Investor Horizons and Corporate Policies

FRANÇOIS DERRIEN, AMBRUS KECSKÉS, and DAVID THESMAR*

October 14, 2009

Abstract

This paper looks at the effect of shareholder horizon on corporate behavior. In perfect capital markets, corporate behavior should be insensitive to shareholder horizon, but when investment opportunities are not well valued by the market, shareholder horizon matters. We first present a simple framework to show that shareholder horizon should be looked at in conjunction with stock misvaluation. We build on this insight to design a novel empirical strategy to assess the impact of investor short-termism. Consistent with our simple framework, we find that, when a firm is undervalued, the presence of more short-term investors is associated with bigger shareholder payout, less equity issue, less external financing, and as a result, less investment and less R&D spending. Under our interpretation, long-term investors are not more involved in corporate governance, yet, they affect corporate policy.

JEL classifications:
Keywords: Investor Horizon, Financing Decisions, Corporate Investment

---

* Derrien and Thesmar are at HEC Paris and Kecskés is at the Virginia Polytechnic Institute and State University. Corresponding author: David Thesmar. Email: thesmar@hec.fr. We greatly appreciate comments by Robin Greenwood, Harrison Hong, Augustin Landier, Andrei Shleifer, and Hans-Joachim Voth.

1. Introduction

Institutional ownership of U.S. firm has increased dramatically in the last 50 years, and today, institutional investors collectively hold the majority of U.S. shares. (Gompers and Metrick 2001). However, institutional investors are far from homogenous. One of the dimensions along which they differ is the horizon of their investments. The horizons of investors can differ because their liabilities have different maturities. Pensions funds, for instance, have long-term liabilities, whereas mutual funds can be subject to large redemptions in the short term. Investors also differ in their investment strategies, which affects the frequency with which they turn over their portfolios. Surprisingly, however, the question of how the investment horizons of a firm's shareholders affect the firm's policies has received little academic attention. The goal of this paper is to fill this gap. More precisely, this paper asks if short investor horizon affects payout policy, financing decisions and, ultimately investment and overall corporate performance.

In perfect capital markets, a firm's stock price is always equal to its fundamental value and the investment horizon of shareholders does not matter for corporate policy. Managers make investment decisions that maximize the firm's fundamental value. These decisions are reflected in the firm's stock price and investors can fulfill their liquidity needs by selling the stock before investments pay off. Market imperfections, on the other hand, create tensions between investors with different horizons. Consider for instance a firm whose stock price is temporarily below its fundamental value, e.g., because of sales by open-end fund managers subject to massive redemptions (Coval and Stafford 2007). In such a firm, the value created by investment decisions is not fully reflected in the stock price. Long-term investors do not care about this because they are patient enough to wait until the investment matures or the undervaluation disappears. By contrast, short-term investors would rather have the firm distribute cash than invest in projects that will pay off at a time when these investors will be gone and whose value is not reflected in the firm's current stock price. If the firm has both long- and short-term investors and if its managers maximize the wealth of its average shareholder as in Polk and Sapienza (2009), the firm's managers may decide to cut investment and increase payout.

Investor horizon may also have an impact on the firm's capital structure decisions in the presence of temporary misvaluation. Assume the same undervalued firm as above sells equity to new investors, a fraction of which have a short horizon. Because the firm is currently undervalued, its new short-term investors require a larger fraction of the firm's ownership than they would in the absence of undervaluation. Equity looks expensive to the firm. By contrast, debt looks relatively cheap because it is not affected by misvaluation. We formalize these intuitions in Section 2 of this paper.

All in all, we expect undervalued firms with a larger fraction of long-term shareholders 1) to reduce payout, 2) to invest more, and 3) to issue more equity than similar firms with more short-term shareholders. In taking these predictions to the data, we face several empirical challenges. First, we need to measure the investment horizon of a firm's shareholders. We use a methodology similar to that of Wahal and McConnell (2000) and Gaspar et al. (2005) to identify long- vs. short-term investors based on portfolio turnover. We then compute short-term and long-term investor ownership for each firm. Our second empirical challenge is to identify misvaluation. We use three valuation proxies that have been used in the literature, namely, book-to-market,[1] future excess returns,[2] and bear market conditions.[3] We explain the construction of these measures in detail in our Section 3.

---

[1] See, for instance, Lakonishok, Shleifer, and Vishny (1994), La Porta, Lakonishok, Shleifer, and Vishny (1997), and Baker and Wurgler (2002)

In our tests, we regress various corporate policy variables on the interaction between misvaluation and the fraction of the firm's shares held by long-term investors. We present our results in Section 4: they confirm that the investment horizon of its shareholders affect a firm's decisions in times of relatively low valuation. The effect of greater long-term investor ownership for undervalued firms is a relative decrease in payouts, increase in equity issuance, and increase in investment. These results are economically and statistically significant. For example, when we look at firms that have average long-term investor ownership, we find that total payout to shareholders (i.e., dividends plus share repurchases) decreases by 0.2% of lagged total assets for a one-standard deviation increase in book-to-market. For firms whose long-term investor ownership is one standard deviation above the mean, the same "undervaluation shock" reduces payout by 0.6%. Finally, we examine whether firms that are undervalued and have investors with longer horizons have better or worse operating performance. We find that effect of greater long-term investor ownership for undervalued firms is an incremental increase in sales and costs but also in profitability.

In Section 5, we then run several robustness tests. Our first concern is that our results might come from investor self-selection. For example, long-term investors might choose to invest in firms that are less affected by temporary shocks or recover more quickly from these shocks. This view is inconsistent with our finding that these firms cut payouts (if they resist more, they should increase payout). But it could explain our results that undervalued firms with more long-term investors invest more and perform better. We examine this self-selection interpretation by splitting long-term investors into indexers and non-indexers, using a methodology similar to Cremers and Petajisto (2009) to identify indexers. Indexers simply passively buy and sell firms

---

[2] Baker, Stein, and Wurgler (2003) and Polk and Sapienza (2009)
[3] Ibbotson and Jaffe (1975), Ritter (1984), Choe, Masulis, and Nanda (1993), and Bayless and Chaplinsky (1996))

added and dropped from their benchmark index, respectively, so they cannot self-select into firms with particular corporate policies. We find that our results hold for both indexers and non-indexers, which is inconsistent with the self-selection interpretation. Another potential concern with our results is that most long-term investors might be blockholders, and our results might be just a side effect of the impact of blockholders on corporate policy, and not an effect of investment horizon per se. We examine this interpretation by splitting long-term investors into blockholders and non-blockholders. We find that our results are generally stronger for non-blockholders than blockholders, which is inconsistent with the blockholder interpretation.

We contribute to the emerging literature on investor horizons and corporate policies. First, short horizon investors behave differently: some papers have shown that these investors trade more aggressively, in the sense that they trade early on negative or positive news (Hotchkiss and Strickland (2003), Ke and Petroni (2004), Ke, Petroni, and Yu (2008), Yan and Zhang (2009)). Second, short-term investors seem to affect some very particular dimensions of corporate behavior: the quality of accounting disclosure (Bushee (2001)), R&D spending (Bushee (1998)), mergers and acquisitions (Gaspar, Massa, and Matos (2005)), and the tradeoff between dividends and repurchases (Gaspar, Massa, Matos, Patgiri, and Rehman (2004)). This literature, however, because it tries to directly relate corporate policies to investor horizon, can suffer from omitted variable bias. Our paper exploits the fact that investor horizon only matters when the firm is undervalued: we therefore use a difference in difference approach that allows us to directly control for investor horizon and alleviate part of the endogeneity concerns that arise in existing studies. Besides, we look at a broader range of corporate outcomes, from financing decisions to investment and overall performance.

In doing so, we also indirectly contribute to the "market timing" literature that studies how corporate behavior responds to non fundamental movements in stock prices. A common theme in these papers is that firms can observe when prices diverge from fundamental, and exploit this information to alter their financial policy but also their investment policy.[4] In a related vein, some papers (Hong, Wang and Yu (2008), Greenwood and Hanson (2009)) have recently argued that financing policy can be partly explained by firms acting as liquidity providers on their own stocks:[5] they issue shares when equity is overvalued, and repurchase them when they are undervalued. In theory, however, such a behavior only arises when liquidity provision is needed, i.e. when existing shareholders are liquidity consumers. Our paper precisely tests this: short-term investors have strong liquidity needs (they churn their portfolio at a very high rate). When they are present in a firm's ownership, episodes of undervaluation trigger more liquidity provision, i.e. share repurchases, by firms. This is exactly what we find in this paper.

Finally, numerous papers have established that blockholders affect corporate policies differently from diffuse investors (e.g., Holderness (2003), Cronqvist and Falhenbrach (2009)) and institutional investors affect corporate policies differently from individual investors (e.g., Gompers and Metrick (2001)). Our results suggest that institutional investors are not homogenous but instead include long-term investors that affect corporate policies differently from short-term investors as well as from blockholders. Interestingly, our interpretation of the results does not rely on long-term investors being more involved in corporate governance than short-term investors. This is a priori a healthy assumption as the available evidence that shareholder activism actually matters is, at best, scarce.

---

[4] Baker and Wurgler (2002) have studied financing policy. For investment, see Baker, Stein, and Wurgler (2003), Shleifer and Vishny (2003), Gilchrist, Himmelberg, and Huberman (2005), Hoberg and Phillips (forthcoming), and Polk and Sapienza (2009).

[5] Greenwood, Hanson and Stein (forthcoming) look at bonds.

The rest of the paper is organized as follows. Section 2 presents the theory. Section 3 presents the data and sample. Section 4 presents the main results. Section 5 presents robustness tests of the main results. Section 6 concludes.

2. The Theoretical Framework

2.1. Set-up

In this section, we present a simple model to analyze the impact of investor horizon on firm policies. The model is close to Polk and Sapienza (2009) and conceptually very similar to market timing models such as Hong, Wang and Yu (2009). There are two periods: 1 and 2. At date 1, the firm has cash c and k units of capital. In period 1, the firm makes no profit. In period 2, the firm will generate cash flows $\pi(k)=\alpha k-k^2/2$ for k units of capital invested in period 1. We assume the firm is undervalued in period 1, so that at date 1, the price of cash flows generated at date 2 is equal to $(1-\delta).\pi(k)$, where $\delta<1$. δ thus measures the extent of undervaluation. The reason why the firm is undervalued is left unmodelled but could be related to a lack of arbitrage capital as in Shleifer and Vishny (1990), or because providing liquidity is risky as in Delong, Shleifer, Summers and Waldmann (1990).

For simplicity, we assume that the firm is all-equity financed at date 1. A fraction x of its investors are short-term investors. These investors have a discount rate equal to infinity. Hence, their valuation of the firm at t=1 is equal to $(1-\delta)\pi+d$, where d is the dividend paid by the firm in period 1. A fraction 1-x of investors are long-term investors. Their discount rate is equal to zero. Their valuation of the firm is thus π. The manager of the firm is assumed to maximize the wealth of the average shareholder. We justify this assumption because some decisions (large equity issues, mergers and acquisitions, dividend payout) usually require a vote in general assembly. Also, short-term investors matter because they are likely to be the marginal trader on the market and therefore affect prices. Thus, when x is larger, managers concerned about their share price will cater to short-term investors tastes more. This monotonicity is all we need.

The financial policy of the firm has three dimensions: (1) a dividend d, paid in period 1, (2) an issue of debt D, implying a repayment (1+r).D in period 2 and (3) an issue of equity e. We assume that a fraction y of the new equity is placed with new short-term investors who receive in exchange a fraction β of future profits. A fraction 1-y of the new shares is placed with long-term investors who receive a fraction γ of the firm's future profits. To simplify the exposition, we assume that the firm can sell new shares separately to the two categories of investors. Hence, β and γ are set so that the participation constraints of each category of investors bind. Like debtholders, shareholders are assumed to have an opportunity cost of funds equal to r.

