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Large investors' portfolio composition and firms value

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ABSTRACT

We analyze new Swedish data on the portfolio holdings of large blockholders and find that firm value increases with the weight of a stock in a large blockholder's portfolio. In our sample, this weight may be greater than 50%. We are the first to show that this value premium is correlated with portfolio weights for any large blockholders, not just institutions. We find some evidence that indicates that "stock importance" (high portfolio weight) can mitigate the negative effects of a dual-class structure on firm value. Further, it does not seem that a large blockholder's tenure as a CEO or as a board chairman affects this value premium. We conduct a variety of tests to rule out endogeneity and reverse causality.

1. Introduction

There are numerous studies on the role of blockholders in corporate governance. Blockholders have incentives to monitor management (Shleifer and Vishny, 1986). Some researchers argue that blockholders can improve a firm's value through either voice (monitoring and communication with management) or exit (selling their shares). This research goes back to Hirschman (1970). Other work points to a possible decrease in value because of private benefits that controlling blockholders might extract (e.g. Barclay and Holderness, 1989). However, as Edmans and Holderness (2016) argue, the incentives of a blockholder can be determined by more than just their share of the cash flow or their voting rights.[1]

A new set of studies focuses on the composition of blockholders' portfolios. Most of these papers study institutional investors. Several papers show that monitoring activities increase with the number of institutional investors who hold a stake in the firm (See Fich et al. (2015), and Nagel et al. (2015). Tighter monitoring can in turn improve the firm's corporate governance and its value.

In continental Europe, non-institutional investors such as family investors, corporations, and individuals are often the controlling investors of corporations (Faccio and Lang, 2002). Cronqvist and Nilsson (2003) show that these large controlling investors lower firm value. Their findings support the view that private benefits of control overwhelm any perceived benefits that shareholders gain from blockholders' actions. Moreover, controlling investors can benefit from control enhancing mechanisms. In Sweden, which is the focus of our study, more than half of the listed firms on the Stockholm Stock Exchange have class A shares with 10 voting rights per share, and class B shares with only 1 vote per share (Giannetti and Simonov, 2006). This is the case for 55.3% of the firms in our

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[1] For example, Cronqvist and Fahlenbrach (2009) show that shareholders are different along measurable dimensions, such as skills, beliefs, and preferences and that this heterogeneity among large shareholders matters for investment, financial, and executive compensation policies as well as for the firm's performance. Similarly, Deng, Moshirian, Pham and Zein (2013) look at the effect of heterogeneity in blockholders' characteristics on a firm's policies and its performance.

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sample. In fact, Sweden has the highest percentage of firms that issue dual-class shares, followed closely by Switzerland, Italy, and Finland (See Faccio and Lang, 2002). On the other hand, the dual-class structure is only available in about 6% of US listed firms (Gompers et al., 2009). Despite this low ratio, Gompers et al., 2009 show that the use of a dual-class structure is detrimental to firm value for US firms. Similarly, Cronqvist and Nilsson (2003) show that the presence of controlling minority shareholders (i.e., shareholders who enjoy high voting rights, but do not necessarily hold high cash flow rights) is associated with lower firm value.

Our paper studies the impact of the portfolio composition of all types of large investors on firm value. We use Swedish ownership data to examine the portfolios of investors in detail. We create a "stock importance" variable based on the weight of a stock in an investor's portfolio (similar to Ekholm and Maury (2014) and Fich et al. (2015)), and argue that blockholders may be much more motivated to act in the interests of shareholders if the stock in question constitutes a large part of their portfolios. Specifically, monitoring and participation can be costly. There are costs to gathering and analyzing information or to monitoring managers directly. Similarly, active participation in shareholders' meetings and nomination committees can be very time consuming. It stands to reason that large blockholders whose portfolios are heavily weighted in the stock in question will find it individually rational to monitor the firm and engage with management. Further, their incentives are expected to be greater as the share of the firm in their portfolio increases.

Our sample extends the literature in that we have blockholder heterogeneity. Institutional blockholders constitute only about 21% of our sample.[2] This is very different than the US where the largest shareholders in the vast majority of firms are Blackrock or Vanguard (See for example, Azar et al., 2018; and Schwartz-Ziv and Wermers, 2015). Therefore, almost by definition the stakes studied in the US samples are very small.[3] Families are the largest shareholder in 52% of the firms in our Swedish sample, 26% of those are founder families. There are altogether 103 different family investors in our sample. Moreover, our blockholders hold a significant proportion of their portfolios in the one stock we study. Thus, we are in a much better position to assess the value of a significant commitment to a specific firm by a large variety of blockholders. We can also analyze the interaction of control mechanisms and blockholding in our framework.

The Swedish market has several additional unique and useful features. Sweden (and other Nordic countries) ranks high in corporate governance according to the 2014 World Bank Governance Indicators (see Table 1 in Thomsen (2016) who discusses the Nordic Corporate Governance Model). Dent (2013) suggests that the Swedish system of corporate governance is successful and can serve as a model for other countries, in particular the US. There are several reasons for this view. Sweden features an investor-centered governance system. Listed companies have external nomination committees that nominate the board of directors and recommend the structure and amount of directors' remuneration. The Swedish Nomination Committees are elected at the annual general meeting (Dent, 2013, and Nachemson-Ekwall and Mayer, 2018), and they usually include representatives of the four or five largest shareholders.[4] Hence, these committees are a key institution in the governance hierarchy in Sweden.

