firms used in the analysus of executives moving from one firm to another. "Manager Characteristics" contains the sample of firms for which we obtain characterstics about their eductaional and demographic characteristics. "Compustat" is the comparison sample of the largest 1500 Compustat listed firms during the time period from 1969 to 1999. K denotes total assets, Compustat item (6). S denotes sales (12), I is capex (128), cash is Compustat item (1), R&D is item (46) and advertising is (45). Cash Flow is formed as depreciation plus ebitda. Leverage is longterm debt plus debt in current liabilities over long term debt plus current liabilities plus book value of commen equity and preferred stock. Interest coverage is ebitda over interest expenses. Number of acquisistions is from the SDC. The variables counts the number of acquisitions a firm under takes per year. Diversification is formed from SDC data as well. It is formed as the number of acquisitions in industries different from the 2-digit SIC industry the firm already operates prior to the acquisition.

Table 2
Executive Transitions
Between Postions and Industries [a]

	CEO	*CFO*	*Other*
CEO	230	6	90
	65%	90%	65%
CFO	9	74	
	80%	75%	
Other	132		257
	66%		49%

[a] This table reports the flow of executives between positions and industries in our sample of executive movers. All transitions are across different firms. The first entry in each cell reports the number of transitions in our sample from one executive position to another where the person also changes company. For example, the first entry in the left most column reports the number of CEOs that take a position as a CEO in a different company. The second line in each cell reports the fraction of the reported transitions that are between different 2-digit industries.

Table 3: Executive Effects on Investment Policies[a]

	F-Test on Fixed Effects for			*Observations*	R^2
Specification:	*CEOs*	*CFOs*	*Other Execs*		
Inv				7742	.93
Inv	4.19 (< .0001, 242)			7742	.94
Inv	14.59 (< .0001, 239)	39.11 (< .0001, 68)		7742	.96
Inv	14.27 (< .0001, 231)	38.63 (< .0001, 66)	2.39 (< .0001, 258)	7742	.97
Inv-Q				7742	.96
Inv-Q	3.48 (< .0001, 225)			7742	.98
Inv-Q	2.96 (< .0001, 275)	3.12 (< .0001, 67)		7742	.97
Inv-Q	2.37 (< .0001, 261)	2.42 (< .0001, 67)	12.43 (< .0001, 264)	7742	.98
Inv-Cshfl				7741	.96
Inv-Cshfl	0.21 (1, 259)			7741	.98
Inv-Cshfl	0.07 (1, 278)	2.82 (< .0001, 67)		7741	.97
Inv-Cshfl	0.13 (1, 275)	4.64 (< .0001, 64)	12.25 (< .0001, 264)	7741	.98
Acquisitions				9537	.36
Acquisitions	2.06 (< .0001, 274)			9537	.40
Acquisitions	2.08 (< .0001, 274)	1.67 (.0003, 72)		9537	.41
Acquisitions	1.44 (< .0001, 274)	1.83 (.0003, 71)	3.73 (< .0001, 300)	9537	.48

[a] Reported are the results from standard panelregressions of firm level decision variables (as indicated in the leftmost column of the table) on controls for ROA, log assets, Tobin's q, firm fixed effects and fixed effects for different sets of managers who move between firms. The first number reported for each specification is the F-value of different sets of manager fixed effects that are included ion the regressions. The numbers in brackets are the p-value and the degrees of freedom, respectively. Also reported are the number of observations in each model and the adjusted R^2 of the regressions. Excluded are firms in the banking and energy industries.