The manager of the firm thus chooses capital structure and investment to solve the following program:

$$
\begin{aligned}
&\max x\{(1-\delta).[\pi(k)-(1+r)D].(1-\beta-\gamma)+d\}+(1-x).\{[\pi(k)-(1+r)D].(1-\beta-\gamma)+d\} \\
&s.t. \\
&d+k<c+D+e \\
&\beta(1-\delta)[\pi(k)-(1+r)D]>(1+r)ye \\
&\gamma[\pi(k)-(1+r)D]>(1+r)(1-y)e \\
&d\geq 0, k\geq 0, c\geq 0, D\geq 0, e\geq 0
\end{aligned}
$$

The second and third constraints are the participation constraints of the new short-term and long-term shareholders, respectively.

2.2. Dividends

To simplify, let us first assume that the firm has exhausted its ability to raise external funding. In this case, D=e=0. Then, investment and dividends are:

$$k = \alpha - \frac{1}{1 - x\delta}$$
$$d = c - k$$

Investment is a decreasing function of x (the fraction of short-term investors) and a decreasing function of δ (the undervaluation). Since the manager has the choice between allocating cash to dividends or to investment, dividends are increasing when investors become more short-termist, or when undervaluation is more severe. Moreover, it is easy to show that:

$$\frac{\partial^2 k}{\partial \delta \partial x} < 0, \frac{\partial^2 d}{\partial \delta \partial x} > 0$$

The effect of undervaluation on investment and payout are larger when there are more short-term investors. We test these two predictions in Section 4.

2.3. Debt and equity issue

We now focus on issuing policy and set d=c=0. Under this assumption, the optimisation problem becomes:

$$\max(1\text{-}x\delta)\left\{\pi(e+D)-(1+r).D-(1+r)e.\left[\frac{y}{1\text{-}\delta}+1\text{-}y\right]\right\}$$
$$s.t.$$
$$D \geq 0, e \geq 0$$

First, note that the model gives a structural advantage to debt financing. Investment is fully financed with debt as soon as some new shareholders are short-termist (y>0). The intuition is that future debt repayments are discounted by short-term investors with factor δ, exactly like future profits. Thus, debt does not look "expensive" from the current shareholder viewpoint. On the other hand, equity looks expensive: because some of the new shareholders also discount future profits heavily, they demand a larger share of the firm than debtholders. In other words, because in effect debtholders are more long-termist than new shareholders, debt is less expensive than equity finance.

The model generates predictions on the decision to issue debt or equity that are similar to intuitions derived from models of capital structure under differences in opinions (Malmendier and Tate, 2005; Landier and Thesmar, 2009). Assume for instance that the firm has a large debt capacity. In this case, e=0 and investment and debt issue are given by:

$$k = D = \alpha - (1+r)$$

When the firm has debt capacity, its debt policy is not affected by the horizon of its shareholders, because debtholders are more patient than current shareholders. Hence, while on the one hand current shareholders are less willing to invest (they discount future profits heavily), on the other they find that debt finance is cheap (debt holders do not discount future debt repayment). These effects cancel each other exactly. We check that this holds in Section 4.

Assume now that the firm has exhausted its debt capacity, so that D=0. In this case, its investment and equity issue are given by:

$$k = e = \alpha - (1 + r).\left(\frac{y}{1-\delta} + 1 - y\right)$$

New shareholders have a shorter horizon than debtholders, which mechanically increases the firm's cost of capital. Thus, the decision to issue equity is affected by shareholder horizon and the extent of undervaluation δ. Moreover, the effect of undervaluation on equity issue is magnified by the fraction of short-term investors y. We also perform this test in Section 4. To do this, since in practice we cannot always measure y (y is only observed in case of issue), we assume that y is an increasing function of x, i.e. that firms that attract more short-term investors in their ownership also attract more short-term investors in their issues.

3. Data and Sample

3.1. Data and Sample

We obtain our stock trading data from CRSP, our data on corporate policies from Compustat, and our investor portfolio data from Thomson's 13f filings.

We construct our sample as follows. We select our sample of firms from the universe of all publicly traded U.S. firms that are listed on CRSP between 1984 and 2007. Our empirical approach is to explain corporate policies in the current year, year t, with information, such as investor horizons, in the previous year, year t-1. Our investor turnover variable, which we discuss below, is computed over four years and our investor portfolio data begin in 1980, so 1984 is the first year for which we can measure investor turnover. Therefore, we begin our sample of firms in 1984 because we require, among other information, investor turnover in year t-1.

We keep publicly traded U.S. operating firms defined as firms with CRSP share codes of 10 or 11. We drop firms that, in year t-1, are not publicly traded for at least one year, are financial firms and utility firms, or are firms with real total assets in December 2007 dollars of less than $10 million. We also drop firms that do not have Compustat data in year t. This leaves 78,762 firm-years comprising 10,126 unique firms between 1985 and 2007 where years refer to year t.

Throughout the empirical analysis of this paper, by "firms", we refer to U.S. operating firms in CRSP, and, by "investors", we refer to institutional investment managers that file Form 13F with the SEC. Our corporate policy variables are described in the Appendix. Appendix Table 1 presents summary statistics for these variables.

3.2. Measuring Investor Horizons at the Investor Level

We measure investor horizon as the investor's portfolio turnover (e.g., Gaspar, Massa, and Matos (2005) and Gaspar, Massa, Matos, Patgiri, and Rehman (2005)). We refer to this variable as "investor turnover". To compute it, we calculate, for each investor j, each quarter t, and each firm i, the fraction of shares of i held by j at date t-12 (i.e. three years ago) that has been sold at date t. If j has been a net buyer of shares of i, we replace this "reduction in position" by zero. We mechanically restrict the sample of firms i to stocks that were publicly traded at both t and t-12. We then weight this reduction in position in firm i by the weight of i's stock in j's portfolio taken at t-12, and sum it over all the firms held in j's portfolio as of t-12. Finally, to reduce the influence of one quarter with extreme turnover, we compute for investor j its mean portfolio turnover over the past four quarters (from t to t-3). Our measure of turnover thus captures the fraction of dollars held three years ago that have been sold since then; it lies between 0 and 1.

Approximately one-quarter of investors have portfolio turnover of 35% or less each quarter, a proportion that is stable over time. We classify such investors as "long-term investors", and we classify all other investors, including those for which portfolio turnover is not defined, as "short-term investors".

[Insert Table 1 about here]

To better understand our long-term investors, we examine the 25 institutions with the longest horizons as of December 31, 2007. Table 1 presents their name, their type, their portfolio turnover, the number of firms they hold in their portfolio, and the market value of their portfolios. Most of these long-term investors (18 out of 25) are investment management firms (consistent with Goyal and Wahal (2008)). The others comprise four banks, one insurance firm, and (the pension funds of) two industrial firms. The mean (median) investor holds 156.0 (590.4) firms in its portfolio and its portfolio has a market value of $29.5 ($3.6) billion. Several of these investors are fairly concentrated, but more are well diversified. The portfolios of all but three of these investors have a market value of at least $1 billion.

Some of these long-term investors explicitly state that they have a long horizon. For example, according to its website, "Cedar Rock Capital…is dedicated to a single, longstanding investment process…We pursue a long-only, buy-and-hold global strategy. We seek to minimize frictional costs and to defer capital gains by investing only in companies that we believe capable of compounding in value indefinitely". Others are famous for their long horizon. For example, Warren Buffett, whose "favorite holding period is forever", is one of our investors as are Carl Icahn and Bill Gates. Eddie Lampert (ESL Investments, Inc.), another famous long-term investors, is our 32nd investor with the longest horizon, whereas Stevie Cohen (SAC Capital Management, LLC), a famous short-term trader, is 833rd. Still other long-term investors are famous for their index funds, such as Vanguard Group, and as a result of their passive investment approach have long horizons. Overall, our classification of long-term investors based on investor turnover seems to capture investors with long horizons, but many of them, like indexers, are passive; this is consistent with our theoretical framework which does not assume that long-term investors are more active in corporate governance.

If investor turnover is an investor characteristic, then low- (high-) turnover investors in the past should remain low- (high-) turnover investors in the future. We verify this assumption by examining future turnover as a function of past turnover. For each investor-quarter, we compute investor turnover as before at the present quarter. We sort investors by current turnover quartile and compute, for each current turnover quartile, mean future investor turnover over each of the next 20 quarters.

[Insert Figure 1 about here]

Figure 1 presents the results. After one quarter, investors in the bottom quartile of investor turnover (the most long-term investors) turn over 6.3% of their portfolio, investors in the next two quartiles turn over 9.6% and 14.3% of their portfolio, respectively, and investors in the top quartile of turnover (the most short-term investors) turn over 25.1% of their portfolio. These differences persist for each of the next 19 quarters. After five years, investors in the bottom quartile of investor turnover (the most long-term investors) turn over 39.7% of their portfolio, investors in the next two quartiles turn over 54.3% and 66.4% of their portfolio, respectively, and investors in the top quartile of turnover (the most short-term investors) turn over 80.1% of their portfolio. The persistence of investor turnover suggests that it is reasonable to assume that investors with longer horizons in the past maintain their longer horizons in the future.

In our robustness tests, we also examine indexers' ownership. Since we have quarterly investor portfolio data, we must use a cross-sectional rather than a time-series definition of indexers. We classify indexers based on a measure similar to Cremers and Petajisto (2009): we calculate the distance between the weights on each firm in the investor's portfolio and the weights in the CRSP value weighted market index.[6] We, as Cremers and Petajisto, call this measure "active share". Approximately one-quarter of investors have an active share of 0.65 or less, and this fraction is stable of time. We label such investors "indexers", and others "non-indexers".[7]

3.3. Measuring Investor Horizons at the Firm Level

[6] Our definition of indexers is necessarily less accurate than that of Cremers and Petajisto (2009) who examine mutual funds and look at a much wider class of benchmarks (small caps, midcaps, value, growth etc). We just focus on the CRSP value weighted index as our benchmark index because the very notion is less practical for institutional investors, who may have many different activities.

[7] Since there is no theoretical or empirical evidence on what cutoff to use to define indexers based on active share, we examine a number of alternative cutoffs, namely, the 0.25, 0.5, and 0.75 corresponding to the fifth, tenth, and fiftieth percentiles of active shares. Our results are the same.

Turnover is defined at the investor level; we now measure investor horizon at the firm level. For each firm-year, we compute separately the fraction of short-term and long-term investor ownership in total shares outstanding. The sum of these two variables is equal to the share of stocks held by institutions, and is therefore smaller than one.

[Insert Figure 2 about here]

Figure 2 presents mean short-term investor ownership and mean long-term investor ownership each quarter during our sample period. Short-term investor ownership is steady during the first 20 years of our sample period at around 15-20% and then it rises quickly to 30-35% during the last four years of our sample period. By contrast, long-term investor ownership rises gradually during the first 20 years of our sample period from roughly five percent to roughly 20-25% during the last four years of our sample period. These results suggest that the increase in institutional investor ownership documented by Gompers and Metrick (2001) between 1980 and 1996 is mainly because of the increase in long-term investor ownership. Moreover, in a non reported figure, we split long-term investor ownership into long-term non-indexers' and indexers' ownership. We find that the increase in long-term investor ownership during our sample period is mainly because of indexers, while long-term non-indexers' ownership is roughly unchanged at around three percent. These results are consistent with the increase in indexers' ownership beginning around 1990 documented by Cremers and Petajisto (2009).

For each firm-year, we also compute the fraction of blockholders' ownership. Using the standard definition in the literature (e.g., Holderness (2003)), we classify institutions that own at least five percent of the firm's shares outstanding as "blockholders", and we classify all other investors as "non-blockholders". Appendix Table 1 presents summary statistics for our investor ownership variables.

Since investor turnover (at the investor level) is persistent, long-term investor ownership (at the firm level) should be persistent as well. For each firm-quarter, we compute present long-term investor ownership and sort each firm into quartiles of present long-term investor ownership. For each long-term investor ownership quartile, we compute mean future long-term investor ownership over each of the next 20 quarters.