Anecdotal evidence further illustrates the significant role this key institution plays in empowering large shareholders. According to the report "Tomorrow's Corporate Governance: Bridging the UK engagement gap through Swedish-style Nomination Committees" compiled by Tomorrow's Company (an independent, non-profit think-tank) and Cevian Capital (one of Europe's most experienced activist investors, particularly active in Sweden), "many of the larger shareholders in Sweden believe engagement with companies promotes long-term value creation. In Sweden there is a stronger tradition of commitment by major shareholders… At the heart of these developments is the proliferation of shareholder-led Nomination Committees and the impact that they had on company boards" (Tomorrow's Company, 2010, p. 3). This suggests that the active role that large shareholders play via nomination committees creates value.

Several papers suggest that the non-CEO/chair and non-family investors with large ownership stakes, such as institutional investors, have the incentive and ability to put pressure on management (e.g., Gillan and Starks, 2003) as well as to provide active monitoring (Ferreira and Matos, 2008). In the Swedish setting, institutional investors may engage with the nomination committee and collaborate both with controlling shareholders and with other institutional investors (Nachemson-Ekwall and Mayer, 2018) –almost all listed firms have one or often two domestic institutional investors sitting on the nomination committee (Birkmose and Strand, 2013). An institutional investor, the head of equity investing at a life insurance company, illustrates our findings and explains why their portfolio is heavily weighted in domestic stocks and how this matters: "We believe in home bias. Seventy percent of all our assets are invested in Sweden. We have 10% in Swedish stocks. We have been around for a long time; we know our companies, engage in corporate governance and can talk to the directors. It pays off, long-term. Outside Sweden, my network is weaker. In Asia, I am a nobody." (Nachemson-Ekwall and Mayer, 2018, p. 17). Another investor describes their roles as follows: "We have been practicing governance for 20 years now. It is expected of us that we are engaged and responsible. When we make large investments, we engage (for the) long term. Sweden is in the forefront in this process." (Nachemson-Ekwall and Mayer, 2018, p. 17). This anecdotal evidence suggests that investors actively engage in monitoring and participate in decision-making on corporate boards.

Also, the Swedish boards are "semi-two tiered boards", that is, in between the US one-tier boards and the German two-tier boards. In

[2] See some examples from the extensive institutional investor literature that uses the ThomsenReuters Institutional Holdings 13F database: Fich et al. (2015); Gaspar, Massa, Matos, Patgiri, and Rehman (2012); Derrien, Kecskés and Thesmar (2013); Michaely, Popadak and Vincent (2015); Gaspar, Masso and Matos (2005); Cella, Ellul and Gianetti (2013); and Schwartz-Ziv and Wermers (2015).

[3] Appel, Gromley and Keim (2016) say that the average portfolio weight of stocks they study in the Russell 1000 was 0.012% whereas in the Russell 2000 it was 0.127%. The mean portfolio weight of stocks in Schwartz-Ziv and Wermers' (2015) sample is 0.18% - see Table 2).

[4] There are a few exceptions to this rule as reported in Tomorrow's Company (2010): "There are occasions when shareholders other than the four or five largest are proposed as members of the committee. For example: a) a representative of smaller shareholders can be invited to participate; b) to provide continuity, a member of the previous nomination committee may be asked to stay on even if it is no longer one of the largest shareholders…" (ibid, p. 20).

Table 1
Definition of variables.

Dependent and control variables	
Tobin's Q	The natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets
ROA	EBITDA divided by total assets
Leverage	Total long-term debt divided by total assets
Cash/TA	Total cash and cash equivalents divided by total assets
Dividend/TA	Total cash dividends paid divided by total assets
Capex/TA	Capital expenditures divided by total assets
Total Assets (TA) (in million)	The natural logarithm of total assets
Net Sales/TA	Net sales divided by total assets
Test Variables	
Stock Importance	
Stock Importance (%)	The weight of the stock in question in the largest shareholders' portfolio
Stock Imp. Highest Weight	Dummy variable that equals one if the stock in question has the highest weight in the portfolio of the largest shareholder
Stock Imp. Dum05/10/20/50%	Dummy variable that equals one when the weight of the stock in question in the largest shareholder's portfolio is at least 5%, 10%, 20%, and 50%, respectively
Diversification	
1-Herfindahl Index	One minus the sum of the squared weights that each investment has in the largest shareholder's portfolio
No. of Firms in Portf.	The natural logarithm of the total number of firms that constitutes the largest shareholder's portfolio
Ownership & Entrenchment	
Largest Inv. Vote	% of votes held by the largest shareholder
Excess Vote	(% of votes) - (% of capital) held by the largest shareholder
Dual-class Share	Dummy variable that equals one when the firm has a dual-class structure
Identity	
Identity Dummy Variables	Five dummy variables created to represent the identity of the largest shareholder. The dummy variables take value of one if the largest shareholder is a/an: a) family, b) corporation, c) financial institution, d) individual (non-family) blockholder, or e) government and zero otherwise.
Largest Investor's Role	
CEO	Dummy equals one when the largest shareholder is the CEO
Chairman	Dummy equals one when the largest shareholder is the chairman
CEO or Chairman	Dummy equals one when the largest shareholder is either the CEO *or* the chairman
CEO-Chairman Duality	Dummy equals one when the largest shareholder is the CEO *and* the chairman

This table presents brief definitions of the variables used in this paper. The data obtained from Datastream, annual reports, and Modular Finance AB. The currency used is SEK.

addition to their supervisory role, the boards can intervene in decisions, such as replacing executive management (Thomsen, 2016).