Table 4: Executive Effects on Financial Policy[a]

	F-Test on Fixed Effects for			*Observations*	R^2
Specification:	*CEOs*	*CFOs*	*Other Execs*		
Leverage				9471	.53
Leverage	1.10 (.14, 272)			9471	.54
Leverage	1.11 (.11, 270)	1.53 (.003, 72)		9471	.55
Leverage	0.93 (.78, 261)	1.74 (< .0001, 71)	1.28 (.0011, 258)	9471	.57
Int Cover				7993	.29
Int Cover	0.37 (1.00, 295)			7993	.30
Int Cover	0.12 (1.00, 237)	8.87 (< .0001, 68)		7993	.37
Int Cover	0.14 (1.00, 228)	9.13 (< .0001, 67)	1.43 (< .0001, 256)	7993	.39
Cash				9491	.78
Cash	2.57 (< .0001, 274)			9491	.80
Cash	2.55 (< .0001, 272)	3.28 (< .0001, 72)		9491	.81
Cash	2.56 (< .0001, 263)	3.64 (< .0001, 71)	2.89 (< .0001, 300)	9491	.83
Div/Share				9491	.50
Div/Share	2.80 (< .0001, 273)			9491	.54
Div/Share	3.00 (< .0001, 272)	1.54 (.003, 70)		9491	.55
Div/Share	3.99 (< .0001, 262)	1.40 (.002, 69)	1.73 (< .0001, 300)	9491	.58

[a] Reported are the results from standard panelregressions of firm level decision variables (as indicated in the leftmost column of the table) on controls for ROA, log assets, Tobin's q, firm fixed effects and fixed effects for different sets of managers who move between firms. The first number reported for each specification is the F-value of different sets of manager fixed effects that are included ion the regressions. The numbers in brackets are the p-value and the degrees of freedom, respectively. Also reported are the number of observations in each model and the adjusted R^2 of the regressions.

Table 5: Executive Effects on Organizational Strategy[a]

	F-Test on Fixed Effects for			*Observations*	R^2
Specification:	*CEOs*	*CFOs*	*Other Execs*		
Diversification				9537	.32
Diversification	2.11 (< .0001, 274)			9537	.36
Diversification	2.09 (< .0001, 272)	1.95 (< .0001, 72)		9537	.37
Diversification	1.06 (.25, 263)	2.05 (< .0001, 71)	3.60 (< .0001, 300)	9537	.45
R&D				4489	.85
R&D	1.82 (< .0001, 150)			4489	.86
R&D	2.22 (< .0001, 147)	4.88 (< .0001, 51)		4489	.87
R&D	2.31 (< .0001, 142)	5.66 (< .0001, 51)	6.22 (< .0001, 154)	4489	.90
Advertising				2744	.83
Advertising	3.03 (< .0001, 96)			2744	.85
Advertising	3.09 (< .0001, 95)	1.47 (.06, 26)		2744	.85
Advertising	4.81 (< .0001, 89)	1.88 (.05, 26)	7.76 (< .0001, 84)	2744	.89

[a] Reported are the results from standard panelregressions of firm level decision variables (as indicated in the leftmost column of the table) on controls for ROA, log assets, Tobin's q, firm fixed effects and fixed effects for different sets of managers who move between firms. The first number reported for each specification is the F-value of different sets of manager fixed effects that are included ion the regressions. The numbers in brackets are the p-value and the degrees of freedom, respectively. Also reported are the number of observations in each model and the adjusted R^2 of the regressions.

Table 6: Executive Effects on Performance[a]

	F-Test on Fixed Effects for			*Observations*	R^2
Specification:	*CEOs*	*CFOs*	*Other Execs*		
ROA				9537	.77
ROA	2.99 (< .0001, 274)			9537	.79
ROA	3.00 (< .0001, 272)	2.95 (< .0001, 72)		9537	.80
ROA	3.32 (< .0001, 274)	3.22 (< .0001, 72)	3.56 (< .0001, 300)	9537	.82
Tobin Q				9510	.54
Tobin Q	0.02 (1.00, 277)			9510	.54
Tobin Q	0.02 (1.00, 275)	0.09 (1.00, 70)		9510	.54
Tobin Q	0.02 (1.00, 268)	0.08 (1.00, 70)	0.15 (1.00, 305)	9510	.54

[a] Reported are the results from standard panelregressions of firm level decision variables (as indicated in the leftmost column of the table) on controls for log assets, firm fixed effects and fixed effects for different sets of managers who move between firms. The first number reported for each specification is the F-value of different sets of manager fixed effects that are included ion the regressions. The numbers in brackets are the p-value and the degrees of freedom, respectively. Also reported are the number of observations in each model and the adjusted R^2 of the regressions.