[Insert Figure 3 about here]

Figure 3 presents the results. Firms in the bottom quartile of investor ownership (firms with the lowest long-term investor ownership) start out with 1.6% long-term investor ownership, which grows steadily during the next 20 quarters to 5.9%. Firms in the top quartile of investor ownership (firms with the highest long-term investor ownership) start out with 26.5% long-term investor ownership, which remains steady during the next 20 quarters and ends at 26.6%. Long-term investor ownership is clearly persistent. Moreover, consistent with the increase in mean long-term investor ownership during our sample period, firms with the least long-term investor ownership gradually increase their long-term investor ownership.

Both short-term and long-term investor ownership variables have strong upward trends which may contaminate our fixed effect estimates. We solve this problem by standardizing both variables each quarter (i.e., for each ownership variable, for each firm-quarter observation, we subtract the sample average taken in the same quarter, and divide by standard deviation taken in the same quarter). We also winsorize both variables at the 1st and 99th percentiles.

3.4. Measuring Valuation

Since we examine the effect of investor horizons on the corporate policies of undervalued firms, we must proxy for valuation. Although several valuation proxies are standard in the literature, there is no consensus about which is the best. Accordingly, we use three reasonable valuation proxies, two at the firm level (these vary both in the cross-section and the time-series) and one at the economy level (this varies only in the time-series). These valuation proxies are book-to-market (e.g., see Lakonishok, Shleifer, and Vishny (1994), La Porta, Lakonishok, Shleifer, and Vishny (1997), and Baker and Wurgler (2002)), future excess returns (e.g., see Baker, Stein, and Wurgler (2003) and Polk and Sapienza (2009)), and market conditions (e.g., see Ibbotson and Jaffe (1975), Ritter (1984), Choe, Masulis, and Nanda (1993), and Bayless and Chaplinsky (1996)). We only require that our proxies capture valuation differences relative to perfect capital markets. We explain each of our proxies below.

For book-to-market, our implicit interpretation is that misvaluation is publicly observable ex ante. Misvaluation may persist because of capital market imperfections: arbitrage capital is lacking to bring prices back to their fundamental value, or doing so exposes arbitrageurs to risk. We group firms into book-to-market quartiles whose breakpoints are computed each quarter.

We measure future excess returns as mean monthly future excess returns. We follow Daniel, Grinblatt, Titman, and Wermers (1997) and compute returns in excess of benchmark portfolios matched on size, book-to-market, and momentum quintiles. In using it, we implicitly assume that future excess price movements can be to some extent forecasted by investors, and that it belongs to their information set. We also make the assumption that, ex post, excess price movements are related to temporary liquidity needs from the market, rather than permanent (information) shocks. Hence, this measure is a very noisy proxy for over- or undervaluation, and we expect our estimates to be weaker with it.

Last, we focus on bear markets, i.e. quarters when aggregate stock prices have fallen. We expect firms to be undervalued during these periods because lack in arbitrage capital or the risk associated with liquidity provision may prevent prices from fully reflecting fundamentals in those periods. More specifically, we define the "bear market" dummy variable as equal to one if the twelve-month real returns on the CRSP value weighted index during any one of the previous six months were negative and zero otherwise. We require a measure that is persistent because firms only change their corporate policies slowly in response to stock market conditions: raising financing may take several months, while investment decisions take even longer to obtain approval.

[Insert Figure 4 about here]

Figure 4 presents stock market returns and our bear market dummy variable. We classify as bear markets roughly one-third of our sample period between 1984 and 2007. These bear markets coincide with periods of negative financial and/or macroeconomic shocks, namely, the recession from August 1990 to March 1991, the bond market crash of 1994, and the recession from April 2001 to November 2001. Other bear market periods are purely financial, such as the October 1987 stock market crash or the Russian financial crisis of 1998. These periods are also interesting to test our mechanism because they affected firm valuation without affecting investment opportunities.

4. Investor Horizons and Corporate Policies

4.1. Empirical Strategy

We now examine the effect of investor horizons on the corporate policies of undervalued firms. Our theory predicts that firms that are undervalued relative to perfect capital markets decrease payouts to shareholders, increase equity financing, and increase investment the greater is their long-term investor ownership. To test our theory, we estimate the following:

$$\mathrm{CPV}_{\mathrm{i,t}} = \beta_0 + \beta_1 \mathrm{VP}_{\mathrm{i,t\text{-}1}} + \beta_2 \mathrm{LTIO}_{\mathrm{i,t\text{-}1}} + \beta_3 \left(\mathrm{LTIO}_{\mathrm{i,t\text{-}1}} \times \mathrm{VP}_{\mathrm{i,t\text{-}1}}\right) + \beta_4 \mathrm{STIO}_{\mathrm{i,t\text{-}1}} + \beta_5 \left(\mathrm{STIO}_{\mathrm{i,t\text{-}1}} \times \mathrm{VP}_{\mathrm{i,t\text{-}1}}\right) +$$

$$+ \alpha_i + \varepsilon_{\mathrm{i,t\text{-}1}},$$

where $\mathrm{CPV}_{\mathrm{i,t}}$ is a corporate policy variable, $\mathrm{VP}_{\mathrm{i,t\text{-}1}}$ is a valuation proxy, $\mathrm{LTIO}_{\mathrm{i,t\text{-}1}}$ is long-term investor ownership, and $\mathrm{STIO}_{\mathrm{i,t\text{-}1}}$ is short-term investor ownership. In this model, α_i captures firm-level fixed effects. Our variables are scaled by lagged total assets with the exception of our categorical variables. We measure these variables in excess of the corresponding industry median variable during the same year. This is why we do not include industry specific time dummies in the regression. We measure our book-to-market and bear market conditions valuation proxies at time t-1 and our future excess returns valuation proxy at time t.[8]

Most of the existing literature on investor short-termism (Bushee (1998), Bushee (2001), Gaspar, Massa, and Matos (2005), Gaspar, Massa, Matos, Patgiri, and Rehman (2004)) typically regresses $\mathrm{CPV}_{\mathrm{i,t}}$ on $\mathrm{LTIO}_{\mathrm{i,t\text{-}1}}$, controlling for as many factors as possible. One possible concern with this approach is that $\mathrm{LTIO}_{\mathrm{i,t\text{-}1}}$ may be correlated with unobservable heterogeneity that directly affects corporate policy. In our approach, $\mathrm{LTIO}_{\mathrm{i,t\text{-}1}}$ controls for the effect of greater long-term investor ownership on a corporate policy, so β_2 is not of direct interest to us. Instead, controlling for $\mathrm{LTIO}_{\mathrm{i,t\text{-}1}}$ allows us focus on our coefficient of interest, β_3, which estimates the incremental effect on a corporate policy of undervaluation for firms with given long-term investor ownership, i.e., of $\mathrm{LTIO}_{\mathrm{i,t\text{-}1}} \times \mathrm{VP}_{\mathrm{i,t\text{-}1}}$.

[8] All the variables we use in the subsequent tests are defined in detail in the appendix.

Shifting the focus to the interaction term, however, does not solve all endogeneity issues. A very natural concern with our measure of long-term investors is that it is strongly correlated with overall institutional ownership. To deal with this, we normalize long-term investor ownership by overall institutional ownership, so that $LTIO_{i,t-1}$ is not mechanically correlated with institutional presence. We also control for $STIO_{i,t-1}$ and $STIO_{i,t-1} \times VP_{i,t-1}$ in our regressions, which provides us with a consistency check: firms with large short-term investor ownership should behave, in theory, opposite to firms with large long-term investor ownership. Beyond institutional ownership, we address other endogeneity concerns in our robustness checks. For instance, by looking at indexers, we focus on long-term investors that do not select their portfolio firms, and avoid endogenous selection issues. Also, we take into account the fact that firms held by long-term investors tend to be larger and therefore more resistant to undervaluation episodes (Del Guercio, 1996): in non reported tables, we split the sample into S&P 500 and non S&P 500 firms, and find similar effects for both samples.

4.2. Payout Policy

First, we test our prediction that firms that are undervalued relative to perfect capital markets decrease payouts the greater is their long-term investor ownership. We use as payout policy variables two dummy variables, one for whether dividends increase and another for whether dividends decrease, a categorical variable for change in dividends (increase, no change, or decrease), and three continuous variables, one for each of dividends, repurchases, and total payouts (dividends plus share repurchases), all scaled by lagged total assets.

[Insert Table 2 about here]

Table 2 presents the results. Undervalued firms decrease payouts, and greater long-term investor ownership amplifies the decrease. Reassuringly, greater short-term investor ownership has a smaller effect and often opposite. For example, let us look at Panel A, column 6. For firms with average long-term investor ownership, a one-standard deviation increase in book-to-market (an "undervaluation shock") reduces total payouts (buybacks plus dividends) by 0.24% (0.867x0.28) of lagged total assets. Then, if we focus on firms with long-term ownership that is one standard deviation above average, the same "undervaluation shock" reduces payouts by 0.61% ((0.867+1.326)x0.28) of total assets, more than two times as much as for the average firm. The differential effect is statistically significant at 1% and economically large as the sample average for payouts is 1.87% of assets. The results are the same for all three valuation proxies (Panel A through Panel C), although they are economically and statistically strongest for book-to-market, market conditions, and future excess returns in that order. Consistent with our prediction for payout policy, firms that are undervalued decrease payouts much more when they have long-term investors.

4.3. Financing Policy

Second, we test our prediction that undervalued firms reduce their equity issues less when they have more long-term investors. We use as financing policy variables a dummy variable for whether the firm issued equity, and three continuous variables, one for each of equity issuance, debt issuance, and cash flow from financing, all scaled by lagged total assets.

[Insert Table 3 about here]

Table 3 presents the results. Undervalued firms decrease equity financing, but greater long-term investor ownership dampens this decrease. By contrast to greater long-term investor ownership, greater short-term investor ownership is generally not statistically significant. For example, an "undervaluation shock" (i.e. a one-standard deviation increase in book-to-market) is associated with a reduction in cash flow from financing of 6.7% (23.937x0.28) of lagged total assets for the average firm. Looking at a firm that has long-term ownership one-standard deviation above average, the cash flow from financing reduction is now is 4.7% ((23.937-7.035)x0.28). The differential effect, 2%, is statistically significant, and equal to approximately one third of the sample mean. The order of magnitude of this effect is the same for equity issues. By contrast, for debt issuance, neither long-term nor short-term investor ownership is statistically significant, which is consistent with our prediction for financing policy. The results are the same for all three valuation proxies (Panel A through Panel C). Consistent with our framework, equity financing resists undervaluation better when firms have more long-term shareholders.

4.4. Investment Policy

Third, we test our prediction that undervalued firms reduce investment less when they have more long-term investors. We use as investment policy variables capital expenditures, research and development expenditures (as a proxy for long-term investment, as in Aghion, Van Reenen and Zingales (2009)), cash flow from investment, change in accounts receivable minus accounts payable (as a proxy for investment in better relations with customers and suppliers), and change in inventories, all scaled by lagged total assets.

[Insert Table 4 about here]

Table 4 presents the results. Undervalued firms decrease investment, but greater long-term investor ownership dampens this reduction. By contrast, greater short-term investor ownership amplifies the decrease in investment. For example, a standard “undervaluation shock” is associated with a reduction in capital expenditures by 1.8% (6.444x0.28) of lagged total assets. Looking at firms whose long-term ownership is one standard deviation above average, CAPEX reduction is only 1.57% ((6.444-0.839)x0.28) of lagged assets. The sample average of CAPEX to total assets is 1.9%. Thus, the differential effect, 0.2%, is statistically significant, but its magnitude is relatively smaller than for the payout and financing effects. It becomes, however, economically relevant when we consider larger undervaluation shocks (like, for instance, a three standard deviation undervaluation shock). The effect of R&D spending is more than two times larger, with a differential effect equal to 0.5% while the sample mean of R&D spending is similar to that of CAPEX. The particularly strong impact on R&D is consistent with R&D being a very long-term investment, paying off in the distant future and therefore very sensitive to temporary undervaluation. This is also consistent with earlier findings of Bushee (1998), but he just looks at investor horizon, not its interaction with temporary undervaluation, which we argue is critical.