Finally, independent media and high social norms in Sweden exert a disciplining effect on large shareholders as well as on managers. This would probably not be the case in large heterogeneous countries with deep stock markets and many international investors such as the US or the UK (See also Coffee, 2001, for the role of social norms on corporate behavior). The Swedish market is thus a good setting for an analysis of the role of large blockholders.

Our study is complementary to the work by Ekholm and Maury (2014) who focus on small, outside shareholders that hold at least 0.1/1/5% of a firm's total shares. Ekholm and Maury (2014) use data from low-voting class shares in Finland and show that the (small) shareholder's average portfolio concentration is positively related to a firm's future operational performance and valuation as well as to future stock returns. Their variable of interest, portfolio concentration, is measured as an Average Weight Index that reflects how important a stock is for its average shareholder. Fich et al. (2015) use a similar method to analyze acquisitions. They focus on institutional blockholders' portfolios and find that "monitoring investors" are associated with greater bid completion, higher premiums, and lower acquirer returns. Their paper uses a similar concept to ours; however, we analyze all types of investors, including individuals, other companies, families, and the government rather than just institutional blockholders, and our dependent variable is firm value, rather than the outcomes of mergers. Also, in the Swedish sample the proportion of "monitored stocks" (in Fich et al.'s language) in the largest investor's portfolio tends to be much higher than in US samples. Finally, our paper is also related to studies that show that diversification of investors' portfolios matters for a firm's risk-taking, strategy, and the IPO process (Edmans and Manso, 2011; Lyandres et al., 2015; and Bodnaruk et al., 2008).[5]

[5] There is also another important set of studies that focus on the presence of multiple shareholders that are less relevant to our study. Some recent work shows that multiple blockholders might act competitively when trading, impounding more information into prices, and this in turn induces higher managerial effort (Edmans and Manso, 2011). Similarly, there are a few other studies that show that the presence of multiple shareholders matter. For example, Maury and Pajuste (2005) show that the contestability of the largest shareholder's voting power is positively associated with firm value. They find that firm value is higher when the voting power is distributed more equally. Another study is by Boubaker, Nguyen and Rouatbi (2016) who show that the presence, number, and voting power of multiple (large) shareholders is related to higher corporate risk-taking. Moreover, Kang, Luo and Na (2018) show that multiple blockholdings are essential channels through which institutional investors improve their monitoring.

The main finding of our paper is that for all types of large investors, "stock importance" is associated with higher firm value. Second, it does not seem to matter whether the blockholder in question is an individual, a corporation, a financial institution, or the government. This irrelevance can explain similarities between our work and studies of institutional and small investors. However, to establish irrelevance, we need a sample with a variety of investors as we have. Third, we show that it does not matter whether investors hold the CEO or chairman position. This latter result might be because of the Swedish institutional setting where nomination committees and the semi-two tiered boards allow a large shareholder to exert much more influence on the firm's decision-making without an official role as the chairman or CEO. Finally, we find that a dual-class share structure is negatively related to the firm's value, which confirms earlier studies (i.e., Gompers et al., 2009). However, we also offer evidence suggesting that stock importance mitigates the negative impact of control enhancing mechanisms.

We present a variety of robustness checks and an instrumental variable analysis to rule out endogeneity and reverse causality. These analyses suggest that firm value improves as stock importance increases, not the other way around.

The rest of the paper proceeds as follows. Section 2 presents the data and variable construction. Section 3 exhibits descriptive statistics. In Sections 4-6, we discuss the methodology, empirical results, and robustness tests. In Section 7, we present concluding remarks.

2. Data and variable construction

2.1. Data

Our paper uses detailed ownership data from Modular Finance AB (called SIS Ägarservice AB when we started gathering data) extending Cronqvist and Nilsson (2003) who only use part of this data and cover the 1991–1997 period. Our unbalanced panel dataset covers the period from 1999 through 2012. This sample is representative of a typical setting in Continental Europe (See Faccio and Lang, 2002; Maury and Pajuste, 2002; Maury, 2006; and Bach, 2010).

We have 208 firms that are listed on the NASDAQ-OMX stock exchange in Stockholm and that are domiciled in Sweden. Following the literature we removed fourteen foreign firms from the sample. All the data are collected at fiscal year-end values. Further, we collect the firms' accounting data and characteristics from Datastream and annual reports. Accounting data for four firms were not available on Datastream, so they were also removed from the sample.

Sweden offers uniquely accurate and detailed ownership data. The Swedish Securities Register Center, Värdepapperscentralen, keeps a register of all shareholders in all the firms listed on the Stockholm Stock Exchange since the 1970s (Cronqvist and Nilsson, 2003), and Swedish law allows "public" access to this shareholders' register. The ownership database provided by Modular Finance AB uses this register and covers the years from 1999 to today. One advantage to these data, which was also exploited in Cronqvist and Nilsson (2003), Giannetti and Simonov (2006) and Giannetti and Laeven (2008), is that closely related investors are aggregated into a single group (sfär), which is basically an ownership coalition (See Sundin and Sundqvist (2001) for a detailed description of the method that Modular uses). The related investors can be family members who may or may not have the same surname as well as co-founders, managers who took part in an MBO, and the government. (Giannetti and Simonov, 2006). If we do not group the closely related shareholders together, we may end up with a different order in the ownership structure. Moreover, indirect shareholdings are also identified in the data through trusts, holding companies, and custodian banks. Overall, these two features of the data (ownership coalition and ultimate ownership) offer an improved definition of ownership (Giannetti and Simonov, 2006).

