Investor Short-Termism and Firm Value

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Abstract

Anecdotes, surveys, and theoretical models suggest that short-termist investors force managers into myopic decision making and value destruction. Short-termist investors may also be poor monitors, especially under delegated monitoring. This paper provides the first direct evidence on this issue by showing empirically how firm value interacts with the ownership duration of different investor types, such as financial institutions and individuals. We find that the value of the firm is negatively affected by longer ownership duration of influential financial and industrial investors. In contrast, the effect is positive the longer personal investors own the firm. These results suggest that investors who are likely to be the most short-termist destroy firm value, and more so the longer they stay.

Keywords: Corporate Governance, Ownership Duration, Short-Termism, Patient Owners.

JEL codes: G11, G30

1 Introduction

It is often claimed that investor short-termism causes firm managers to neglect profitable long-term investment. Fuller and Jensen (2002) argue that Wall Street is partly responsible for this problem because fund managers' incentives are based on their fund's quarterly return. This puts pressure on firms to undertake investments that maximize short-term earnings at the expense of shareholder wealth. Anecdotal evidence from several sources supports the view that financial institutions, in particular, put excessive short-term pressure on the firms they invest in (Kahn and Winton (1998), Wermers (1999), Jin (2005)). Similar views are expressed by managers in the US and the UK, where over 80% of survey respondents blame impatient stock market investors for implicitly forcing management to reduce corporate investing which would be profitable in the longer run (Wall Street Journal, 1986; Coopers and Lybrand, 1997). Stark evidence regarding the prevalence of short-termism is provided in the survey by Graham, Harvey, and Rajgopal (2005) of over 400 U.S. executives. They find that 80% of the respondents state they would reduce research and development, advertising, and maintenance in order to meet short-term earnings targets. Of even more concern, over half claim they would be willing to burn cash for this purpose.[1]

Short-termist investors can reduce firm value not just by inducing underinvestment in long-term projects. If good monitoring of the agent requires extensive commitment and firm-specific information by the principal (Froot, Perold, and Stein (1992)), firms with short-termist owners may also underperform due to weak corporate governance. For instance, Tirole (2001) argues that institutions are not just short-term investors, but are reluctant to sit on boards even when they take long-term positions. Either way, one would expect that the longer a short-termist investor stays in the firm, the more value is destroyed. Conversely, long ownership duration by investors with a more long-term view on the firm's strategy may be beneficial. This is because they give managers freedom to invest in long-run projects, and because they provide valuable advice as part of their corporate governance activity. Thus, the holding period of influential investors could matter for the value of the firm.

[1] Short-termism does not necessarily mean that investors have short holding periods. Instead, short-termism means they push managers to invest in short-term projects in order to keep earnings high. In this sense, investors who behave in a short-termistic manner may well have long holding periods, provided managers satisfy the investors' need for high earnings period by period.

Our paper addresses this question by estimating the relationship between firm value and the ownership duration of different influential investor types. We find that ownership duration does matter for firm value. Moreover, this relationship depends critically on the owner type involved. Our evidence is consistent with the hypothesis that unlike other investors, short-termist investors, such as financial institutions, destroy firm value, and more so the longer they stay.

Short-termism has been critisized on a theoretical footing by Stein (1989), who shows that managers can behave myopically and fail to maximize firm value even when the stock market is efficient. The underlying mechanism is that the investor's estimate of firm value is derived from forecasted earnings, and high current earnings is considered a signal of higher cash flows in the future. Because managers are aware of this forecasting rule and want to increase the current value of the firm, they try to improve the signal by inflating current earnings. In equilibrium, the market understands what is happening and prices the inflated earnings into the firm's current value. However, the managers are trapped into their myopic behavior because the market is pricing the firm under the assumption that reported earnings are permanently inflated. Thus, even though the market understands the manager's behavior, the manager goes on ignoring valuable projects in order to keep short-term earnings up.

Shleifer and Vishny (1990) reach the same conclusion via a different mechanism. They show that because arbitrage is more expensive the more long-term the asset, long-term assets will be more mispriced than short-term assets. Since corporate managers are concerned with underpricing because they fear being sacked, they will not make long-term investments, as this is where any underpricing takes the longest time to be corrected. Thus, the short horizon of arbitrageurs induces managers to also have short horizons in their project selection. If long-term projects have higher value than short-term projects, managerial short-termism is socially inefficient, and firms with short-termist investors will have lower value than other firms.