Other results are similar in spirit for all three valuation proxies (Panel A through Panel C), although they are economically and statistically strongest for book-to-market, market conditions, and future excess returns in that order. Consistent with our prediction for investment policy, firms that are undervalued increase investment by an economically significant amount the greater is their long-term investor ownership.

4.5. Operating Performance

Finally, we look at the performance of undervalued firms as a function of investor horizon. On the one hand, by investing relatively more, firms with more long-term investors increase (relatively) their operating performance in the short-run. On the other hand, such firms have the financial resources to engage in price wars to win market share, thus they decrease their operating performance in the short-run (e.g., Chevalier and Scharfstein (1996)). Since the effect of greater long-term investor ownership on operating performance is ambiguous in theory, we let the empirical evidence speak for itself. We use as operating performance variables sales, operating costs, operating income, and net income, all scaled by lagged total assets.

[Insert Table 5 about here]

Table 5 presents the results. Undervalued firms decrease sales and costs, but greater long-term investor ownership dampens the decrease in sales growth. By contrast to greater long-term investor ownership, greater short-term investor ownership is generally not statistically significant except for the book-to-market valuation proxy.

The net effect of higher sales and higher costs for undervalued firms with greater long-term investor ownership is empirically ambiguous. For the book-to-market valuation proxy, the net effect is lower profits, for excess future returns, the net effect is not statistically significant, and for bear markets, the net effect is higher profits. By contrast, the net effect of higher sales and higher costs for undervalued firms with greater short-term investor ownership is lower profits, although the results are not statistically significant for the bear markets valuation proxy. However, the effect of relatively greater long-term than short-term investor ownership is higher profits. In summary, while greater long-term investor ownership does not appear to increase profitability, greater short-term investor ownership does appear to decrease it.

5. Robustness Tests

5.1. The Selection Hypothesis

One alternative interpretation of our empirical results is that long-term investors select firms the corporate policies of which are less affected by temporary undervaluation. This interpretation is inconsistent with our results on payout policy. If such firms are less affected, they should increase payouts to shareholders to signal their quality to the market (e.g., Miller and Rock (1985) and John and Williams (1985)), or at least hold payouts constant. Instead, we find in Table 2 that they decrease payout.

The selection hypothesis could however explain our results on financing policy and investment policy. For instance, until the 1990s, some asset managers, such as bank trusts or pension funds, were subject to the "prudent man rule", which compelled them to invest in safe companies only (Del Guercio (1996)). If long-term investors are more likely to be prudent, our evidence on financing and investment could thus be consistent with prudent investors buying firms that are more resilient in the face of undervaluation.

To address the selection hypothesis, we examine long-term indexers' ownership. Indexers simply passively buy and sell firms added and dropped from their benchmark index, respectively, so they cannot self-select into firms with particular corporate policies. Moreover, as we mentioned in our discussion of Figure 2, indexers are an important subset of long-term investors. Therefore, if our results hold for both long-term indexers and non-indexers, they are inconsistent with the self-selection interpretation.

[Insert Table 6 about here]

We split both long-term and short-term investor ownership into long-term indexers' and non-indexers' ownership, and we redo the estimations of Table 2 through Table 5. Table 6 presents the results for selected corporate policy variables. We only tabulate the results for long-term investor ownership split into indexers' and non-indexers' ownership for expositional simplicity. Clearly, our results are the same for both indexers and non-indexers, although they are weakest for the excess future returns valuation proxy. This is inconsistent with the self-selection interpretation of our results.

5.2. Blockholders

Another alternative interpretation of our empirical results is that our long-term investors are really blockholders. In our model, as long as managers maximize shareholder value, atomistic shareholders collectively have the same effect on corporate policy as blockholders individually. However, the literature on corporate control suggests that blockholders rather than atomistic shareholders affect corporate policy (e.g., Holderness (2003)). In fact, different blockholders appear to effect corporate policy differently (e.g., Cronqvist and Fahlenbrach (2009)). Moreover, Holderness (2009) finds that virtually all firms have at least one blockholder. Since their large ownership stakes are costly to trade frequently, blockholders are likely to be long-term investors. Therefore, long-term investor ownership may simply be a noisy measure of blockholders' ownership.

[Insert Table 7 about here]

We split both long-term and short-term investor ownership into long-term blockholders' and non-blockholders' ownership, and we redo the results of Table 2 through Table 5. Table 7 presents the estimates for selected corporate policy variables. We only tabulate the results for long-term investor ownership split into blockholders' and non-blockholders' ownership for expositional simplicity. Our results are generally stronger for non-blockholders than blockholders, and they are not statistically significant for blockholders for the excess future returns valuation proxy. This suggests that even atomistic long-term investors affect the corporate policies of undervalued firms. Our interpretation of the data therefore does not rest on long-term investors being more involved in corporate governance, as in Aghion, Van Reenen and Zingales (2009) for instance.

6. Conclusion

This paper looks at the effect of shareholder horizon on corporate behavior. In perfect capital markets, corporate behavior should be insensitive to shareholder horizon, but when investment opportunities are not well valued by the market, the presence of short-term investors should affect corporate policy. We first present a simple framework to show that shareholder horizon should be looked at in conjunction with stock misvaluation. We build on this insight to design a novel empirical strategy to assess the impact of investor short-termism. Consistent with our simple framework, we find that, when a firm is undervalued, the presence of short-term investors is associated with bigger shareholder payout, less equity issue, less external financing, and as a result, less investment and less R&D spending.

Our interpretation of the evidence does not rely on the fact that long-term investors are more active than short-term ones. This is, we believe, a good feature of our analysis. First, most long-term investors are, in fact, passive indexers. Second, most evidence on shareholder activism, apart for hedge funds, finds very little impact of activism on firm behavior.

Appendix

We define our investor ownership variables as the fraction of the firm's shares outstanding owned by a given type of investors. We classify investors with three-year portfolio turnover of 35% or less as "long-term investors", and we classify all other investors as "short-term investors". We classify investors with active share (see Cremers and Petajisto (2009)) between 0 and 0.65 as "indexers", and we classify all other investors as "non-indexers". We classify investors that own at least five percent of the firm's shares outstanding as "blockholders", and we classify all other investors as "non-blockholders".

We define our valuation proxies as follows:

- Book-to-market = [Item #60 (CEQ) + Item #35 (TXDITC)] ÷ [Item #199 (PRCC_F) × Item #25 (CSHO)]
- Future excess returns = Mean monthly returns in excess of benchmark portfolios matched on size, book-to-market, and momentum quintiles (see Daniel, Grinblatt, Titman, and Wermers (1997)) between year t and year t+1
- Bear market = One if the twelve-month real returns on the CRSP value weighted index during any one of the previous six months were negative and zero otherwise

We measure book-to-market in quantiles that we compute each month. We winsorize future excess returns at the 1^{st} and 99^{th} percentiles.

We obtain all of our data for corporate policy variables except for dividends from Compustat. We obtain our dividend data from CRSP for the following reason. We wish to measure changes to dividend policy rather than changes in total dividends, which include not only regular dividends expected by the market but also special dividends that are not expected by the market. CRSP has data on regular and special dividends separately while Compustat only has data on total dividends, so we obtain dividend data from CRSP.

We define our corporate policy variables as follows:

- Payout policy variables
  - Dividends increased? = One if dividends (defined below) increase from year t-1 to t and zero otherwise
  - Dividends decreased? = One if dividends (defined below) decrease from year t-1 to t and zero otherwise
  - Change in dividends? = One if dividends (defined below) increase from year t-1 to t, zero if dividends do not change, and negative one if dividends decrease
  - Dividends = [Dividends per share × Shares outstanding] in year t ÷ Item #6 (AT) in year t-1
  - Repurchase = Item #115 (PRSTCK) in year t ÷ Item #6 (AT) in year t-1
  - Total payouts = Dividends (defined above) + Repurchases (defined above)
- Financing policy variables
  - Equity issued? = One if equity issuance (defined below) is at least 10 percent and zero otherwise
  - Equity issuance = Item #115 (SSTK) in year t ÷ Item #6 (AT) in year t-1
  - Debt issuance = Item #111 (DLTIS) in year t ÷ Item #6 (AT) in year t-1
  - Cash flow from financing = Item #313 (FINCF) in year t ÷ Item #6 (AT) in year t-1
- Investment policy variables
  - Capital expenditures = Item #128 (CAPX) in year t ÷ Item #6 (AT) in year t-1

- Research and development expenses = Item #46 (XRD) in year t ÷ Item #6 (AT) in year t-1
- Cash flow from investment = Item #311 (IVNCF) in year t ÷ Item #6 (AT) in year t-1
- Change in accounts receivable minus accountable payable = Change in [Item #2 (RECT) – Item #70 (AP)] between year t-1 and year t ÷ Item #6 (AT) in year t-1
- Change in inventories = Change in Item #3 (INVT) between year t-1 and year t ÷ Item #6 (AT) in year t-1

- Operating performance variables
  - Sales = Item #12 (SALE) in year t ÷ Item #6 (AT) in year t-1
  - Operating costs = [Item #41 (COGS) + Item #189 (XSGA)] in year t ÷ Item #6 (AT) in year t-1
  - Operating income = Item #13 (OIBDP) in year t ÷ Item #6 (AT) in year t-1
  - Net income = Item #172 (NI) in year t ÷ Item #6 (AT) in year t-1

We measure all of our corporate policy variables except the four categorical ones in excess of the corresponding industry median during the same year. We define industries based on two-digit SIC codes. We measure these variables as a percent and winsorize them at the 1^{st} and 99^{th} percentiles. The four categorical corporate policy variables are "dividends increased", "dividends decreased", "change in dividends", and "equity issued".

References

Baker, Malcolm, and Jeffrey Wurgler, 2002, Market timing and capital structure, *Journal of Finance* 57, 1-32.

Baker, Malcolm, Jeremy C. Stein, and Jeffrey Wurgler, 2003, When does the market matter? Stock prices and the investment of equity-dependent firms, *Quarterly Journal of Economics* 118, 969-1005.

Barber, Brad M., and Terrance Odean, 2000, Trading is hazardous to your wealth: The common stock investment performance of individual investors, *Journal of Finance* 55, 773-806.

Bayless, Mark, and Susan Chaplinsky, 1996, Is there a window of opportunity for seasoned equity issuance?, *Journal of Finance* 51, 253-278.

Bethel, Jennifer E., Julia Porter Liebeskind, and Tim Opler, 1998, Block share purchases and corporate performance, *Journal of Finance* 53, 605-634.

Bushee, Brian, J., 1998, The influence of institutional investors on myopic R&D investment behavior, *Accounting Review* 73, 305-333.

Bushee, Brian, J., 2001, Do Institutional Investors Prefer Near Term Earnings of Long Time Value, *Contemporary Accounting Research* 18: 207-246

Bushee, Brian, 2004, Identifying and attracting the "right" investors: Evidence on the behavior of institutional investors, *Journal of Applied Corporate Finance* 16, 28-35.

Chevalier, Judith A., and David S. Scharfstein, 1996, Capital-market imperfections and countercyclical markups: Theory and evidence, *American Economic Review* 86, 703-725.

Choe, Hyuk, Ronald W. Masulis, and Vikram Nanda, 1993, Common stock offerings across the business cycle: Theory and evidence, *Journal of Empirical Finance* 1, 3-33.

Coval, Joshua, and Erik Stafford, 2007, Asset fire sales (and purchases) in equity markets, *Journal of Financial Economics* 86, 479-512.

Cremers, K.J.M., and A. Petajisto, 2009, How active is your fund manager? A new measure that predicts performance, forthcoming *Review of Financial Studies*.

Cronqvist, Henrik and Rudiger Falhenbrach, 2009, Large Shareholders and Corporate Policies, *Review of Financial Studies* 22, 3941-3976

Del Guercio, Diane, 1996, The distorting effect of the prudent-man laws on institutional equity investments, *Journal of Financial Economics* 40, 31-63.

DeLong, J. Bradford, Andrei Shleifer, Lawrence Summers, and Robert Waldmann, 1990, Noise trader risk in financial markets, *Journal of Political Economy* 98, 703-738.