Table 7: Size Distribution of Manager Fixed Efects[a]

	Mean	Median	S.D.	25% Level	75% Level
Inv	0.30	0.00	3.29	-0.13	0.08
Inv-q	-0.52	-0.51	9.53	-1.10	.93
Inv-cash	0.81	0.59	6.06	-0.53	1.84
Acquisitions	0.08	0.00	1.83	-1.03	1.08
Leverage	-0.07	-0.06	0.22	-0.18	0.02
Int Cov	-43.66	-33.50	814.54	-134.82	0.87
Cash	0.03	0.01	0.09	-0.01	0.05
Div/Share	0.06	0.00	1.07	-0.63	0.44
Diversification	-0.46	-0.19	1.19	-1.15	0.13
R&D	-0.01	0.00	0.05	-0.2	0.01
Advertising	0.00	0.00	0.04	-0.01	0.01
ROA	-0.01	-0.01	0.06	-0.04	0.01

[a]Fix Effects are retrieved from the regressions of Tables 3 to 6. Columns (1), (2) and (3) report the median size, mean size and standard deviation of the fixed effects from the regressions with different dependent variables, respectively. Columns (4) and (5) show the size of these fixed effects at the 25% and 75% of the distribution of fixed effects.

Table 8: Correlations Between Executive Fixed Effects[a]

Dependent Variable: Executive Fixed Effects for Different Dependent Variables

	Investment	Inv-Cashflow	Inv-q	Cash	Leverage	R&D	ROA
Investment							**0.02** **(0.0)**
Inv-q	**-1.51** **(0.29)**						-0.00 (0.01)
Inv-cash	-0.25 (0.13)	**-0.47** **(0.09)**					**-0.02** **(0.00)**
Cash	-2.13 (2.30)	0.31 (1.33)	**7.63** **(1.29)**				**-0.07** **(0.02)**
Leverage	-1.65 (0.95)	**2.91** **(0.49)**	**1.55** **(0.54)**	-0.10 (0.14)			-0.04 (0.02)
R&D	0.00 (0.01)	**-0.01** **(0.00)**	**0.01** **(0.00)**	**-0.06** **(0.02)**	**-0.07** **(0.01)**		0.03 (0.10)
Advertising	-0.00 (0.01)	**0.01** **(0.00)**	**-0.01** **(0.00)**	-0.00 (0.02)	0.00 (0.01)		**0.40** **(0.15)**
Acquisition	**-0.57** **(0.18)**	**0.59** **(0.15)**	**-0.23** **(0.11)**	**-0.01** **(0.00)**	0.02 (0.01)	**-0.01** **(0.00)**	0.00 (0.01)
Diversification	-0.36 (0.27)	**0.40** **(0.15)**	**-0.65** **(0.15)**	**-0.03** **(0.01)**	0.01 (0.02)	**-0.01** **(0.00)**	0.00 (0.01)

[a]Each entry in this table is the qualitative result on the coefficient of a weighted regression of executive fixed effects from a specification with one dependent variable on another. Observations are weighted by the inverse of the standard errors to account for estimation error in the independent variables. Coefficients that are significant at the 1% level are highlighted in bold type.

Table 9: Correlations Between Firm Fixed Effects[a]