The negative effect of short-termism is also consistent with the corporate governance argument that in order to make a difference as monitors, large owners need time to understand the firm and its environment. Hence, ownership duration may matter for the ability to reduce agency costs. This point is emphasized in the Abegglen and Stalk (1985) survey of Japanese and U.S. executives. The authors argue that the insider-dominated board of Japanese companies reduces

the threat of takeovers, allows them to focus on long-term objectives, and thus gives the firms a competitive advantage. Similarly, Scherer (1988) posits that European and Japanese firms that are not threatened by takeovers can more easily adopt long-run strategies. This anecdotal evidence is consistent with the internationally robust evidence that takeovers lead to negative abnormal returns for the bidder in the longer run (Mueller and Yurtoglu (2007)).

In contrast, the criticism of short-termism is at odds with the agency idea of Jensen (1986), who interprets hostile takeovers and LBOs as mechanisms for reducing overinvestment and inefficiencies that may occur when owners become passive, too patient, and too unconcerned with the short run. That is, stock market pressure disciplines managers to act in the owners' best interests, and the actions of shareholders with short investment horizons will be welfare enhancing. If such impatient investors have long ownership duration, we expect a positive impact of their presence on firm value.

Unfortunately, it has been difficult empirically to separate the agency view that stock market pressure is beneficial from the short-termism view that such discipline is welfare decreasing. The reason is that the existing empirical results are consistent with both hypotheses. For example, the common finding that LBOs reduce the firm's investment and operating costs can be considered welfare enhancing from an agency point of view, as it may reflect less overinvestment and improved operating efficiency (Kaplan (1989)). However, the LBOs may also have eliminated projects that are crucial for long-term competitiveness. Hence, the reduced cash outflow after the entry of owners with short horizons may reflect more underinvestment rather than less overinvestment. Similarly, Shleifer and Vishny (1990) note that the positive announcement effect of increased capital expenditures (McConnell and Muscarella (1985)) is consistent with their model of costly arbitrage in long-term projects, where myopic managers discount such projects at very high hurdle rates. In such a perspective, the investment announcement is good news because expected returns are obviously very high. In contrast, Jensen (1986) claims the positive announcement effects of increased capital expenditure indicates that managers are not underinvesting. Finally, we know of no attempt to measure short-termism directly. Miles (1993) uses an indirect approach, finding that long-term cash flows are discounted at sub-optimally high rates and also that distant cash flows are severely underestimated. Although neither the duration nor the owner type is con-

sidered, this evidence indirectly suggests that short-termism is present in the U.K. stock market.

The current state of the literature means there is no clear empirical evidence as to whether short-termism is a disciplining tool that leads to welfare enhancing managerial behavior, or if it forces managers into myopic value destruction. In order to provide such evidence it is necessary to study a setting which can answer two questions. First, is the value of the firm influenced by the length of time an investor holds a stock? Second, does this relationship depend on the investor type? For instance, financial institutions have been suspected for being excessively short-termist and hence for pushing managers into myopic behavior. Does long duration by such investors relate differently to firm value than long duration by individuals (persons), who may have a longer perspective and also be more active in corporate governance because of stronger monitoring incentives?

The contribution of our paper is to provide direct evidence on these two questions. We do this by relating ownership duration to firm value in a way that distinguishes between investor types with potentially different tendencies to be short-termist. Using a unique data set which allows us to observe the entire ownership structure of every listed firm over eleven years, we estimate the ownership duration of the firm's large owners, who are the more important investors in terms of influencing managerial decision making. We show that average duration for the firm's very largest owner, who tends to stay longer than others, is less than three years. When we consider all investor types as one group, the value of the firm is always negatively related to ownership duration. That is, longer holding periods by influential owners hurts the firm. This could be because investor short-termism pushes managers to be myopic and consistently underinvest in long-term projects. The longer such investors stay, the more short-term and potentially less valuable projects the managers invest in. Alternatively, it could be because the longer an influential investor stays, the less the management is disciplined because monitoring quality deteriorates over time.

Our way of untangling these competing explanations is by distinguishing between the value impact of ownership duration across different investor types. We find that the relationship between ownership duration and firm value remains negative for industrial owners and, particularly, for financial owners. In contrast, the relationship is always positive for individuals. These findings are consistent with the idea that when investors have both short-term horizons and long

ownership duration, firm value suffers because the investors force managers to be myopic over an extended period. For investors who may be less susceptible to exerting short-term pressure, such as individuals, we find that firm value does not suffer when these investors influence the firm for a long time. This result is consistent with the notion that individual investors are either better monitors, not short-termist, or both.