The database also shows whether a firm uses a dual-class structure. Individual holdings are presented as percentages of both total capital and votes–when different. Moreover, the database also provides information regarding the composition of the portfolios of shareholders from which we can calculate the relative weight of each stock in the largest shareholder's portfolio. Similar to Ekholm and Maury (2014) who only analyze portfolios of Finnish stocks, the portfolios we observe only comprise holdings in Swedish stocks. Thus, the question we are studying can be interpreted as follows: given that an investor decides to hold Swedish stocks in their portfolio, should they concentrate the holdings in one or two stocks or should they hold a diversified portfolio that mitigates their risk exposure to Swedish stocks. Similar to Ekholm and Maury (2014), we do not have information, for example, on the fixed income holdings or holdings of international stocks of our investors, but based on their work[6] and the home bias literature (See Massa and Simonov (2006) for Sweden, and Grinblatt and Keloharju (2001) for Finland), we assume that most of the stocks in the portfolios of Swedish investors are Swedish. In fact, we argue that in addition to the behavioral bias, there is to some extent an economic reason for a portfolio that is heavily weighted in specific stocks, namely, the ability to influence or monitor the value of the stocks in question.

2.2. Variable construction

In this subsection, we provide information on how we construct our variables. All variable definitions are compiled in Table 1. The currency used is Swedish Krona (SEK).

[6] Ekholm and Maury (2014) restrict their sample to shares of listed Finnish firms with the following argument stated in their footnote on page 907: "The (Finnish Central Securities Depository (FCSD) shareholder) register includes a relatively small fraction of foreign securities, as well as securities other than shares."

2.2.1. Variables

Stock Importance is our main variable of interest. It is the percentage of the largest shareholder's portfolio that is dedicated to the stock in question. We also construct four dummy variables, to be used in robustness checks: *Stock Imp. 05/10/20/50* (following other studies that define blockholdings and controlling power). These variables equal one when the weight of the stock in question in the largest shareholder's portfolio is at least 5%, 10%, 20%, and 50% respectively. The following measure is also constructed to be used in robustness checks. *Stock Importance Highest Weight* is a dummy variable that equals one if the stock in question has the highest weight in the portfolio of the largest shareholder.

Following Faccio et al. (2011), diversification is measured in two ways. *No. of Firms in Portf.* is the natural logarithm of the total number of firms in which the largest shareholder invests. We also use another proxy *(1 − Herfindahl Index)* that is calculated as one minus the sum of the squared weights that each share has in the largest shareholder's portfolio. The Herfindahl index itself can take values between zero and one where one reflects the largest shareholder that is investing in just one firm (fully concentrated wealth) while zero shows the opposite state. For easier interpretation of the results, we subtract the index from one so that a higher value indicates a more diversified portfolio.

Largest Investor vote is calculated as the percentage of votes held by the largest shareholder. We define control in two ways: *Excess Vote* is calculated as the difference between the percentage of votes and the percentage of capital held by the largest shareholder (Villalonga and Amit, 2006; and Cronqvist and Nilsson, 2003). *Dual-class Share* is a dummy variable that equals one when the firm has a dual-class structure and zero otherwise (Gompers et al., 2009; Villalonga and Amit, 2006; and Anderson et al., 2012).

We form five dummy variables which represent the identity of the largest shareholder. These dummy variables equal one when the largest shareholder is a/an: a) *Family*, b) *Corporation*, c) *Financial Institution*, d) *Government*, and e) *Individual (non-family) Blockholder* and zero otherwise.

There are four dummy variables that we create based on the role of the investor in the corporate governance system. *CEO* is a dummy variable that equals one when the largest shareholder is the CEO of the firm. *Chairman* is a dummy variable that takes the value of one when the largest shareholder is the chairman of the firm. *CEO* or *Chairman* is a dummy variable that equals one when the largest shareholder is either the CEO or the chairman. *CEO-Chairman Duality* is a dummy variable that equals one when the largest shareholder is the CEO and the chairman.

2.2.2. Dependent variables

We measure the firm's value with the log of *Tobin's Q*, the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. We use return on assets (*ROA*) as a profitability measure. It is EBITDA divided by total assets.[7]

2.2.3. Other control variables

We control for the firm's basic characteristics that can potentially affect our outcome variables. Control variables come from Datastream: *Ln(TA)* is the natural logarithm of total assets in million SEK. *Leverage* is measured as the total long-term debt divided by total assets. *Net Sales/TA* is net sales in million SEK divided by total assets. *Capex/TA* is capital expenditures divided by total assets. *Dividend/TA* is the ratio of total cash dividends paid to total assets. *Cash/TA* is the ratio of total cash and cash equivalents divided by total assets.

3. Descriptive statistics

Panel A of Table 2 presents the descriptive statistics, while Panel B shows the correlation matrix of the selected variables. Value of firms (Tobin's Q) is, on average, 1.853. The average ROA is 0.070, but our firms vary between unprofitable firms and very profitable firms. The mean value of *Leverage* is 15%; however, some firms are highly leveraged whereas others have no debt at all.