Dependent Variable: Firm Fixed Effects for Different Dependent Variables

	Investment	Inv-Cashflow	Inv-q	Cash	Leverage	R&D	ROA
Investment							0.01
							(0.01)
Inv-q	-0.34						-0.00
	(0.21)						(0.01)
Inv-cash	**0.08**	0.18					0.01
	(0.04)	(0.15)					(0.01)
Cash	**16.10**	-0.05	**0.66**				**-0.27**
	(5.30)	(0.09)	**(0.27)**				**(0.03)**
Leverage	1.95	0.07	-0.07	**-0.06**			0.06
	(3.04)	(0.05)	(0.14)	**(0.01)**			(0.02)
R&D	0.01	**-0.05**	**0.02**	**0.16**	**-0.06**		0.18
	(0.01)	**(0.02)**	**(0.01)**	**(0.02)**	**(0.01)**		(0.10)
Advertising	-0.00	0.03	-0.00	**-0.09**	-0.00	-0.10	**0.18**
	(0.01)	(0.02)	(0.01)	**(0.02)**	(0.01)	(0.05)	**(0.08)**
Acquisition	**-2.65**	-0.01	0.03	**0.05**	**-0.04**	**0.01**	**-0.02**
	(1.01)	(0.02)	(0.05)	**(0.01)**	**(0.01)**	**(0.00)**	**(0.01)**
Diversification	**-5.06**	0.01	-0.02	**0.03**	-0.03	**0.01**	0.01
	(2.03)	(0.03)	(0.10)	**(0.01)**	(0.03)	**(0.00)**	(0.01)

[a]Each entry in this table is the qualitative result on the coefficient of a weighted regression of firm fixed effects from a specification with one dependent variable on another. Observations are weighted by the inverse of the standard errors to account for estimation error in the independent variables. Coefficients that are significant at the 1% level are highlighted in bold type.

Table 10 : Relations between Executive Fixed Effects[a]

Dep. Var:	*F.E. from Investment Regression*				*F.E. from Investment-q Regression*			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
FE Inv-q	-.53							
	(.021)							
FE Inv-cshfl		-.22			-.30			
		(.10)			(.022)			
FE Lever						3.02		
						(.37)		
FE Acqui			-.48				.55	
			(.16)				(.08)	
FE Divers				-.37				.49
				(.16)				(.12)
R^2	.10	.10	.10	.10	.28	.15	.13	.04

[a]Observations are weighted by the inverse of the standard errors of the independent variables to account for estimation error in the independent variables.

Table 11 : Compensation Related Executive Fixed Effects[a]

Dep. Var:	*Residual Compensation*							
	(1)	(1)	(3)	(4)	(5)	(6)	(7)	(8)
FE Inv	0.01							
	0.00							
FE Inv-q		0.05						
		(0.02)						
FE Inv-cshfl			-0.04					
			(0.02)					
FE Lever				-0.02				
				(0.06)				
FE Cash					-0.19			
					(0.15)			
FE Acqui						0.00		
						(0.01)		
FE Ads							1.43	
							(0.53)	
FE ROA								0.79
								(.022)
R^2	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01
No. of Obs	2967	2967	2967	3035	3035	3035	2156	3035

[a]The dependent variable rescomp is the residual from a compensation regression of total compensation on firm level characteristics like size, measured as total sales, lagged market returns, industry and year fixed effects, as well as manager specific characteristics like tenure on the job. Each observations is weighted by the inverse of the standard errors of the independent variables to account for estimation error in the independent variables.

Table 12
CEOs' Birth Cohort and MBA Effects on Investment Policies [a]

Dep. Var:	**Investment**								**No. of Acquisitions**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Year of Birth	**.009**	—	**.015**	**.017**	.004	—	-.011	-.006	-.001	—	.025	.009
*(*10)*	(.005)		(.005)	(.005)	(.005)		(.006)	(.008)	(.002)		(.032)	(.037)
MBA	—	**.016**	.015	**.017**	—	-.003	-.009	-.007	—	-.025	-.030	-.027
		(.009)	(.011)	(.010)		(.009)	(.014)	(.011)		(.046)	(.056)	(.056)
*Year of Birth**	—	—	—	—	**.029**	—	**.107**	**.118**	—	—	—	—
CF_t/K_{t-1}					(.007)		(.018)	(.014)				
*(*10)*												
*MBA**	—	—	—	—	—	-.026	**-.077**	**-.075**	—	—	—	—
CF_t/K_{t-1}						(.017)	(.035)	(.026)				
*Year of Birth**	—	—	—	—	-.003	—	**-.011**	**-.013**	—	—	—	—
Q_{t-1}					(.002)		(.004)	(.003)				
*(*10)*												
*MBA**	—	—	—	—	—	.004	**.017**	**.017**	—	—	—	—
$Qt-1$						(.003)	(.008)	(.006)				
Tenure as CEO	—	—	—	.004	—	—	—	—	—	—	—	-.021
(*10)				(.004)								(.034)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.*	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No
CF_t/K_{t-1}												
Firm F.E.*	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No
Q_{t-1}												
Tenure as CEO*	No	No	No	No	No	No	No	Yes	No	No	No	No
CF_t/K_{t-1}												
Tenure as CEO*	No	No	No	No	No	No	No	Yes	No	No	No	No
Q_{t-1}												
R^2	.514	.423	.428	.482	.821	.806	.759	.813	.433	.406	.403	.402
N obs	15482	12530	10446	10133	15481	12529	10445	10132	15679	12701	10589	10272