The rest of the paper is organized as follows. Section 2 presents the data and key empirical measures, whereas section 3 explores the interaction between ownership duration and firm value. We conclude in section 4.

2 Data and empirical proxies

Our sample is all non-financial firms listed at the Oslo Stock Exchange (OSE) over the period 1989-1999.[2] The main data source is the Norwegian Securities Registry (Verdipapirsentralen), which provides the full ownership structure for every listed company. We separate investors into foreign, industrial (nonfinancial), institutional (financial), state, and individual (personal) owners. As an average over the sample period, and measured by their fraction of overall market capitalization, 30% of the equity is held by foreigners, 25% by industrial investors, 19% by institutions, 17% by the state, and 9% by individuals. The reason we split into these types is partially the agency idea that because different owner types have different incentives and abilities to monitor, the relationship between ownership and firm value depends on owner identity. Direct principal-agent relationships represented by individuals are hypothesized to produce higher monitoring quality over time than indirect ownership and delegated monitoring by financial institutions, industrial corporations, or the state (Jensen and Meckling, 1976). Foreign investors may be different from domestic investors in a monitoring sense, since foreigners may more often invest to reap diversification benefits than to be active in corporate governance (Kang and Stulz, 1994; Brennan

[2]The OSE has an aggregate market capitalization of 64 bill. USD by the end of the sample period, which ranks the OSE eighteenth among the twenty–three European stock exchanges for which comparable data is available. The number of firms listed increases from 129 to 215 over the sample period, and market liquidity increases from 52% to 98% as measured by annual transaction value over average market value (sources: `www.ose.no` and `www.fibv.com`). La Porta, Lopez-de Silanes, Shleifer, and Vishny (2000) find that Norway's civil law regime and regulatory environment provide better protection of shareholder rights than the average common law country. This may be one reason why, with the exception of the UK, the listed firms in Norway have less concentrated ownership than in any other European country. For example, the average largest owner holds close to 50% of voting equity in a continental-European listed firm, 30% in Norway, and 15% in the UK (Barca and Becht (2001), Bøhren and Ødegaard (2006)).

and Cao, 1997). Foreigners are also likely to be financial institutions. As already discussed, our particular reason for singling out financial institutions among the indirect owners is the anecdotal and survey evidence that their managers' incentive structure makes institutions more prone to short-termism than any other indirect owner. Thus, their influence on the firm's behavior is more of a problem the longer their ownership lasts. We will not pay attention to state owners, since their objectives may differ from those of owners who invest to maximize wealth. Finally, as our focus is the investor's impact on managerial decision making, we limit the attention to the firm's largest owners.

Table 1 shows the average ownership duration in years for investors with rank 1, 2, ..., 5, and 10. As there is no generally accepted definition of ownership duration, we report the estimates under four alternative duration measures. Our basic proxy is the number of years an investor keeps at least the fraction of the firm held at the first observation ("Keep at least initial stake"). This measure reflects the length of time an ownership stake is either held at its initial level or increased. For instance, ownership duration is four years if the investor bought a 10% stake in 1992, increased it to 19% in 1993, and reduced the stake below 10% in 1996. The table shows that the average ownership duration according to this measure is 1.8 years for the investor ranked as 1 in the firm when the initial stake is bought. This holding period remains pretty stable across investors with lower ranks as well, declining to 1.4 years for the firm's tenth largest investor.[3]

The second proxy, "Keep initial rank", is based on rank rather than stake, reflecting how long an owner holds the rank initially held. Average duration for the largest owner (rank 1) is 2.1 years according to this measure, falling monotonically with decreasing rank to 1.1 years for the tenth largest owner. Except for rank 1, however, this proxy ignores the fact that power and incentives increase rather than decrease when the investor moves to higher ranks. Thus, regardless of whether the owner moves up or down in rank, this second duration proxy mistakenly suggests that influence is lost once the initial rank is no longer held.

This problem is avoided by proxies 3 and 4, which capture how long the investor keeps the initial or a higher rank or stays among the five largest, respectively. "Keep at least initial rank"

[3] In unreported logit regressions which are available upon request, we relate the ownership exit decision to the owner type and several controls. The estimates show that financial and foreign owners stay the shortest, whereas individuals and industrial firms stay the longest.

(measure 3) allows owners to move up in rank, but not down. For the highest rank, this is identical to measure 2. For owners below rank one, however, duration will be higher for measure 3 than 2, reflecting the fact that owners of initial rank below one can increase their rank. The figures in the table reflect this general property, as average duration is always higher for measure 3 than for measure 2 except for the largest owner, where duration is identical.