Fazzari, Steven M., R. Glenn Hubbard, and Bruce C. Petersen, 1988, Financing constraints and corporate investment, *Brookings Papers on Economic Activity*, 141-195.

Gaspar, José-Miguel, Massimo Massa, and Pedro Matos, 2005, Shareholder investment horizon and the market for corporate control, *Journal of Financial Economics* 76, 135-165.

Gaspar, José-Miguel, Massimo Massa, Pedro Matos, Rajdeep Pargiri, and Zahid Rehman, 2005, Can buybacks be a product of shorter shareholder horizons?, working paper.

Gompers, Paul A., and Andrew Metrick, 2001, Institutional investors and equity prices, *Quarterly Journal of Economics* 116, 229-259.

Goyal, Amit, and Sunil Wahal, 2008, The selection and termination of investment managers by plan sponsors, *Journal of Finance* 63, 1805-1847.

Greenwood, Robin, Samuel G. Hanson, and Jeremy C. Stein, A Gap Filling Theory of Corporate Debt Maturity Choice, *Journal of Finance* (forthcoming).

Greenwood, Robin and Samuel G. Hanson, 2009, Catering to Characteristics, *working paper*

Hoberg, Gerald and Gordon Phillips, Real and Financial Industry Booms and Busts, *The Journal of Finance* (forthcoming)

Holderness, Clifford G., 2003, A survey of blockholders and corporate control, *FRBNY Economic Policy Review* 9, 51-63.

Holderness, Clifford G., 2009, The myth of diffuse ownership in the United States, *Review of Financial Studies* 22, 1377-1408.

Holderness, Clifford G., and Dennis P. Sheehan, 1985, Raiders or saviors? The evidence on six controversial investors, *Journal of Financial Economics* 14, 555-579.

Hong, Harrison, Jiang Wang, and Jialin Yu, 2008, Firms as Buyers of Last Resort, *Journal of Financial Economics* 88, 119-145

Hotchkiss, Edith S. and Deon Strickland, 2003, Does Shareholder Composition Matter? Evidence From the Market Reaction to Corporate Earnings Announcements, *Journal of Finance* 58, 1469-1498

Ibbotson, Roger G., and Jeffrey F. Jaffe, 1975, 'Hot issue' markets, *Journal of Finance* 30, 1027-1042.

John, Kose, and Joseph Williams, 1985, Dividends, dilution, and taxes: A signaling equilibrium, *Journal of Finance* 40, 1053-1070.

Ke, Bin, and Kathy Petroni, 2004, How informed are actively trading institutional investors? Evidence from their trading behavior before a break in a string of consecutive earnings increases, *Journal of Accounting Research* 42, 895-927.

Ke, Bin, Kathy Petroni, and Yong Yu, 2008, The Effect of Regulation FD on Transient Investors' Trading Behavior, *Journal of Accounting Research* 46: 853-883

Klein, April, and Emanuel Zur, 2009, Entrepreneurial shareholder activism: Hedge funds and other private investors, *Journal of Finance* 64, 187-229.

La Porta, Raphael, Lakonishok, Josef, Andrei Shleifer, and Robert Vishny, 1997, Good news for value stocks: Further evidence on market efficiency, *Journal of Finance* 52, 859-874.

Lakonishok, Josef, Andrei Shleifer, and Robert W. Vishny, 1994, Contrarian investment, extrapolation, and risk, *Journal of Finance* 49, 1541-1578.

Landier, Augustin, and Thesmar, David, 2009, Financial contracting with optimistic entrepreneurs, *Review of Financial Studies* 22, 117-150

Malmendier, Ulrike, and Tate, Geoffrey, 2005, CEO overconfidence and corporate investment, *Journal of Finance* 60, 2661-2700.

Miller, Merton H., and Kevin Rock, 1985, Dividend policy under asymmetric information, *Journal of Finance* 40, 1031-1051.

Polk, Christopher, and Paola Sapienza, 2009, The stock market and corporate investment: A test of catering theory, *Review of Financial Studies* 22, 187-217.

Ritter, Jay R., 1984, The ‘hot issue’ market of 1980, *Journal of Business* 57, 215-240.

Shleifer, Andrei, and Robert Vishny, 1990, Equilibrium short horizons of investors and firms, *American Economic Review* 80, 148-153.

Shleifer, Andrei, and Robert W. Vishny, 2003, Stock Market Driven Acquisitions, *Journal of Financial Economics*, 70: 295-311

Wahal, Sunil, and John J. McConnell, 2000, Do institutional investors exacerbate managerial myopia?, *Journal of Corporate Finance* 6, 307-329.

Yan, Xuemin, and Zhe Zhang, 2009, Institutional investors and equity returns: Are short-term institutions better informed?, *Review of Financial Studies* 22, 893-924.

Table 1
Investors with the Longest Horizons as of December 31, 2007

This table presents information on the 25 investors with the longest horizons as of December 31, 2007. Investor horizon is measured as the investor's portfolio turnover over the past three years.

Investor name	Investor type	Investor turnover (in percent)	Number of stocks	Total assets (in $ billions)
Devon Energy Corp.	Industrial firm	0.00	1	1.32
Tortoise Capital Advisors, LLC	Investment management firm	0.00	2	0.33
Schooner Capital, LLC	A family's private investment management firm	0.01	2	0.34
Rhumbline Advisers Corp.	Investment management firm	0.31	2,267	15.11
Cedar Rock Capital Ltd.	Investment management firm	0.53	7	0.80
Legal & General Group PLC	Insurance firm	0.71	597	39.17
Longview Asset Management, LLC	Investment management firm	0.77	15	3.59
Shell Asset Management Co.	Investment management firm	1.03	844	3.26
Vanguard Group, Inc.	Investment management firm	1.31	3,197	458.36
Geode Capital Management, LLC	Investment management firm	1.41	2,720	65.71
Moody National Bank	Bank	1.52	137	1.42
Loews Corp.	Investment management firm	1.61	162	18.75
Bank of Tokyo-Mitsubishi UFJ Ltd.	Bank	1.65	2	4.41
Parametric Portfolio Associates	Investment management firm	2.38	1,582	17.07
Cascade Investment, LLC	Bill Gates's private investment management firm	3.06	8	1.71
BP PLC	Industrial firm	3.23	340	2.36
ASB Capital Management, LLC	Investment management firm	3.84	506	11.91
Research Affiliates, LLC	Investment management firm	3.87	881	1.27
Icahn Management LP	Carl Icahn's private investment management firm	4.82	25	4.78
Berkshire Hathaway Inc.	Warren Buffet's public investment management firm	5.13	34	68.52
Regions Financial Corp.	Bank	5.25	765	7.87
Texas Regional Bancshares Inc.	Bank	5.34	378	1.46
Great Lakes Advisors, Inc.	Investment management firm	5.67	156	1.88
Mairs and Power, Inc.	Investment management firm	5.70	128	3.93
Advent International Corp.	Investment management firm	5.89	5	1.24

Table 2
Investor Horizons and Payout Policy

This table presents the results of firm fixed effects regressions of payout policy variables on valuation proxies and investor ownership. The sample comprises 78,762 firm-years consisting of 10,126 unique firms between 1985 and 2007. Panels A, B, and C use book-to-market, future excess returns, and bear market as the valuation proxy, respectively. Investor ownership is decomposed into long-term investor ownership and short-term investor ownership. Both investor ownership variables are standardized and winsorized at the 1st and 99th percentiles each quarter. All variables are defined in the Appendix. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Standard errors are clustered by firm. Below each coefficient estimate is its corresponding robust *t*-statistic in parentheses.

Panel A: Valuation Proxy is Book-to-Market						
	Dividends increased?	Dividends decreased?	Change in dividends?	Dividends	Repurchases	Total payouts
Valuation proxy (VP)	-9.811***	9.471***	-19.281***	-0.351***	-0.429***	-0.867***
	(-11.77)	(14.82)	(-15.45)	(-12.29)	(-4.54)	(-8.29)
Long-term investor ownership (LTIO)	4.059***	-0.916**	4.976***	0.179***	0.871***	1.089***
	(6.98)	(-2.04)	(5.43)	(8.73)	(9.66)	(11.61)
LTIO × VP (†)	-6.084***	4.979***	-11.063***	-0.231***	-1.044***	-1.326***
	(-6.36)	(5.96)	(-6.77)	(-7.94)	(-8.61)	(-10.40)
Short-term investor Ownership (STIO)	1.811***	-1.619***	3.431***	-0.007	-0.176**	-0.181**
	(4.23)	(-5.44)	(5.52)	(-0.50)	(-2.41)	(-2.35)
STIO × VP (‡)	1.382*	3.515***	-2.133*	0.062***	0.534***	0.591***
	(1.80)	(5.52)	(-1.80)	(2.85)	(5.16)	(5.41)
Observations	75,115	75,115	75,115	74,613	68,961	68,927
Adjusted R^2	0.586	0.178	0.229	0.749	0.225	0.338
t-statistic for † = ‡	5.33***	1.20	3.80***	7.24***	8.31***	9.63***

Panel B: Valuation Proxy is Future Returns						
	Dividends increased?	Dividends decreased?	Change in dividends?	Dividends	Repurchases	Total payouts
Valuation proxy (VP)	-14.881***	1.833	-16.714***	-0.409***	-1.009***	-1.517***
	(-7.46)	(0.99)	(-4.90)	(-8.61)	(-3.33)	(-4.77)
Long-term investor ownership (LTIO)	0.707**	1.891***	-1.184**	0.050***	0.301***	0.360***
	(2.21)	(7.31)	(-2.34)	(5.49)	(8.04)	(9.00)
LTIO × VP (†)	-9.001**	0.696	-9.697	-0.260***	0.267	0.018
	(-2.51)	(0.19)	(-1.46)	(-3.61)	(0.63)	(0.04)
Short-term investor Ownership (STIO)	3.143***	-0.664***	3.807***	0.046***	0.113***	0.165***
	(10.26)	(-3.11)	(8.77)	(4.90)	(2.99)	(4.05)
STIO × VP (‡)	-6.706***	3.071	-9.777**	-0.104*	-0.497	-0.603
	(-2.67)	(1.34)	(-2.30)	(-1.90)	(-1.28)	(-1.49)
Observations	73,845	73,845	73,845	73,350	67,774	67,774
Adjusted R^2	0.583	0.171	0.221	0.748	0.216	0.330
t-statistic for † = ‡	0.42	0.45	0.00	1.39	1.10	0.86

Panel C: Valuation Proxy is Bear Market						
	Dividends increased?	Dividends decreased?	Change in dividends?	Dividends	Repurchases	Total payouts
Valuation proxy (VP)	-2.276***	0.580***	-2.857***	-0.049***	-0.047	-0.096***
	(-10.44)	(2.99)	(-7.74)	(-8.41)	(-1.61)	(-3.07)
Long-term investor ownership (LTIO)	1.324***	1.370***	-0.047	0.053***	0.344***	0.409***
	(3.99)	(5.24)	(-0.09)	(5.46)	(8.47)	(9.42)
LTIO × VP (†)	-1.142***	1.246***	-2.389***	0.001	-0.100***	-0.101**
	(-3.50)	(4.01)	(-4.00)	(0.18)	(-2.68)	(-2.56)
Short-term investor Ownership (STIO)	3.290***	-0.565**	3.855***	0.046***	0.128***	0.178***
	(10.55)	(-2.57)	(8.76)	(4.79)	(3.24)	(4.18)
STIO × VP (‡)	-0.102	-0.330	0.228	0.006	0.001	0.014
	(-0.38)	(-1.33)	(0.48)	(0.98)	(0.03)	(0.35)
Observations	77,733	77,733	77,733	77,211	71,293	71,253
Adjusted R^2	0.583	0.171	0.224	0.741	0.220	0.331
t-statistic for † = ‡	1.97**	3.13***	2.72***	0.40	1.58	1.69*

Table 3
Investor Horizons and Financing Policy

This table presents the results of firm fixed effects regressions of financing policy variables on valuation proxies and investor ownership. The sample comprises 78,762 firm-years consisting of 10,126 unique firms between 1985 and 2007. Panels A, B, and C use book-to-market, future excess returns, and bear market as the valuation proxy, respectively. Investor ownership is decomposed into long-term investor ownership and short-term investor ownership. Both investor ownership variables are standardized and winsorized at the 1st and 99th percentiles each quarter. All variables are defined in the Appendix. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Standard errors are clustered by firm. Below each coefficient estimate is its corresponding robust *t*-statistic in parentheses.