The mean value of our main variable of interest, *Stock Importance* is 0.568, and its standard deviation is 0.414. This statistic is somewhat unexpected and it shows that on average, the largest investors' portfolios are focused on the stock in which they hold a major interest. However, on average, large investors hold around 23 stocks in their portfolios, which is higher than the number reported in Faccio et al. (2011) (4 stocks). Similar to Faccio et al. (2011), some shareholders are well diversified (min value of *Stock Importance* is 0.001).[8] However, some large shareholders have only one stock in their portfolio (max value of *Stock Importance* is 1). The focus on very few stocks can be considered an “extreme home bias”, as these investors are very focused on a local stock, but as we will show, this focus seems to serve a very clear economic purpose.

On average, large shareholders (*Largest Investor's Vote*) hold 32.9% of all the votes. *Excess Vote* is, on average, 8.5%. Of the sample firms, 55% have a dual-class structure. In family firms this percentage is higher at 73%.

[7] Most of our analysis uses Tobin's Q as the dependent variable. While Tobin's Q has its issues, it is probably the best forward-looking proxy reflecting the “growth potential” component of a firm's valuation where the monitoring and intervention efforts of blockholders would be incorporated. However, we also include runs with ROA as the dependent variable (Table 14). In unreported results, we also ran our main table, Table 3 with Jensen's Alpha (following Ekholm and Maury, 2014), using monthly stock returns for each firm for each calendar year as the dependent variable. The coefficient of stock importance is positive when significant.

[8] The maximum value of *(1 − Herfindahl Index)* is 0.985, and the highest value for *No. of Firms in Portf.* is 475, whereas the minimum value of *(1 − Herfindahl Index)* is zero.

Table 2
Descriptive statistics.

Panel A: Descriptive Statistics of Variables (firm-year)

	Mean	Median	Stdev	Max	Min	Q1	Q3	N
Dependent & Control Variables								
Tobin's Q	1.853	1.353	1.436	9.122	0.633	1.048	2.028	2047
ROA	0.070	0.110	0.200	0.443	−0.889	0.047	0.168	2037
Leverage	0.150	0.098	0.167	0.831	0.000	0.003	0.245	2066
Cash/TA	0.162	0.087	0.188	0.858	0.001	0.036	0.211	2072
Dividend/TA	0.025	0.013	0.038	0.221	0.000	0.000	0.033	2016
Capex/TA	0.042	0.027	0.054	0.645	0.000	0.011	0.054	2028
Total Assets (TA) (in million)	11,468	1065	33,555	361,239	7.290	346	5901	2073
Net Sales/TA	1.125	1.088	0.737	4.826	0.001	0.605	1.538	2070
Test Variables								
Stock Importance								
Stock Importance	0.568	0.673	0.414	1.000	0.001	0.114	1.000	1473
Stock Importance Highest Weight	0.599	1.000	0.490	1.000	0.000	0.000	1.000	1441
Stock Imp. Dum05%	0.829	1.000	0.376	1.000	0.000	1.000	1.000	1473
Stock Imp. Dum10%	0.758	1.000	0.427	1.000	0.000	1.000	1.000	1473
Stock Imp. Dum20%	0.680	1.000	0.466	1.000	0.000	0.000	1.000	1473
Stock Imp. Dum50%	0.547	1.000	0.497	1.000	0.000	0.000	1.000	1473
Diversification								
1-Herfindahl Index	0.382	0.372	0.357	0.985	0.000	0.000	0.733	1488
No. of Firms in Portf.	23.392	4.000	63.592	475	0.000	1.000	15.000	1489
Ownership & Entrenchment								
Largest Investor's Vote	0.329	0.276	0.212	0.884	0.002	0.155	0.464	2153
Excess Vote	0.085	0.017	0.095	0.221	0.000	0.000	0.202	2153
Dual-class Share	0.553	1.000	0.497	1.000	0.000	0.000	1.000	2153
Identity								
Family	0.521	1.000	0.499	1.000	0.000	0.000	1.000	2152
Corporation	0.105	0.000	0.307	1.000	0.000	0.000	0.000	2152
Financial Institution	0.210	0.000	0.408	1.000	0.000	0.000	0.000	2152
Individual (non-family) Blockholder	0.151	0.000	0.359	1.000	0.000	0.000	0.000	2152
Government	0.011	0.000	0.107	1.000	0.000	0.000	0.000	2152
Largest Investor's Role								
CEO	0.130	0.000	0.337	1.000	0.000	0.000	0.000	1820

(*continued on next page*)

Table 2 (*continued*)

Panel A: Descriptive Statistics of Variables (firm-year)

	Mean	Median	Stdev	Max	Min	Q1	Q3	N
Chairman	0.241	0.000	0.427	1.000	0.000	0.000	0.000	1820
CEO or Chairman	0.358	0.000	0.479	1.000	0.000	0.000	1.000	1820
CEO-Chairman Duality	0.013	0.000	0.116	1.000	0.000	0.000	0.000	1820