The fourth duration measure considers owners who stay among the five largest, thus allowing for both increasing and decreasing rank over time. The duration for owners with the highest initial rank is 2.6 years and falls monotonically to 1.1 years for owners entering at rank ten.[4]

Overall, the four alternative definitions in table 1 produce very similar average ownership durations. The three first measures never deviate by more than 0.4 years for a given initial rank, and the distance never exceeds 0.8 years between the fourth measure and any of the three others. Not surprisingly, the coefficients of correlation are quite high. For instance, the correlation between our basic proxy (measure 1) and the three other measures is 0.73, 0.73, and 0.71, respectively.[5] Section 3 will show that the relationship between ownership duration and firm value is robust to these alternative definitions.

3 Ownership duration and the value of the firm

We have argued that the duration of large equity investments in the firm influences the quality of managerial decisions through the effect of the investor's short-termism or monitoring ability. Hence, we hypothesize that the holding period matters for the value of the firm, and that this relationship differs across investor types. In this section, we test this hypothesis by relating firm value to the holding period of investment for owners in general (the basic model) and to each separate owner type (the extended model).

[4]Underestimation is a potential problem in duration measures for two reasons. First, the time series of ownership is necessarily censored because the first (last) sample year may not be the owner's first (last) investment year. Since this problem is smaller the longer the estimation period, we use all eleven years of data to measure ownership duration. Second, measured duration may be short because the firm has a limited number of listing years and not because the investor is unwilling to invest longer. This bias decreases with the length of the firm's listing period. Although our base base includes all firms regardless of listing period, the results persist if we only include firms that survive the entire sample period.

[5]The frequency distributions of ownership duration are quite symmetric. Also, when splitting the sample into two equal sub–periods, we find that average duration in the two is rather similar. This suggests the distribution is quite stable over time.

In estimating these models we account for the role of ownership concentration and insider holdings. Existing research has shown theoretically (Shleifer and Vishny, 1986; Morck, Shleifer, and Vishny, 1988) and empirically (Gugler, 2001) that these two characteristics matter for firm value in a static setting. We measure outside ownership concentration by the Herfindahl index.[6] The equity fraction of corporate officers and directors (the inside owners) is our proxy for inside ownership, and we also include its squared value to account for nonlinearities (McConnell and Servaes, 1990). We measure firm value by Tobin's Q and operationalize it as the firm's market value over book value, setting the market value of debt equal to its book value.

The relationship between ownership duration and firm value is analyzed in three different ways. We first relate ownership duration to the contemporaneous value of the firm (sections 3.1 and 3.2). To address the potential role of endogeneity, we consider the relationship between current ownership duration and future firm value (3.3). Finally, we explore endogeneity by looking for evidence that lagged firm value is associated with subsequent ownership duration (3.4).

3.1 Ownership duration and contemporaneous firm value

The analysis in this section extends the methodology of static governance-performance studies such as Demsetz and Lehn (1985), Morck et al. (1988), Agrawal and Knoeber (1996), and Cho (1998). Since this approach uses a cross-section, however, every variable for a given firm must be measured over the same time period. The problem with this method in our setting is that we want to explain firm value by ownership duration, which is inherently a multi-period property by nature.

We solve this problem by calendar-matching duration with the other variables in the model. Starting in the firm's first sample year, we find the ownership duration for the largest owner. Next, we calculate the average value for each of the other variables in the model (i.e, firm value, governance mechanisms, and controls) over the same calendar period. This is the first observation. Moving on to the first year after this calendar period, we find the new largest owner that year and the corresponding duration, calculating the averages for the other variables over this period.

[6]The Herfindahl index is the sum of squared ownership fractions across all the firm's investors of a given category (outside owners in our case). Its maximum value is one (single–owner firm), approaching its minimum of zero as the ownership structure gets increasingly diffuse.

This is the second observation. This procedure, which does not use overlapping observations, is repeated until the end of the sample period is reached. We do this for all firms in the sample and, depending on the context, for owners of different ranks.

Table 2 reports the results from the regressions. The duration is for the largest owner, and the other determinants are ownership concentration, the equity fraction held by insiders, and the insider fraction squared, respectively.[7] In panel A, which ignores owner type, we find a negative association between ownership duration and Q which is strongly statistically significant. The coefficient estimate is also large in magnitude, suggesting the economic impact is important. For instance, if ownership duration increases by one year, the expected Q falls by around 0.1. Given that in equilibrium marginal Q is 1, this represents a 10% decline.