Panel A: Valuation Proxy is Book-to-Market

	Equity issued?	Equity issuance	Debt issuance	Cash flow from financing
Valuation proxy (VP)	-27.453***	-16.477***	-8.378***	-23.937***
	(-35.65)	(-34.07)	(-12.50)	(-31.56)
Long-term investor ownership (LTIO)	-6.569***	-4.623***	-0.466	-5.831***
	(-13.83)	(-16.70)	(-1.25)	(-13.53)
LTIO × VP (†)	6.440***	5.429***	0.264	7.035***
	(9.75)	(14.34)	(0.43)	(11.38)
Short-term investor ownership (STIO)	-4.018***	-2.488***	-0.368	-1.843***
	(-9.33)	(-9.60)	(-1.08)	(-4.56)
STIO × VP (‡)	0.835	0.902**	-0.509	0.339
	(1.30)	(2.47)	(-0.90)	(0.57)
Observations	73,480	72,689	71,328	62,747
Adjusted R^2	0.256	0.277	0.328	0.255
t-statistic for † = ‡	5.38***	7.84***	0.82	7.09***

Panel B: Valuation Proxy is Future Returns				
	Equity issued?	Equity issuance	Debt issuance	Cash flow from financing
Valuation proxy (VP)	-39.785***	-22.965***	-13.965***	-40.608***
	(-14.39)	(-13.99)	(-6.15)	(-15.56)
Long-term investor ownership (LTIO)	-3.879***	-2.154***	-0.510**	-2.626***
	(-17.23)	(-17.65)	(-2.53)	(-12.13)
LTIO × VP (†)	16.121***	8.965***	0.666	7.191**
	(4.66)	(4.39)	(0.20)	(2.08)
Short-term investor ownership (STIO)	-2.845***	-1.623***	-0.228	-0.768***
	(-11.98)	(-11.99)	(-1.06)	(-3.43)
STIO × VP (‡)	-0.589	2.065	-3.326	-0.406
	(-0.18)	(1.04)	(-1.16)	(-0.13)
Observations	71,909	71,412	70,091	61,371
Adjusted R^2	0.233	0.255	0.324	0.238
t-statistic for † = ‡	2.88***	1.95*	0.73	1.31

Panel C: Valuation Proxy is Bear Market				
	Equity issued?	Equity issuance	Debt issuance	Cash flow from financing
Valuation proxy (VP)	-2.742***	-1.590***	-0.776***	-2.201***
	(-10.66)	(-10.68)	(-3.86)	(-9.43)
Long-term investor ownership (LTIO)	-3.934***	-2.315***	-0.532**	-2.840***
	(-16.23)	(-17.33)	(-2.45)	(-12.33)
LTIO × VP (†)	1.462***	1.002***	0.260	1.487***
	(5.95)	(7.70)	(1.26)	(6.65)
Short-term investor ownership (STIO)	-2.454***	-1.481***	-0.092	-0.569**
	(-9.92)	(-10.49)	(-0.42)	(-2.42)
STIO × VP (‡)	0.399	0.241*	0.212	0.514**
	(1.51)	(1.75)	(0.99)	(2.19)
Observations	76,097	75,197	73,805	64,972
Adjusted R^2	0.231	0.249	0.315	0.230
t-statistic for † = ‡	2.42**	3.32***	0.14	2.48**

Table 4
Investor Horizons and Investment Policy

This table presents the results of firm fixed effects regressions of investment policy variables on valuation proxies and investor ownership. The sample comprises 78,762 firm-years consisting of 10,126 unique firms between 1985 and 2007. Panels A, B, and C use book-to-market, future excess returns, and bear market as the valuation proxy, respectively. Investor ownership is decomposed into long-term investor ownership and short-term investor ownership. Both investor ownership variables are standardized and winsorized at the 1st and 99th percentiles each quarter. All variables are defined in the Appendix. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Standard errors are clustered by firm. Below each coefficient estimate is its corresponding robust *t*-statistic in parentheses.

Panel A: Valuation Proxy is Book-to-Market

	Capital expenditures	Res. and dev. expenses	Cash flow from investment	Change in A/R minus A/P	Change in inventories
Valuation proxy (VP)	-6.444***	-4.461***	18.272***	-3.884***	-4.863***
	(-32.64)	(-16.03)	(33.46)	(-22.66)	(-27.51)
Long-term investor ownership (LTIO)	-0.873***	-1.644***	2.553***	-0.776***	-0.642***
	(-8.37)	(-9.68)	(7.86)	(-8.51)	(-7.66)
LTIO × VP (†)	0.839***	1.961***	-3.011***	0.722***	0.460***
	(5.50)	(8.46)	(-6.33)	(5.10)	(3.41)
Short-term investor ownership (STIO)	0.700***	-0.548***	-2.156***	-0.062	0.120
	(6.85)	(-3.41)	(-6.87)	(-0.69)	(1.50)
STIO × VP (‡)	-0.974***	0.057	3.355***	-0.275*	-0.440***
	(-6.23)	(0.27)	(7.12)	(-1.92)	(-3.30)
Observations	73,536	46,920	62,747	73,845	73,826
Adjusted R^2	0.411	0.677	0.160	0.065	0.085
t-statistic for † = ‡	7.43***	5.53***	8.27***	4.33***	4.25***

Panel B: Valuation Proxy is Future Returns					
	Capital expenditures	Res. and dev. expenses	Cash flow from investment	Change in A/R minus A/P	Change in inventories
Valuation proxy (VP)	-7.907***	-0.649	26.577***	-3.906***	-9.208***
	(-13.99)	(-0.80)	(13.74)	(-5.43)	(-14.30)
Long-term investor ownership (LTIO)	-0.552***	-0.739***	1.281***	-0.482***	-0.506***
	(-9.36)	(-9.28)	(7.49)	(-10.44)	(-10.41)
LTIO × VP (†)	1.491**	0.429	-1.011	1.960**	-0.119
	(2.07)	(0.42)	(-0.38)	(2.17)	(-0.14)
Short-term investor ownership (STIO)	0.545***	-0.323***	-1.545***	-0.044	0.111**
	(8.76)	(-3.52)	(-8.75)	(-0.89)	(2.28)
STIO × VP (‡)	-1.715**	-0.176	2.425	-2.485***	0.128
	(-2.50)	(-0.17)	(0.98)	(-3.01)	(0.18)
Observations	72,247	46,090	61,371	72,558	72,546
Adjusted R^2	0.387	0.673	0.134	0.053	0.068
t-statistic for † = ‡	2.62***	0.33	0.76	2.99***	0.17

Panel C: Valuation Proxy is Bear Market					
	Capital expenditures	Res. and dev. expenses	Cash flow from investment	Change in A/R minus A/P	Change in inventories
Valuation proxy (VP)	-0.100*	-0.283***	1.069***	-0.206***	-0.119**
	(-1.77)	(-3.96)	(6.11)	(-3.18)	(-2.00)
Long-term investor ownership (LTIO)	-0.532***	-0.794***	1.366***	-0.518***	-0.494***
	(-8.66)	(-9.30)	(7.66)	(-10.87)	(-10.04)
LTIO × VP (†)	0.143***	0.178***	-0.834***	0.219***	0.154***
	(2.64)	(2.64)	(-4.64)	(3.70)	(2.80)
Short-term investor ownership (STIO)	0.620***	-0.342***	-1.735***	0.006	0.182***
	(9.90)	(-3.58)	(-9.37)	(0.12)	(3.65)
STIO × VP (‡)	-0.035	0.003	-0.110	-0.024	0.016
	(-0.65)	(0.05)	(-0.56)	(-0.40)	(0.29)
Observations	76,090	48,277	64,972	76,410	76,383
Adjusted R^2	0.378	0.674	0.124	0.047	0.063
t-statistic for † = ‡	1.91*	1.47	2.21**	2.40**	1.46

Table 5
Investor Horizons and Operating Performance

This table presents the results of firm fixed effects regressions of operating performance variables on valuation proxies and investor ownership. The sample comprises 78,762 firm-years consisting of 10,126 unique firms between 1985 and 2007. Panels A, B, and C use book-to-market, future excess returns, and bear market as the valuation proxy, respectively. Investor ownership is decomposed into long-term investor ownership and short-term investor ownership. Both investor ownership variables are standardized and winsorized at the 1st and 99th percentiles each quarter. All variables are defined in the Appendix. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Standard errors are clustered by firm. Below each coefficient estimate is its corresponding robust *t*-statistic in parentheses.

Panel A: Valuation Proxy is Book-to-Market				
	Sales	Operating costs	Operating income	Net income
Valuation proxy (VP)	-49.122***	-37.251***	-12.250***	-11.259***
	(-29.81)	(-24.49)	(-28.96)	(-25.22)
Long-term investor ownership (LTIO)	-7.797***	-8.205***	0.106	0.224
	(-8.36)	(-9.76)	(0.45)	(0.95)
LTIO × VP (†)	2.133	3.853***	-1.256***	-1.178***
	(1.51)	(2.98)	(-3.77)	(-3.41)
Short-term investor ownership (STIO)	-2.460***	-5.625***	2.755***	2.103***
	(-3.07)	(-7.64)	(12.29)	(9.01)
STIO × VP (‡)	-7.357***	-2.179*	-4.478***	-3.397***
	(-5.85)	(-1.89)	(-13.73)	(-9.95)
Observations	74,496	74,270	74,270	74,497
Adjusted R^2	0.684	0.705	0.625	0.536
t-statistic for † = ‡	4.58***	3.22***	6.29***	4.27***

Panel B: Valuation Proxy is Future Returns				
	Sales	Operating costs	Operating income	Net income
Valuation proxy (VP)	-19.485***	-12.304***	-9.216***	-9.449***
	(-4.39)	(-3.02)	(-7.47)	(-5.99)
Long-term investor ownership (LTIO)	-7.646***	-6.882***	-0.837***	-0.666***
	(-15.01)	(-14.74)	(-7.52)	(-6.22)
LTIO × VP (†)	20.464***	18.185***	1.530	-0.502
	(3.45)	(3.33)	(0.97)	(-0.25)
Short-term investor ownership (STIO)	-3.432***	-4.875***	1.344***	1.063***
	(-6.63)	(-10.20)	(10.90)	(8.55)
STIO × VP (‡)	-6.968	-1.205	-4.377***	-4.145**
	(-1.37)	(-0.26)	(-3.13)	(-2.26)
Observations	73,202	72,983	72,983	73,203
Adjusted R^2	0.669	0.695	0.603	0.514
t-statistic for † = ‡	2.85***	2.20**	2.31**	1.10

Panel C: Valuation Proxy is Bear Market				
	Sales	Operating costs	Operating income	Net income
Valuation proxy (VP)	-0.309	-0.987**	0.297***	0.113
	(-0.72)	(-2.50)	(2.60)	(0.82)
Long-term investor ownership (LTIO)	-7.931***	-7.224***	-0.803***	-0.638***
	(-15.01)	(-14.97)	(-6.80)	(-5.51)
LTIO × VP (†)	1.546***	1.410***	0.267***	0.306***
	(3.79)	(3.76)	(2.66)	(2.61)
Short-term investor ownership (STIO)	-3.376***	-4.918***	1.416***	1.121***
	(-6.43)	(-10.19)	(11.00)	(8.52)
STIO × VP (‡)	0.484	0.548	-0.012	0.062
	(1.20)	(1.50)	(-0.12)	(0.53)
Observations	77,089	76,852	76,852	77,089
Adjusted R^2	0.663	0.688	0.603	0.511
t-statistic for † = ‡	1.57	1.39	1.70*	1.28

Table 6
Selected Corporate Policy Results Decomposed by Investor Horizons and Indexer Status

This table presents the results of firm fixed effects regressions of selected corporate policy variables on valuation proxies and investor ownership. The sample comprises 78,762 firm-years consisting of 10,126 unique firms between 1985 and 2007. Panels A, B, and C use book-to-market, future excess returns, and bear market as the valuation proxy, respectively. Investor ownership is decomposed into long-term non-indexers' ownership, long-term indexers' ownership, short-term non-indexers' ownership, and short-term indexers' ownership. Only the results for long-term investors are tabulated. All investor ownership variables are standardized and winsorized at the 1st and 99th percentiles each quarter. All variables are defined in the Appendix. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Standard errors are clustered by firm. Below each coefficient estimate is its corresponding robust *t*-statistic in parentheses.