[a] Notes:

1. Sample excludes firms in banking and regulated industries.
2. Also included in each regression are Q_{t-1}, CF_t/K_{t-1} and log(total assets).
3. Standard error are in parentheses. Standard errors are corrected for clustering of observations at the CEO level.

Table 13
CEOs' Birth Cohort and MBA Effects on Financial Policy [a]

Dep. Var:	**Leverage**				**Cash**				**Dividends/Share**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Year of Birth	**.018**	—	**.020**	**.018**	**-.004**	—	**-.004**	**-.005**	**.049**	—	**.064**	**.036**
*(*10)*	(.005)		(.006)	(.007)	(.002)		(.002)	(.002)	(.027)		(.036)	(.035)
MBA	—	**.017**	.012	.012	—	-.001	-.001	-.001	—	-.010	-.023	-.045
		(.009)	(.011)	(.011)		(.002)	(.002)	(.003)		(.045)	(.053)	(.044)
Tenure as CEO	—	—	—	-.002	—	—-	—-	-.001	—	—	—	-.026
(*10)				(.005)				(.002)				(.018)
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	.533	.510	.548	.542	.802	.808	.789	.781	.348	.383	.354	.399
N obs	15646	12685	10573	10255	15678	12698	10588	10271	15678	12700	10588	10271

[a] Notes:

1. Sample excludes firms in banking and regulated industries.
2. Also included in each regression are ROA, Q_{t-1} and log(total assets).
3. Standard error are in parentheses. Standard errors are corrected for clustering of observations at the CEO level.

Table 14
CEOs' Birth Cohort and MBA Effects on Organizational Strategy [a]

Dep. Var:	**Diversification**				**R & D**				**Advertising**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Year of Birth	-.009	—	**-.022**	**-.037**	**-.003**	—	**-.004**	-.004	-.001	—	-.001	-.001
*(*10)*	(.009)		(.012)	(.014)	(.001)		(.002)	(.003)	(.001)		(.002)	(.002)
MBA	—	.023	**.037**	**.040**	—	**-.003**	-.003	**-.03**	—	.002	.003	.003
		(.015)	(.017)	(.018)		(.001)	(.002)	(.001)		(.003)	(.003)	(.003)
Tenure as CEO	—	—	—	-.025	—	—	—	.001	—	—	—	-.001
(*10)				(.011)				(.001)				(.002)
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	.717	.735	.751	.752	.713	.713	.677	.675	.839	.867	.854	.852
N obs	15679	12701	10589	10272	9823	7911	6633	6460	6100	4797	4208	4152

[a] Notes:

1. Sample excludes firms in banking and regulated industries.
2. Also included in each regression are ROA, Q_{t-1} and log(total assets). "Acquisition" is also added as a control in columns (1) to (4).
3. Standard error are in parentheses. Standard errors are corrected for clustering of observations at the CEO level.