This inverse relationship between ownership duration and firm value is consistent with the idea that influential, short-termist investors indirectly push managers into accepting too many investment projects with high short-term earnings and low long-term cash flows. The result could also be explained by the governance based claim that long-term owners are passive monitors. In contrast, this finding refutes the idea that owners need to be around for a while in order to contribute positively to the firm beyond just providing financing.

In line with evidence from several countries, the estimates also show that high outside ownership concentration is associated with low Tobin's Q, and that insider ownership creates value unless it causes conflicts of interest between inside and outside owners when insiders become too strong (McConnell and Servaes, 1990; Lehmann and Weigand, 2000; Gugler, 2001).

The relationship between firm value and ownership duration is estimated with separate duration terms for each owner type in panel B. We do this by interacting ownership duration with indicator variables for the specified owner types.[8] This decomposition provides a considerably sharper picture than in panel A. There is a negative and statistically significant relationship between Q and the duration of financial institutions. The estimated coefficient is -0.20, indicating that increased duration by financial institutions is related to a substantial expected fall in firm

[7] We have also used risk adjusted stocks returns as performance measures in all models in this section. The results, which are available on request, are consistent with those based on Q.

[8] Since the model is estimated with a constant term, one owner type dummy must be omitted. We leave out state owners, since this type may invest for the long or short term for different reasons than short-termism or corporate governance activity.

value. This is consistent with the argument that institutional owners push managers into adopting short-term projects that are value destroying in the long run. It may also reflect that indirect monitoring through financial institutions is a particularly poor corporate governance mechanism in a dynamic setting.

The negative relationship between firm value and ownership duration is found for industrial owners as well, and the statistical significance is also strong. However, the economic significance is less than one half of what it is for institutions. One possible reason why longer duration has a more negative value impact when the investor is institutional rather than industrial is that institutions are not just poor monitors. Fund managers also pressure managers more strongly than other indirect owners into overinvesting in short-term projects because fund managers are judged on short-term performance themselves.

The estimated coefficient for foreign investors is also negative and has a p-value of 6%. Since the data does not allow us to separate foreign owners into subtypes (such as individuals and institutions), we cannot tell to what extent a foreign owner represents direct or delegated monitoring and whether indirect owners are typically institutional or industrial. However, it is likely that foreign financial institutions, invest in the Norwegian stock market primarily for diversification reasons rather than to provide active monitoring. Thus, the negative impact of foreigners' duration on firm value may be driven by short-termism of foreign financial institutions. Finally, the only owner type with a positive estimated duration coefficient is individuals (personal investors), but the estimate is not statistically different from zero. Thus, unlike the other owner types, direct owners do not seem to systematically destroy value over the long term.

3.2 Using alternative measures of ownership duration

As discussed in section 2, there is no generally accepted definition of ownership duration. Therefore, it is not obvious that the one we have used in table 2 is the best. This section considers whether alternative definitions of ownership duration produce results that differ markedly from what we have found using "Keep at least initial stake" in table 2. Note that since we focus on the owner with the highest rank when initially observed, the measures "Keep initial rank" and "Keep a least initial rank" produces exactly the same sample. Therefore, the robustness results in table 3

only report estimates based on "Keep initial rank" and "Stay among the five largest".

Each of these two alternative duration definitions reproduces the inverse relationship between the value of the firm and the duration of ownership from table 2, although both the economic and the statistical relationships are weaker. According to the more elaborate model in panel B, however, the alternative proxies reproduce the main result about financial owners. They also strengthen the impression that individual investors increase value in the long run, as the estimated coefficients on individuals are now statistically significant and also large economically. For example, under the two alternative definitions of duration in table 3, the estimated coefficient on individual duration is 0.09 and 0.1 respectively, indicating that if the individual's duration lasts another year, Q increases by around 10%. This positive impact on Q is actually close to the negative impact of financial institutions in these two samples.

In summary, our analysis has so far shown that when all owner types are aggregated into one group, there is a negative relationship between the value of the firm and the duration of ownership by large investors. That is, long-term presence of influential owners hurts the firm's ability to create economic value. When we consider ownership duration across different owner types, however, we find that the negative relationship for all investors as a group is primarily due to the negative effect of long-term ownership by financial institutions and to a lesser extent by industrial corporations. This result can be rationalized by short-termist financial investors pushing managers into investing in projects that deliver higher gains in the short run at the expense of lower long-term returns. It is also consistent with delegated monitoring producing low governance quality over time. In contrast, longer duration by owners who represent weaker incentives for short-termism and stronger incentives for close monitoring, such as individuals, has a positive association with firm value. These results are independent of how we define ownership duration.