Panel A: Valuation Proxy is Book-to-Market					
	Change in dividends?	Total payouts	Cash flow from financing	Cash flow from investment	Net income
Valuation proxy (VP)	-18.792***	-0.843***	-24.005***	18.352***	-18.792***
	(-14.92)	(-7.96)	(-31.57)	(33.45)	(-14.92)
Non-indexers' ownership (NIO)	1.478	0.178**	-1.999***	1.127***	1.478
	(1.60)	(2.10)	(-5.31)	(3.82)	(1.60)
NIO × VP	-4.605***	-0.275**	3.011***	-1.705***	-4.605***
	(-3.14)	(-2.41)	(5.61)	(-4.03)	(-3.14)
Indexers' ownership (IO)	6.047***	1.046***	-5.112***	2.052***	6.047***
	(6.61)	(11.49)	(-11.25)	(5.90)	(6.61)
IO × VP	-10.483***	-1.200***	5.611***	-2.035***	-10.483***
	(-5.92)	(-9.20)	(8.45)	(-3.93)	(-5.92)
Observations	75,115	68,927	62,747	62,747	75,115
Adjusted R^2	0.229	0.340	0.255	0.160	0.229
Panel B: Valuation Proxy is Future Returns					
	Change in dividends?	Total payouts	Cash flow from financing	Cash flow from investment	Net income
Valuation proxy (VP)	-16.468***	-1.470***	-40.821***	26.885***	-16.468***
	(-4.70)	(-4.50)	(-15.54)	(13.85)	(-4.70)
Non-indexers' ownership (NIO)	-1.896***	-0.030	-0.907***	0.677***	-1.896***
	(-4.06)	(-0.99)	(-5.78)	(5.22)	(-4.06)
NIO × VP	2.897	0.363	7.612**	-5.648**	2.897
	(0.49)	(0.88)	(2.35)	(-2.12)	(0.49)
Indexers' ownership (IO)	0.876*	0.441***	-2.445***	1.044***	0.876*
	(1.65)	(10.82)	(-10.73)	(5.86)	(1.65)
IO × VP	-13.642*	-0.321	3.566	2.434	-13.642*
	(-1.92)	(-0.64)	(0.91)	(0.82)	(-1.92)
Observations	73,845	67,774	61,371	61,371	73,845
Adjusted R^2	0.223	0.331	0.238	0.134	0.223
Panel C: Valuation Proxy is Bear Market					
	Change in dividends?	Total payouts	Cash flow from financing	Cash flow from investment	Net income
Valuation proxy (VP)	-2.979***	-0.107***	-2.173***	1.058***	-2.979***
	(-8.06)	(-3.40)	(-9.32)	(6.04)	(-8.06)
Non-indexers' ownership (NIO)	-1.757***	-0.042	-1.123***	0.793***	-1.757***
	(-3.70)	(-1.26)	(-6.49)	(5.75)	(-3.70)
NIO × VP	-0.245	0.060*	0.711***	-0.458***	-0.245
	(-0.41)	(1.66)	(3.57)	(-2.78)	(-0.41)
Indexers' ownership (IO)	2.023***	0.502***	-2.506***	1.037***	2.023***
	(3.72)	(11.03)	(-10.45)	(5.51)	(3.72)
IO × VP	-2.508***	-0.132***	1.212***	-0.598***	-2.508***
	(-3.79)	(-3.08)	(5.08)	(-3.09)	(-3.79)
Observations	77,733	71,253	64,972	64,972	77,733
Adjusted R^2	0.225	0.332	0.230	0.124	0.225

Table 7
Selected Corporate Policy Results Decomposed by Investor Horizons and Blockholder Status

This table presents the results of firm fixed effects regressions of selected corporate policy variables on valuation proxies and investor ownership. The sample comprises 78,762 firm-years consisting of 10,126 unique firms between 1985 and 2007. Panels A, B, and C use book-to-market, future excess returns, and bear market as the valuation proxy, respectively. Investor ownership is decomposed into long-term non-blockholders' ownership, long-term blockholders' ownership, short-term non-blockholders' ownership, and short-term blockholders' ownership. Only the results for long-term investors are tabulated. All investor ownership variables are standardized and winsorized at the 1st and 99th percentiles each quarter. All variables are defined in the Appendix. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Standard errors are clustered by firm. Below each coefficient estimate is its corresponding robust *t*-statistic in parentheses.

Panel A: Valuation Proxy is Book-to-Market					
	Change in dividends?	Total payouts	Cash flow from financing	Cash flow from investment	Net income
Valuation proxy (VP)	-17.049***	-0.789***	-24.113***	17.965***	-11.129***
	(-13.38)	(-7.35)	(-31.38)	(32.58)	(-24.75)
Non-blockholders' ownership (NBHO)	7.129***	1.353***	-6.442***	3.580***	-0.206
	(7.10)	(12.80)	(-13.43)	(9.73)	(-0.85)
NBHO × VP	-14.895***	-1.634***	7.564***	-4.120***	-0.505
	(-8.08)	(-10.69)	(10.51)	(-7.28)	(-1.31)
Blockholders' ownership (BHO)	-0.194	0.252***	-2.277***	0.950***	0.073
	(-0.26)	(3.25)	(-6.13)	(3.50)	(0.35)
BHO × VP	-2.614**	-0.318***	2.892***	-1.132***	-0.606**
	(-2.00)	(-3.00)	(5.36)	(-2.82)	(-1.99)
Observations	75,115	68,927	62,747	62,747	74,497
Adjusted R^2	0.231	0.341	0.256	0.161	0.536

Panel B: Valuation Proxy is Future Returns					
	Change in dividends?	Total payouts	Cash flow from financing	Cash flow from investment	Net income
Valuation proxy (VP)	-15.481***	-1.317***	-40.452***	25.979***	-9.216***
	(-4.39)	(-4.03)	(-15.41)	(13.34)	(-5.80)
Non-blockholders' ownership (NBHO)	-0.609	0.515***	-3.382***	2.048***	-0.869***
	(-1.12)	(11.10)	(-14.01)	(10.63)	(-7.61)
NBHO × VP	-12.763*	-0.351	14.359***	-3.989	-6.447***
	(-1.66)	(-0.59)	(3.32)	(-1.21)	(-2.59)
Blockholders' ownership (BHO)	-1.870***	0.073**	-1.163***	0.678***	-0.478***
	(-4.55)	(2.45)	(-7.69)	(5.59)	(-5.92)
BHO × VP	2.684	0.228	0.990	0.664	2.942*
	(0.45)	(0.58)	(0.31)	(0.28)	(1.71)
Observations	73,845	67,774	61,371	61,371	73,203
Adjusted R^2	0.225	0.332	0.240	0.138	0.516

Panel C: Valuation Proxy is Bear Market					
	Change in dividends?	Total payouts	Cash flow from financing	Cash flow from investment	Net income
Valuation proxy (VP)	-2.861***	-0.097***	-2.147***	1.025***	0.123
	(-7.82)	(-3.14)	(-9.17)	(5.85)	(0.89)
Non-blockholders' ownership (NBHO)	0.064	0.588***	-3.467***	2.124***	-0.869***
	(0.11)	(11.60)	(-13.73)	(10.58)	(-6.91)
NBHO × VP	-1.152*	-0.147***	1.108***	-0.625***	0.288**
	(-1.69)	(-3.01)	(4.21)	(-2.90)	(2.11)
Blockholders' ownership (BHO)	-1.021**	0.082**	-1.364***	0.755***	-0.463***
	(-2.44)	(2.48)	(-8.27)	(5.83)	(-5.28)
BHO × VP	-2.200***	-0.023	0.871***	-0.468***	0.138
	(-3.84)	(-0.62)	(4.39)	(-2.88)	(1.33)
Observations	77,733	71,253	64,972	64,972	77,089
Adjusted R^2	0.228	0.333	0.232	0.129	0.513

Appendix Table 1
Summary Statistics

This table presents summary statistics for the variables used in this paper. The sample comprises 78,762 firm-years consisting of 10,126 unique firms between 1985 and 2007. Panels A, B, and C present summary statistics for investor ownership variables, valuation proxies, and corporate policy variables, respectively. All variables are defined in the Appendix.

	Observations	Mean	Standard deviation
Panel A: Investor Ownership Variables			
Short-term investor ownership (%)	78,197	21.230	18.184
Long-term investor ownership (%)	78,752	12.264	12.622
Short-term indexers' ownership (%)	78,197	12.661	12.142
Long-term indexers' ownership (%)	78,753	3.044	4.956
Short-term blockholders' ownership (%)	78,197	14.340	13.683
Long-term blockholders' ownership (%)	78,753	8.423	8.214
Panel B: Valuation Proxies			
Book-to-market (%)	76,020	50.634	28.051
Future excess returns (%)	74,261	0.280	4.934
Bear market	78,762	33.859	47.323
Panel C: Corporate Policy Variables			
Payout policy			
Dividends increased?	78,292	0.235	0.424
Dividends decreased?	78,292	0.078	0.269
Change in dividends?	78,292	0.156	0.537
Dividends	77,768	0.550	1.283
Repurchase	71,806	1.443	3.800
Total payouts	71,762	1.870	4.302
Financing policy			
Equity issued?	76,651	0.110	0.312
Equity issuance	75,749	5.060	17.603
Debt issuance	74,354	10.331	26.652
Cash flow from financing	65,532	5.884	25.958
Investment policy			
Capital expenditures	76,652	1.868	7.471
Res. and dev. expenses	48,637	1.901	10.028
Cash flow from investment	65,532	-3.395	19.222
Change in A/R minus A/P	76,963	0.240	6.761
Change in inventories	76,936	0.571	6.332
Operating performance			
Sales	77,652	13.517	78.080
Operating costs	77,415	12.543	73.612
Operating income	77,415	-0.950	17.898
Net income	77,652	-3.096	18.509