Table 15
CEOs' Birth Cohort and MBA Effects on Performance [a]

Dep. Var:	**ROA**				**Q_{t-1}**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
v *Year of Birth*	-.001	—	-.000	-.003	-.022	—	-.066	**-.106**
*(*10)*	(.003)		(.003)	(.004)	(.041)		(.050)	(.056)
MBA		**.009**	**.011**	**.013**	—	.023	**.106**	**.115**
		(.004)	(.005)	(.005)		(.071)	(.068)	(.070)
Tenure as CEO	—	—	—	-.002	—	—	—	-.05
(*10)				(.002)				(.03)
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	.696	.563	.538	.537	.987	.302	.568	.567
N obs	16049	12909	10724	10397	15990	12890	10708	10383

[a] Notes:

1. Sample excludes firms in banking and regulated industries.
2. Also included in each regression is log(total assets).
3. Standard error are in parentheses. Standard errors are corrected for clustering of observations at the CEO level.

Table 16
Business School Effects on Firm Policies and Performance [a]

Dep. Var.:	$\mathbf{I_t/K_{t-1}}$	**Acquisition**	**Leverage**	**Cash**	**Div./Share**
	(1)	(2)	(3)	(4)	(5)
MBA	.022	-.022	**.019**	**-.006**	-.040
	(.018)	(.067)	(.012)	(.003)	(.074)
Columbia	.003	**.500**	-.009	.004	.573
	(.019)	(.212)	(.044)	(.008)	(.451)
Chicago	**-.032**	-.273	.082	.002	-.232
	(.016)	(.222)	(.058)	(.008)	(.248)
Harvard	-.009	-.002	-.021	**.008**	.025
	(.016)	(.082)	(.018)	(.004)	(.086)
Michigan	.060	.154	-.004	.015	.005
	(.112)	(.177)	(.030)	(.010)	(.139)
MIT	-.001	-.073	**.074**	-.007	-.023
	(.038)	(.140)	(.029)	(.011)	(.110)
NYU	-.008	-.104	**-.047**	.003	-.233
	(.022)	(.257)	(.019)	(.011)	(.153)
Stanford	.000	-.077	-.006	**.017**	**.412**
	(.019)	(.238)	(.026)	(.008)	(.203)
Wharton	.021	-.140	-.015	.002	**.226**
	(.024)	(.107)	(.027)	(.008)	(.118)

Dep. Var.:	**Diversification**	**ROA**	$\mathbf{Q_{t-1}}$
	(6)	(7)	(8)
MBA	**.042**	.006	-.047
	(.020)	(.007)	(.077)
Columbia	-.021	**.034**	**.426**
	(.087)	(.014)	(.210)
Chicago	-.069	.002	.039
	(.083)	(.015)	(.187)
Harvard	-.026	.002	-.009
	(.029)	(.007)	(.099)
Michigan	-.066	-.007	-.166
	(.084)	(.033)	(.382)
MIT	.014	.012	.275
	(.040)	(.015)	(.240)
NYU	-.036	.023	.318
	(.058)	(.016)	(.290)
Stanford	-.082	**.020**	**.284**
	(.072)	(.012)	(.178)
Wharton	-.080	**.026**	-.097
	(.072)	(.014)	(.189)

[a] Notes:

1. Sample excludes firms in banking and regulated industries.
2. Controls included in each regression are firm fixed effects, year fixed effects and the logarithm of total assets. Regressions (1) to (6) also include ROA and Q_{t-1} as controls. Regression (6) also includes "Acquisition" as a control.
3. Standard error are in parentheses. Standard errors are corrected for clustering of observations at the CEO level.

Table 17
Trend in Corporate Variables:
The Role of CEOs' Birth Cohort Effects [a]

Dep. Var.:	**Leverage**		**Diversification**	
	(1)	(2)	(3)	(4)
Year	.004	.002	-.004	-.003
	(.001)	(.001)	(.001)	(.001)
Year of Birth	—	.017	—	-.008
(*10)		(.004)		(.009)
Firm F.E.	Yes	Yes	Yes	Yes
R^2	.527	.528	.715	.715
N obs	15648	15648	15681	15681

[a] Notes:

1. Sample excludes firms in banking and regulated industries.
2. Also included in each regression are ROA, Q_{t-1} and log(total assets). "Acquisition" is also added as a control in columns (3) and (4).
3. Standard error are in parentheses. Standard errors are corrected for clustering of observations at the CEO level.