3.3 Ownership duration and future firm value

As an alternative to matching the holding period and the value of the firm contemporaneously, we introduce dynamics by relating past ownership duration to future firm value. This approach also addresses endogeneity in terms of potential reverse causation between firm value and ownership duration. That is, duration may be driven by firm value rather than the other way around. The

method we use in this section has some similarities to the way Gompers, Ishii, and Metrick (2003) construct an index of 24 corporate governance mechanisms and estimate the relationship between a firm's score on this index and its subsequent market value.

We start with the four year period 1989–1993 and find the largest owner in the firm at the end of 1993. We relate this owner's duration at that point in time to next period's firm value, i.e., Q at the end of 1994. Next, we move one year forward, relating the duration for the firm's largest owner at the end of 1994 to performance in 1995. That is, for each year from 1993 to 1998, we predict next year's Q from the duration of the largest owner over the past four years. This methodology captures time variation in the governance-performance relation in a better way than the averaging procedure used so far. However, although this dynamic method predicts future firm value based on current duration, the results cannot be used to argue strongly for causality. This is due to the persistent nature of most of the variables in the model, such as ownership duration, ownership concentration, and Q. However, unreported regressions show similar results when we replace Q by stock returns, which are not persistent.

Panel A of table 4 reports the results when we do not distinguish between owner types. The estimated coefficient for ownership duration is negative and statistically significant. This tells us that across all owner types, the longer the largest owner has stayed already, the lower the expected firm value in the next period.

Splitting the effects by owner type, panel B shows that ownership duration has a negative and statistically significant coefficient for both financial institutions and industrial owners. Just like in the contemporaneous model, the coefficients are stronger for the institutional owners. Again, this could be due to financial institutions suffering more from the short-termism problem than industrial owners. The estimated coefficient is no longer statistically significant for foreigners, whereas the positive relationship between firm value and long holding periods by individual investors has a p-value of 8%, compared to an insignificant 47% in the contemporaneous performance setting. Overall, the results in table 4 support our earlier findings.

3.4 Does firm value cause ownership duration?

We have so far shown that ownership duration and firm value are related, and that this relationship varies across owner types in ways that are consistent with an implicit, lasting pressure on the firm towards myopic behavior from short-termist investors, and with weak monitoring from passive, long-term investors. Also, we just found that past ownership duration predicts future performance in a corresponding way. However, although the latter result seems to indicate that ownership duration drives firm value, causation may still go the opposite way. For example, we found a negative relationship between firm value and ownership duration by financial institutions both in the contemporaneous model and the predictive model. Such a pattern would naturally show up even in the predictive model if institutional owners tend to realize gains (i.e., exit winner stocks), but hesitate to take losses (i.e., hold on to loser stocks). Thus, performance would cause ownership duration and not the other way around: The investor stays on in low-performing firms and sells out in well-performing firms, thereby creating an inverse relationship between ownership duration and firm value.

In order to explore this possibility, we analyze whether ownership duration responds systematically to firm value. If it does, it would strengthen the reverse causation argument that ownership duration is driven by the firm's performance rather than the other way around. We construct a logit model where the dependent variable is whether or not the investor exits the stock in the current period. Lagged Q is the key explanatory variable. This is a market-based performance measure which is known to be in the information set when the owner makes the decision to stay or leave.

To control for other potential determinants of the exit decision, we include owner type and ownership fraction held, using the logic from the earlier models in this paper. We also add project duration, firm size, and earnings surprise. According to Becht and Mayer (2001), there may be an optimal match between ownership duration and the firm's project duration. This logic suggests that the longer the optimal project duration, the longer the optimal ownership duration. Moreover, if small firms are more often in earlier stages of their project development cycle than big firms, the matching idea suggests that ownership duration decreases with increasing firm size. We proxy for project duration by the ratio of depreciation to depreciable assets, which is higher the shorter the

duration of the real investment projects. Finally, the exit decision may be affected by firm-specific accounting information about past performance. Reported earnings growth is our news measure, which we lag one period to ensure it is observable when the investor makes the decision to leave or stay.