Panel B: Correlation Matrix of Selected Variables

	ln(Tobin's Q)	ROA	Leverage	Cash/TA	Dividend/TA	Capex/TA	Ln(TA)	Net sales/TA	Stock Importance	Largest Investor's Vote	Excess Vote	Dual Class Share
ln(Tobin's Q)	1.000											
ROA	−0.072***	1.000										
Leverage	−0.338***	0.041*	1.000									
Cash/TA	0.516***	−0.336***	−0.438***	1.000								
Dividend/TA	0.269***	0.405***	−0.153***	0.021	1.000							
Capex/TA	−0.081***	0.094***	0.262***	−0.208***	−0.003	1.000						
Ln(TA)	−0.331***	0.327***	0.416***	−0.459***	0.100***	0.173***	1.000					
Net sales/TA	0.056***	0.290***	−0.314***	−0.158***	0.310***	−0.136***	−0.124***	1.000				
Stock Importance	0.066***	0.113***	0.029	−0.001	0.120***	0.036	−0.102***	−0.031	1.000			
Largest Inv.'s Vote	−0.141***	0.201***	0.056***	−0.122***	0.152***	0.039*	0.084***	0.067***	0.267***	1.000		
Excess Vote	−0.108***	0.192***	−0.009	−0.014	0.161***	−0.009	0.122***	0.032	0.222***	0.670***	1.000	
Dual-class Share	−0.090***	0.128***	−0.090***	0.025	0.100***	−0.050**	0.050**	0.056***	0.213***	0.428***	0.789***	1.000

In this table, Panel A provides the descriptive statistics of the main variables while Panel B presents the correlation matrix of the selected variables used in this study. All variables are described in Table 1. *Q1* and *Q3* refer to the first and third quartiles, respectively. *N* is the number of observations. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively.

Table 2 shows that 10% of the largest investors in our sample are corporations. The government is the largest shareholder in 1% of the cases, and institutional investors are the largest shareholders in 21% of the cases. Individual (non-family) investors are the largest shareholders in 15% of the sample and families and family trusts are the largest shareholders 52% of the time. In comparison, the widely used US database compiled by Dlugosz et al., 2006shows that individuals (including family trusts) are the largest blockholders in only 14% of the firms.[9]Dlugosz et al. (2006) do not have information about dual-class shares.

Of the largest shareholders in our sample firms, 13% are the CEOs of their firms and 24% are also the chairman of the board of directors. Of the large shareholders, 35% are either CEOs or chairmen. Only 1.3% of the large investors are both the CEO and the chairman of their companies. It may be worth noting that 46% of the firms where the largest shareholder is the CEO or the chairman are family firms.

Panel B provides the correlation matrix of the selected variables. We observe that *Stock Importance* is positively correlated with *Tobin's Q* (0.066). There are negative correlations between *Tobin's Q* and *Largest Investor's Vote* (−0.141) as well as *Excess Vote* (−0.108) and *Dual-class Share* (−0.090), respectively. These correlations indicate that stock importance is correlated with higher firm value and control enhancing mechanisms are correlated with lower firm value. As we shall see, this indication will be verified in regression analysis.

4. Empirical findings

4.1. Stock importance, vote ownership, entrenchment, and firm value

Eq. (1) presents our baseline regression (Table 3). Firm value is measured as the natural logarithm of *Tobin's Q*. Our variables of interest are *Stock Importance* and *Largest Investor's Vote*, and we add the firm's characteristics as control variables:

$$\mathrm{Ln}(Tobin's\ Q_{it}) = \beta_0 + \beta_1(Stock\ Importance_{i,t-1}) + \beta_2(Largest\ Investor's\ Vote_{i,t-1}) + \beta_3 X_{Control\ Variables,\ i,t-1} + u_{it} \quad (1)$$

We use a two-way error component model that has both firm and year fixed effects. Firm fixed effects control for any unobserved firm heterogeneity and mitigate issues related to omitted, unobserved time-invariant firm characteristics that might be correlated with any of the independent variables.[10] Unreported statistics also show that *Stock Importance* varies over time. During our sample period, the mean value of *Stock Importance* ranges from a low of 0.280 (2002) to a high of 0.625 (2005). On the other hand, *Largest Investor's Vote* stays stable over time: the mean value of this variable ranges from a low of 0.316 (2010) to a high of 0.357 (2003). Some year-specific shocks might influence all firms in a similar fashion, therefore we also use year fixed effects. This two-way error component model is also used by Cronqvist and Nilsson (2003). However, in our model the standard errors are also clustered at the firm level to control for serial correlation within firms.

The last feature of our baseline regression is that in most specifications the right-hand-side variables are lagged by one-year to mitigate the potential endogeneity problems that stem from reverse causality, that is, the concern that shareholders might choose high value firms for their portfolios, rather than have an effect on the value of the firms they invest in.

We include several specifications in Table 3. Columns 1–6 start with OLS[11] regressions where unobserved heterogeneity is not controlled for. All the OLS tests in Table 3 include year dummies to control for time fixed effects. In Columns 1 and 3, all the independent variables are measured at time *t* while in Columns 4 and 6 the independent variables are at time *t-1*. Columns 7–12 include firm fixed effects. The right-hand-side variables are measured at time *t* in Columns 7–9 while they are measured at time *t-1* in Columns 10–12. We find that firm value improves with a higher level of stock importance that is measured both at time t and at time t-1. Further, the explanatory power of the fixed-effects regressions is higher in general. Moreover, in Table 3 the control variables make sense. In Columns 10–12, where we lag the independent variables and use firm fixed effects, we see that Tobin's Q increases with (lagged) ROA. In other words, profitable firms have a better outlook.

In the most robust specifications in Table 3, the correlation between stock importance and firm value is both statistically and economically significant. In Column 12, the premium we find on firm value is around 9%.[12] In other words, if the portfolio of the largest investor is heavily weighted in a stock, then the firm is valued higher by the market.

