



CEO ownership, stock market performance, and managerial discretion

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Executive Summary

We examine the relationship between CEO ownership and stock market performance. We show that investing in firms in which the CEO owns a substantial fraction of shares (for example more than 10% of outstanding shares) leads to large abnormal returns. A strategy based on public information about managerial ownership delivers annual abnormal returns (annual alphas in a Fama-French portfolio setting) of 4 to 10%. These results are stronger for firms in which the impact of the CEO can be expected to be large, i.e. in firms in which the CEO has a lot of discretion.

Our paper has two main parts. In the first part, we derive our main results and show that they are robust and economically meaningful. In the second part, we discuss different potential explanations for our results.

Main results and robustness

We use data about CEO ownership for a large number of US corporations from 1988 to 2010. Ownership information is collected from proxy statements (where available) or insider trade data. We then perform a portfolio analysis and form portfolios based on CEO ownership. For example, we buy firms into our portfolio if the CEO owns more than 10% of shares outstanding. We can then estimate abnormal returns (i.e. alphas) comparing it to some benchmark returns. Our main benchmark is the Fama-French-Carhart 4 factor model (the factors are the market portfolio, a small minus large portfolio, a high minus low book-to-market portfolio, and a momentum based portfolio). We then show that this leads to annualized abnormal returns of 3.5% in a value-weighted portfolio and 6.2% for equal weighted portfolios.

These portfolios are based on long-only strategies and abnormal returns are comparable for a long-short portfolio if we go short in no-ownership firms. Then, going long in firms in which the CEO owns more than 10% of shares outstanding and going short in no-ownership firms leads to annualized abnormal returns of 5% (value-weighted portfolios) and 3.8% (equal-weighted) portfolios.

We then do a battery of robustness checks. We run standard regressions instead of a portfolio approach, check for temporal stability, different benchmark returns, and different samples. Overall, the results are robust and statistically significant.



Possible explanations

Our main result is simple: Investing in firms with high managerial ownership leads to large abnormal returns. But why does the market not correctly understand or interpret ownership information? We focus on three potential explanations, two based on irrational markets and one based on rational markets:

The first explanation is based on the interplay of asymmetric information and irrational markets. According to this explanation, abnormal returns for high CEO-ownership firms are high because CEOs have better information about the prospects of the firm. At the same time, the market does not correctly anticipate this.

The second explanation is based on the interplay of value increasing effort of the CEO and irrational markets. The main idea is that high managerial ownership induces the CEO to work harder; incentives between the CEO and outside investors are better aligned. In other words, owner-CEOs are value increasing. At the same time, the market does not correctly understand this and is positively surprised by the results produced by the CEO.

The third explanation is based on the interplay of value increasing effort of the CEO and rational markets. Like in the second explanation, the CEO is viewed as value increasing. However, the market is not positively surprised by the value increasing activities of the CEO. To the contrary, the abnormal returns are the results of rational equilibrium behavior. The idea is based on the theoretical work in von Lilienfeld-Toal (2008) and Blonski and von Lilienfeld-Toal (2008). There, it is argued that prices cannot fully reflect the future effort of a CEO, because she could otherwise profit from the price increase right away by selling her stocks without having to carry out value-increasing effort and bearing the associated personal costs. Instead, these models show rational equilibria can emerge in which stock prices of firms with CEO ownership do not fully reflect future effort, that is, equilibria in which stocks can eventually earn positive abnormal returns. Thus while the first two explanations are based on market inefficiency arguments, this one does not.

Empirical tests to explain the differences

To shed more light on these three potential explanations, we conduct a set of additional tests. First, we investigate whether our results are due to market inefficiencies by analyzing investors' learning over time, earnings surprises, and the role of limits of arbitrage. If investors do not learn, if markets are never surprised, and if our results are not due to limits of arbitrage, this would contradict the two inefficiency-based explanations. We find no evidence of investor learning over time and our results do not seem to be driven by limits of arbitrage. We also find no convincing evidence that earnings of high managerial ownership firms are on average higher than analysts expect, but here results are less conclusive. However, there is some evidence for positive abnormal returns around earnings announcements for high managerial ownership firms. Nevertheless, this effect only explains a small part of the overall outperformance of these firms.

Second, to explicitly check whether our results are just a reflection of asymmetric information (first explanation) we analyze whether our main result is stronger among firms with high levels of asymmetric information. We use the number of analysts and dispersion of opinion among



analysts as proxies for information asymmetry. Results based on our full sample show no impact of information asymmetry. Among the subset of the larger firms in the Execucomp sample, where we generally expect information asymmetries to be less relevant, the various proxies deliver conflicting results. Overall, these additional tests do not support the information asymmetry explanation for our main findings.

Third, the implicit assumption underlying the two incentive-based explanations is that owner-CEOs work hard and increase firm value, that is, they play the role of value-increasing shareholders. To investigate this assumption in more detail, we analyze additional implications arising from this assumption. The incentive-based explanations require the CEO to have some discretion to influence firm policies; otherwise, she could not increase firm value by exerting effort. Consequently, if incentives and managerial effort play a role, we would expect to see a stronger effect among firms in which managerial discretion is high. Using various proxies for managerial discretion, we find strong evidence that abnormal returns due to managerial ownership are higher in high managerial discretion firms.

We also analyze how managers use their discretion and what they do differently compared to non-owner-managers. We find that they are less likely to build empires, they receive lower total compensation, and they run their firms more efficiently: the labor productivity and cost efficiency of their firms is higher and their overhead costs are lower, which is also reflected in higher returns on assets. As it requires a lot of effort to keep costs low and run a company efficiently, these results confirm the view that owner-managers exert effort to increase firm value and also support the incentive-based explanations rather than the first, information asymmetry-based, explanation.

Taken together, the findings from these additional tests suggest that both incentive-based explanations help to understand the abnormal returns we find, while the information asymmetry-based explanation plays only a minor role.

Literature

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