Table 5 reports the findings. As expected from the findings in table 2, the tendency to exit the stock decreases with the fraction held. Also, large investors sell more easily when they are foreign or financial, and when the firm has short-term projects or has experienced high earnings growth in the past. Most importantly, lagged firm value is far from being a statistically significant determinant of ownership duration. Therefore, whilst we found ample evidence that ownership duration is related to subsequent performance, there is no clear sign that the decision to exit or stay depends on past performance.[9]

4 Conclusion

This paper provides the first direct empirical analysis of how investor short-termism interacts with the value of the firm. Using a time series of equity ownership for all non-financial listed firms in the economy, we estimate the holding period of large equity positions of different owner types and analyze how it relates to firm value. We find that ownership duration and firm value are always negatively related when the identity of the owner is ignored. Such a pattern is consistent with the hypothesis that when short-termist investors influence the firm over extended periods, they pressure managers into myopic behavior which reduces firm value. This happens because managers try to maintain high short-term earnings at the expense of profitable long-term projects. The result is also consistent with long-term owners being poor monitors.

When we examine the relationship between firm value and the holdings of specific owner types, we find that the negative association between long-term ownership and firm value is due to industrial owners and particularly to financial institutions. Both represent indirect ownership, i. e., delegated monitoring. In addition, institutional investors have often been criticized for being short-termist, probably due to the incentive system of their managers. This result, which holds

[9] We have considered alternative performance measures, such as stock returns and changes in Q. In no case do we find that these performance measures affect subsequent duration.

across several alternative measures of ownership duration, supports the idea that financial institutions induce managers to destroy value, and more so the longer such owners stay. In contrast, firms influenced by individual (personal) investors over an extended period have higher value than other firms. This is consistent with the prediction that unlike indirect ownership, direct ownership is less prone to short-termism and also to weak monitoring incentives. Overall, our findings support the claims based on existing anecdotes and surveys that short-termism has an important impact on firm value.

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Table 1: Average ownership duration by four alternative duration measures

	Initial Rank					
Duration Meaure	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 10
1. Keep at least initial stake	1.8	1.7	1.6	1.6	1.6	1.4
2. Keep initial rank	2.1	1.5	1.3	1.2	1.2	1.1
3. Keep at least initial rank	2.1	1.7	1.7	1.6	1.5	1.5
4. Stay among the five largest	2.6	2.2	2.0	1.8	1.5	1.1

This table shows the average ownership duration for large owners in the firm, using four alternative definitions of ownership duration. *Keep at least initial stake* is the number of years the owner holds at least the equity fraction held at the first observation. *Keep initial rank* measures the number of years the investor holds the initially observed rank, *Keep at least initial rank* reflects how long the initial rank or a higher rank is held, and *Stay among the five largest* is the number of years the investor keeps rank five or higher. We use annual ownership structure data as of year-end. The sample is all non-financial firms at the Oslo Stock Exchange that are listed at least once at year-end over the period 1989-1999. Each average is based on 1180 observations.

Table 2: The relationship between ownership duration and contemporaneous firm value

Panel A: The base-case model

Variable	coeff.	p value
Constant	1.650	0.00
Duration	-0.094	0.00
Concentration	-0.337	0.27
Insiders	3.888	0.00
Insiders squared	-4.194	0.00
R^2	0.04	
n	627	

Panel B: The extended model

Variable	coeff.	p value
Constant	1.650	0.00
Duration by foreign owner	-0.119	0.06
Duration by individual owner	0.048	0.47
Duration by industrial owner	-0.080	0.01
Duration by financial owner	-0.202	0.00
Concentration	-0.453	0.14
Insiders	3.822	0.00
Insiders squared	-4.171	0.00
R^2	0.05	
n	627	

The table shows the results from regressions where the dependent variable is the value of the firm as measured by Tobin's Q, which we operationalize as the sum of the market value of equity and the book value of debt divided by the book value of assets. The explanatory variables in the base case model in panel A are ownership duration for the largest owner, outside ownership concentration, and insider holdings. We include the squared insider holdings to allow for nonlinearity. Panel B splits the effect of ownership duration across owner types by interacting ownership duration with a dummy variable for each owner type. *Duration* is the number of years the investor holds at least the equity fraction held at the first observation. *Concentration* is measured by the Herfindahl index, which we calculate for all owners except the largest. *Insiders* is measured as the aggregate fraction of equity held by the firm's officers and directors. We use annual ownership structure data as of year-end. The sample is all non-financial firms at the Oslo Stock Exchange that are listed at least once at year-end over the period 1989-1999.