In Table 4, we conduct a complementary analysis to Table 3 where we re-estimate Eq. (1) by replacing the stock importance variable with two alternative portfolio diversification variables used by other authors (e.g., Faccio et al., 2011). We argue that if a blockholder is well-diversified, he or she probably should not have much of an incentive to "care" about a specific firm in his or her

[9] See the data set complied by Dlugosz et al. (2006) that is used by several other studies: among them, Bharath, Jayaraman, and Nagar (2013), Brockman and Yan (2009), Konijn, Kräussl, and Lucas (2011), Cronqvist and Fahlenbrach (2009), Becker, Cronqvist, and Fahlenbrach (2011), and Liao (2015). A different set of papers considers family and founder ownerships exclusively (see Anderson and Reeb, 2003 and Palia et al., 2008) or look at intra-family ownership in trusts (see Fan and Leung, 2016). Moreover, Cronqvist and Nilsson (2003) treat "non-founder family shareholders" and "individuals unaffiliated with the founder" in the same category under the name, "non-founder families." In our study our "individual (non-family)" blockholders refer to "individuals unaffiliated with the founder" in Cronqvist and Nilsson (2003) - see page 704 in their study for their variable definitions.

[10] Endogeneity is present if ($\mathrm{corr}(\mu_i, X_i) \neq 0$), where μ is unobserved firm heterogeneity (hence, a component of the error term), and where X is the independent variables.

[11] By using firm fixed effects, we are aware that we lose the cross-sectional variation; on the other hand, we can mitigate potential omitted variable biases that might cause endogeneity. Thus, we present both fixed effects and OLS specifications.

[12] The premium is calculated as $(e^{\beta_1}-1) \times 100\% = (e^{(0.090)} - 1) \times 100\% = 9.41\%$.

Table 3
Stock importance, vote ownership, and firm value.

	Dependent Variable: Ln(Tobin's Q)											
	OLS						Firm Fixed Effects					
	RHS at time *t*		RHS at time *t-1*				RHS at time *t*			RHS at time *t-1*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Stock Importance	0.036		0.072	0.045		0.080	0.126***		0.135***	0.090**		0.090**
	(0.073)		(0.075)	(0.072)		(0.075)	(0.051)		(0.050)	(0.040)		(0.040)
Largest Investor's Vote		−0.269**	−0.264*		−0.247*	−0.258*		−0.269*	−0.242		−0.118	−0.008
		(0.138)	(0.154)		(0.136)	(0.153)		(0.142)	(0.193)		(0.129)	(0.176)
Controls												
Ln(TA)	−0.064***	−0.063***	−0.062***	−0.065***	−0.065***	−0.062***	−0.045	−0.065*	−0.053	−0.042	−0.108***	−0.043
	(0.018)	(0.018)	(0.018)	(0.018)	(0.017)	(0.018)	(0.043)	(0.036)	(0.043)	(0.040)	(0.039)	(0.039)
ROA	0.163	0.070	0.198	0.290	0.193	0.326	0.104	0.087	0.109	0.385***	0.323***	0.385***
	(0.258)	(0.167)	(0.256)	(0.239)	(0.164)	(0.237)	(0.115)	(0.096)	(0.114)	(0.103)	(0.103)	(0.102)
Leverage	−0.579***	−0.809***	−0.594***	−0.625***	−0.809***	−0.639***	0.163	0.243	0.175	−0.008	0.181	−0.007
	(0.245)	(0.222)	(0.239)	(0.248)	(0.218)	(0.243)	(0.120)	(0.178)	(0.121)	(0.121)	(0.168)	(0.120)
Net sales/TA	−0.012	−0.034	−0.011	−0.057	−0.065*	−0.055	0.285***	0.139***	0.277***	0.041	0.017	0.041
	(0.040)	(0.035)	(0.040)	(0.040)	(0.035)	(0.040)	(0.043)	(0.045)	(0.043)	(0.037)	(0.042)	(0.038)
Capex/TA	−0.119	0.075	−0.107	−0.414	−0.178	−0.411	0.262	0.561***	0.268	0.140	0.296	0.140
	(0.431)	(0.364)	(0.415)	(0.409)	(0.358)	(0.393)	(0.260)	(0.218)	(0.269)	(0.217)	(0.207)	(0.217)
Intercept	1.332***	1.573***	1.458***	1.404***	1.766***	1.534***	0.490	0.721	0.721	0.871*	2.034***	0.880*
	(0.295)	(0.272)	(0.299)	(0.292)	(0.274)	(0.298)	(0.560)	(0.584)	(0.584)	(0.511)	(0.557)	(0.522)
Firm Fixed Effects	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Errors Clust. at Firm Level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.185	0.215	0.195	0.194	0.214	0.192	0.311	0.202	0.313	0.299	0.201	0.299
Observations	1346	1974	1346	1199	1822	0.204	1346	1974	1346	1199	1822	1199

The dependent variable is *Ln(Tobin's Q)* that is the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. *Stock Importance* is the weight of the stock in question in the largest shareholders' portfolio. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Ln(TA)* is the natural logarithm of total assets. *ROA* is EBITDA divided by total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively. Clustered errors at the firm level are in parenthesis.

Table 4
Portfolio diversification, vote ownership, and firm value.