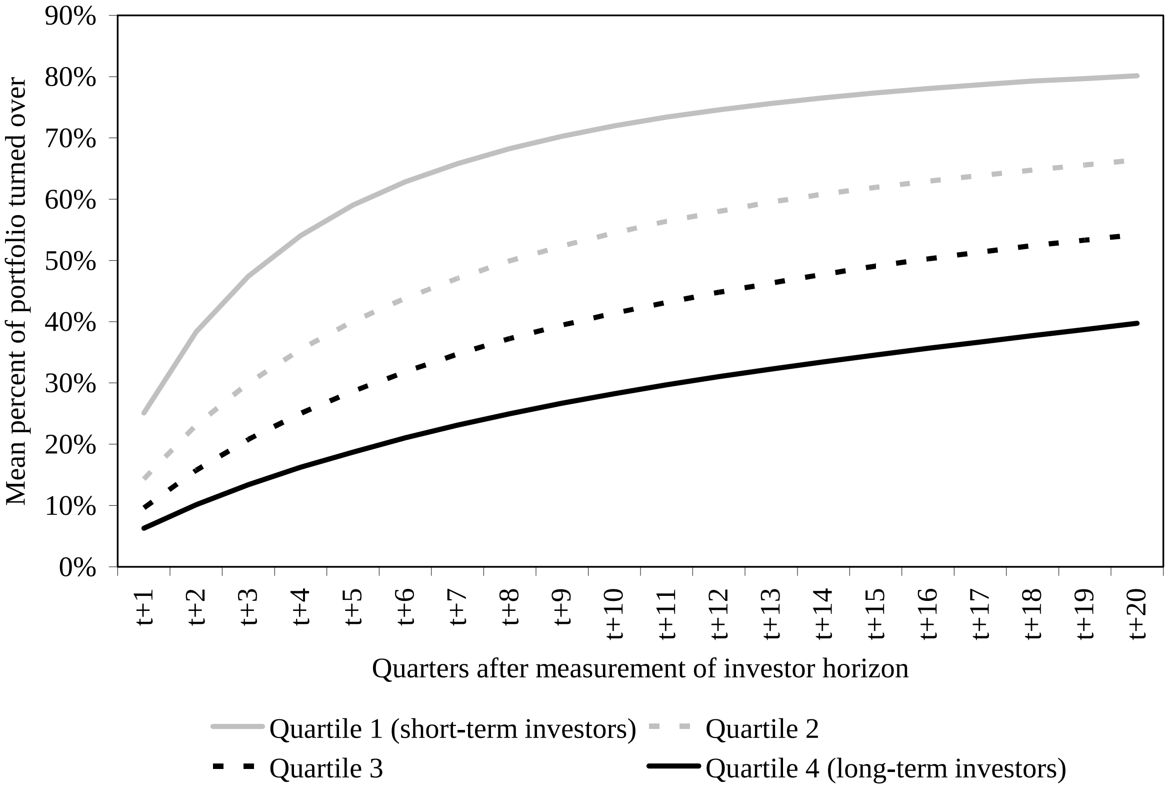

Figure 1. Future turnover as a function of past turnover. This figure presents future turnover as a function of past turnover. The sample comprises 65,301 investor-quarters consisting of 2,324 unique investors between 1984 and 2007. Investors are sorted into investor horizon quartiles based on three-year turnover at the present quarter. Then, for each investor horizon quartile, mean future investor turnover of portfolio holdings at the present quarter is computed over each of the next 20 quarters.

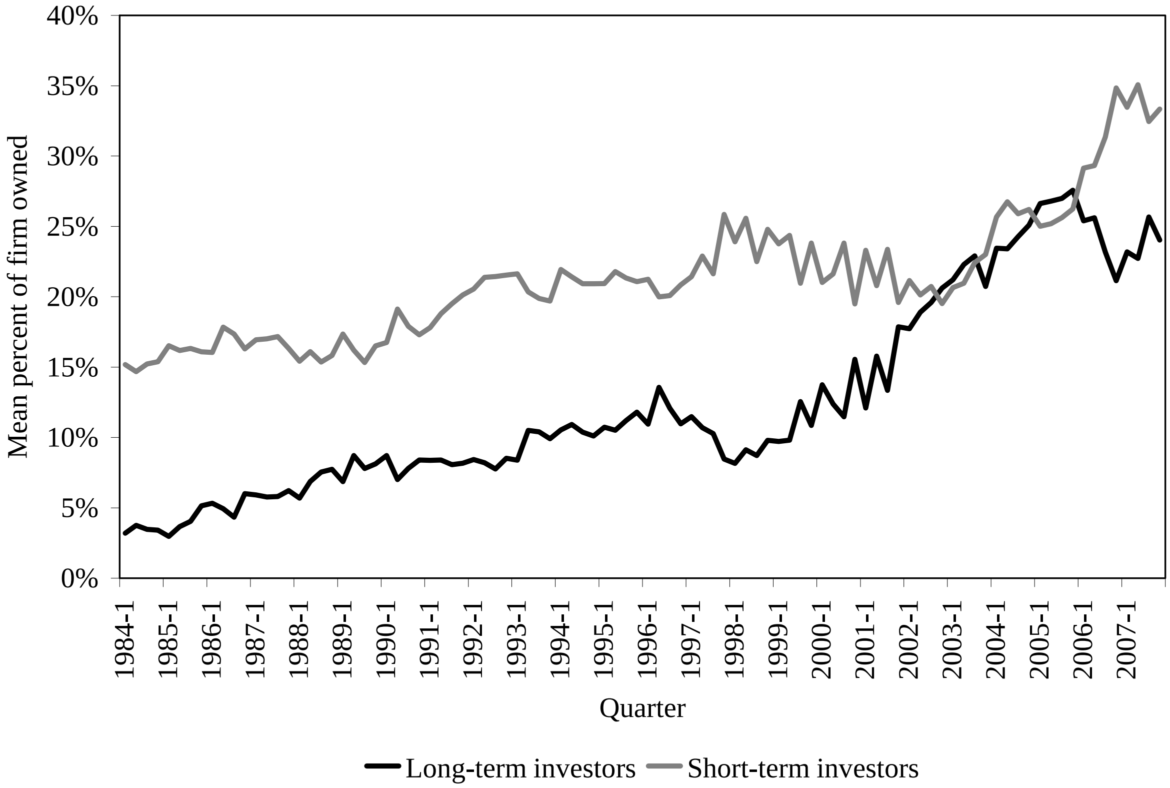

Figure 2. Mean short-term and long-term investor ownership between 1984 and 2007. This figure presents mean short-term investor ownership and mean long-term investor ownership each quarter between 1984 and 2007. The sample comprises 78,762 firm-years consisting of 10,126 unique firms between 1985 and 2007. Investors with three-year portfolio turnover of 35% or less are classified as “long-term investors”, and all other investors are classified as “short-term investors”. For each firm-quarter, the fraction of short-term and long-term investor ownership is computed.

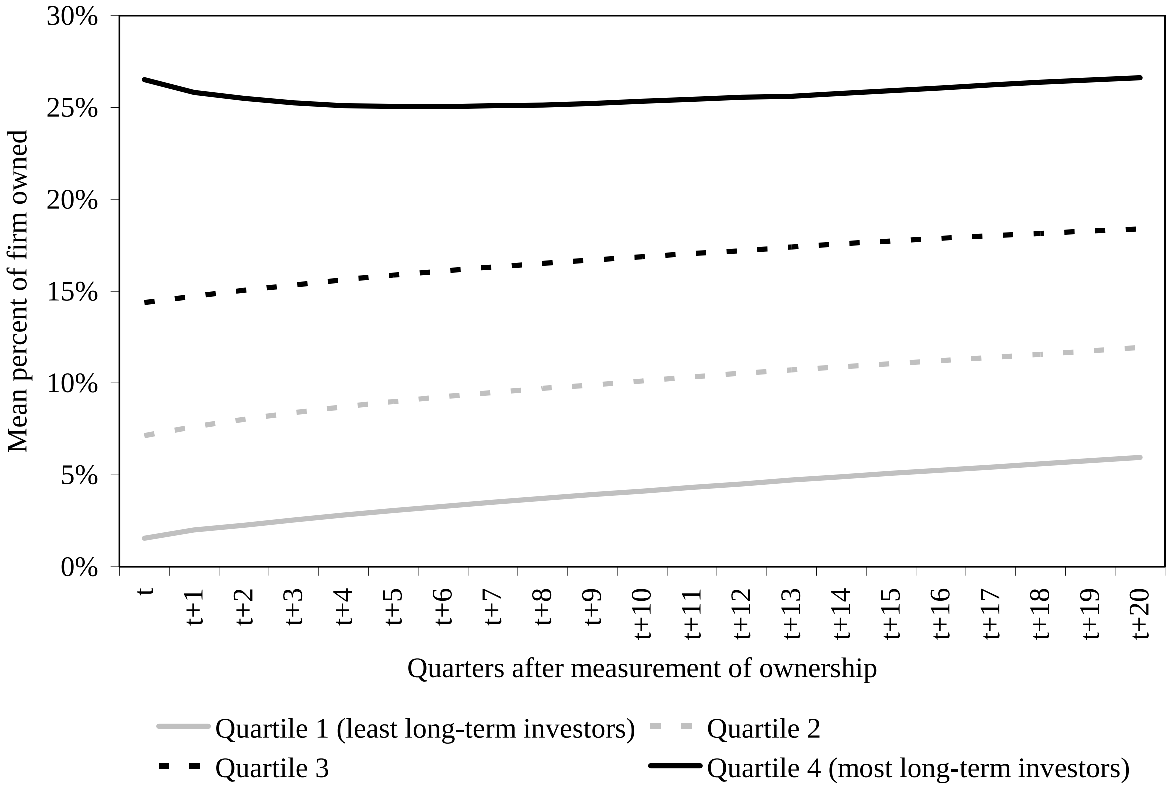

Figure 3. Future long-term investor ownership as a function of present long-term investor ownership. This figure presents future long-term investor ownership as a function of present long-term investor ownership. The sample comprises 78,762 firm-years consisting of 10,126 unique firms between 1985 and 2007. Investors with three-year portfolio turnover of 35% or less are classified as "long-term investors", and all other investors are classified as "short-term investors". The fraction of short-term and long-term investor ownership is computed for each firm-quarter. Firms are sorted into long-term investor ownership quartiles based on long-term investor ownership at the present quarter. Then, for each long-term investor ownership quartile, mean future long-term investor ownership is computed over each of the next 20 quarters.

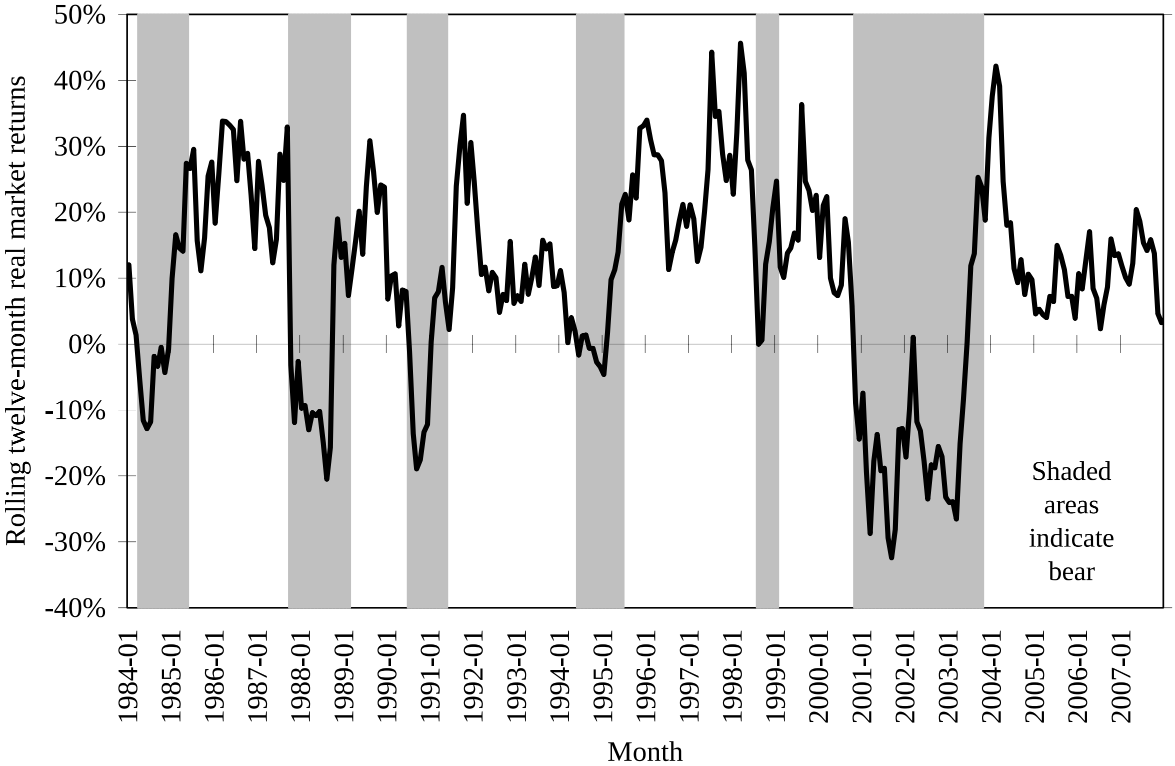

Figure 4. Bear markets and stock market returns. This figure presents stock market returns each month from January 1984 to December 2007 and months that are classified as bear markets. Months are classified as bear markets if the twelve-month real returns on the CRSP value weighted index during any one of the previous six months were negative.