Table 3: The effect of alternative ownership duration measures

Panel A: The base-case model

	Keep initial rank		Stay among the five largest	
Variable	coeff.	p value	coeff.	p value
Constant	1.515	0.00	1.479	0.00
Duration	-0.028	0.19	-0.023	0.20
Concentration	-0.512	0.08	-0.523	0.07
Insiders	4.211	0.00	4.580	0.00
Insiders squared	-4.412	0.00	-4.899	0.00
R^2	0.04		0.05	
n	629		642	

Panel B: The extended model

	Keep initial rank		Stay among the five largest	
Variable	coeff.	p value	coeff.	p value
Constant	1.527	0.00	1.442	0.00
Duration by foreign owner	-0.023	0.62	0.028	0.43
Duration by individual owner	0.094	0.03	0.101	0.01
Duration by industrial owner	-0.037	0.12	-0.024	0.22
Duration by financial owner	-0.131	0.03	-0.069	0.06
Concentration	-0.552	0.06	-0.545	0.06
Insiders	3.729	0.00	4.002	0.00
Insiders squared	-3.941	0.00	-4.325	0.00
R^2	0.06		0.07	
n	629		642	

This table shows the results of using two alternative measures of ownership duration compared to the basic definition used in table 2 ("Keep at least initial stake"). *Keep initial rank* measures the number of years the investor maintains the initially observed rank, and *Stay among the five largest* is the number of years the investor keeps rank five or higher. The models in panels A and B correspond to those in table 2. We use annual ownership structure data as of year-end. The sample is all non-financial firms at the Oslo Stock Exchange that are listed at least once at year-end over the period 1989-1999.

Table 4: Firm value and lagged ownership duration

Panel A: The base-case model

Variable	coeff.	p value
Constant	1.600	0.00
Lagged Duration	-0.095	0.00
Concentration	-0.313	0.24
Insiders	3.171	0.00
Insiders squared	-3.137	0.00
R^2	0.04	
n	942	

Panel B: The extended model

Variable	coeff.	p value
Constant	1.513	0.00
Lagged Duration by foreign owner	0.080	0.17
Lagged Duration by individual owner	0.082	0.08
Lagged Duration by industrial owner	-0.074	0.02
Lagged Duration by financial owner	-0.213	0.00
Concentration	-0.505	0.06
Insiders	2.589	0.00
Insiders squared	-2.497	0.00
R^2	0.06	
n	942	

This table reports the results from regressions that relate ownership duration in one period to the value of the firm in the next period. The dependent variable is firm value measured as Tobin's Q, which we operationalize as the sum of the market value of equity and the book value of debt divided by the book value of assets. The explanatory variables in the base case model in panel A are ownership duration for the largest owner, outside ownership concentration, and insider holdings. We include the squared insider holdings to allow for nonlinearity. Panel B splits the effect of ownership duration across owner types by interacting ownership duration with a dummy variable for each owner type. *Duration* is the number of years the investor holds at least the equity fraction held at the first observation. *Concentration* is measured by the Herfindahl index, which we calculate for all owners except the largest. *Insiders* is measured as aggregate fraction of the equity held by the firm's officers and directors. We use annual ownership structure data as of year-end. The sample is all non-financial firms at the Oslo Stock Exchange that are listed at least once at year-end over the period 1989-1999.

Table 5: Lagged firm value and subsequent ownership duration

Variable	coeff.	p value
Constant	-1.603	0.15
Fraction owned	-1.643	0.00
Foreign owner	1.170	0.00
Individual owner	0.220	0.60
Industrial owner	-0.005	0.99
Financial owner	1.046	0.02
Firm size	0.065	0.32
Project duration	2.279	0.05
Earnings surprise	0.235	0.07
Lagged firm value	0.114	0.23
Pseudo R^2	0.088	
n	542	

This table shows estimates from a binary choice (logit) regression where the dependent variable is whether or not the owner's equity stake is terminated. Success in the logit is that the relationship ends. We perform the analysis for the firm's largest owner. *Fraction owned* is the percentage of equity held by the owner of the given type. *Foreign owner*, *Individual owner*, *Industrial owner*, and *Financial owner* are indicator variables which equal one if and only if the owner is a foreigner, a person, a nonfinancial firm, and a financial firm (institution), respectively. *Firm size* is the log of firm value, which we estimate as the market value of equity plus the book value of debt. *Project duration* is measured as accounting depreciation to the book value of depreciable assets, and *Earnings surprise* is the lagged percentage change in earnings from one year to the next. *Lagged firm value* is Tobin's Q in the preceding year, which we operationalize as the sum of the market value of equity and the book value of debt divided by the book value of assets. We use annual ownership structure data as of year-end. The sample is all non-financial firms at the Oslo Stock Exchange that are listed at least once at year-end over the period 1989-1999.