	Dependent Variable: Ln(Tobin's Q)			
	(1)	(2)	(3)	(4)
(1- Herfindahl)	−0.015	−0.015		
	(0.045)	(0.046)		
Ln(No of Firms in Portfolio)			−0.004	−0.004
			(0.009)	(0.009)
Largest Investor's Vote		0.010		−0.001
		(0.180)		(0.178)
Controls				
Ln(TA)	−0.045	−0.044	−0.043	−0.043
	(0.040)	(0.044)	(0.040)	(0.040)
ROA	0.406***	0.405***	0.404***	0.404***
	(0.103)	(0.102)	(0.103)	(0.102)
Leverage	−0.003	−0.003	−0.001	−0.001
	(0.120)	(0.119)	(0.120)	(0.120)
Net sales/TA	0.028	0.028	0.031	0.031
	(0.038)	(0.039)	(0.039)	(0.039)
Capex/TA	0.130	0.130	0.143	0.143
	(0.215)	(0.214)	(0.213)	(0.213)
Intercept	0.970*	0.960*	0.948*	0.949*
	(0.516)	(0.533)	(0.516)	(0.531)
Firm Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Errors Clustered at Firm Level	Yes	Yes	Yes	Yes
R^2	0.292	0.292	0.292	0.292
Observations	1213	1213	1213	1213

This table reports the fixed effects regression results. The dependent variable is *Ln(Tobin's Q)* that is the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. *(1- Herfindahl)* is one minus the sum of the squared weights that each investment has in the largest shareholder's portfolio. *No. of Firms in Portf.* is the natural logarithm of the total number of firms that constitutes the largest shareholder's portfolio. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Ln(TA)* is the natural logarithm of total assets. *ROA* is EBITDA divided by total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. The dependent variable is measured at time *t* while all the independent variables are measured at time *(t-1)*. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively. Clustered errors at the firm level are in parenthesis.

portfolio, and hence might not act in the best interest of shareholders, which would in turn result in lower value for the firm. In Columns 1 and 2, diversification is measured as (*1-Herfindahl Index*) and in Columns 3 and 4 it is represented by the natural logarithm of *No. of Firms in Portf.*. (*1-Herfindahl Index*) is a more robust measure compared to *No. of Firms in Portf.*, and the correlation between (*1-Herfindahl Index*) and *Stock Importance* is −0.88. Hence, one would expect that (*1-Herfindahl Index*) provides a mirror image of the results for *Stock Importance*. However, Table 4 indicates that none of the diversification measures is able to explain firm value, although the sign is negative as expected. These findings indicate that stock importance is associated with value and that it is not the same as a lack of diversification. In other words, it seems that the single-minded focus on a specific stock rather than a lack of attention to diversification increases value. ROA also remains significant and positive across all the columns.

Table 5 introduces control enhancing mechanisms. We add the *Excess Vote* and *Dual-class Share* variables to Eq. (1), one at a time, instead of *Largest Investor's Vote*. *Excess Vote* and *Dual-class Share* are not run in the same regression since the correlation between them is 0.789. Moreover, in Columns 5 and 6, we do not include *Largest Investor's Vote* together with *Excess Vote* as they are highly correlated (0.670). Table 5 shows that a dual-class structure is negatively correlated with firm value, although the relevant coefficient is significant only when stock importance is controlled for. The finding that a dual-class structure is detrimental to firm value is consistent with other work (e.g., Gompers et al., 2009), but in all regressions, stock importance is still positively associated with Tobin's Q. Further, the coefficient of *Stock Importance* is very robust in all specifications, staying around 0.09. This increases our confidence in the main theme of this paper. ROA also stays significant and positive across all the columns.

In Table 6 we replace *Stock Importance* in Eq. (1) with one of the threshold dummy variables: *Stock Imp. 05/10/20/50* (Columns 1–4). Table 6 shows that the value premium we find exists at all stock importance levels, regardless of the level of holdings. However, the coefficients are more significant for larger portfolio weights. We also note that ROA stays significant throughout.

4.2. Stock importance by entrenched shareholders and firm value

In Table 7, we test the relation between stock importance and firm value conditional on whether or not the largest shareholders are protected by a dual-class structure. Previous tables show that a dual-class structure lowers firm value. Other studies also suggest that most control enhancing mechanisms are detrimental to value (For example, Gompers et al., 2009 show that firm value decreases with insider's vote, but not with cash flow rights). Thus, we run the following conditional analysis:

Table 5
Stock importance, entrenchment, and firm value.

	Dependent Variable: Ln(Tobin's Q)					
	(1)	(2)	(3)	(4)	(5)	(6)
Stock Importance			0.097***	0.096***		0.090**
			(0.039)	(0.039)		(0.040)
Excess Vote					−0.616	−0.203
					(0.505)	(0.421)
Dual-class Share	−0.260	−0.254	−0.290***	−0.296***		
	(0.179)	(0.180)	(0.008)	(0.085)		
Largest Investor's Vote		−0.088		0.040		
		(0.127)		(0.177)		
Controls						
Ln(TA)	−0.100***	−0.100***	−0.035	−0.033	−0.107***	−0.043
	(0.035)	(0.035)	(0.041)	(0.041)	(0.038)	(0.040)
ROA	0.309***	0.308***	0.380***	0.379***	0.325***	0.386***
	(0.105)	(0.105)	(0.103)	(0.102)	(0.104)	(0.103)
Leverage	0.153	0.150	0.001	0.001	0.175	−0.004
	(0.136)	(0.137)	(0.124)	(0.123)	(0.153)	(0.122)
Net sales/TA	0.013	0.013	0.047	0.048	0.015	0.040
	(0.044)	(0.043)	(0.037)	(0.037)	(0.043)	(0.037)
Capex/TA	0.324	0.327	0.141	0.139	0.321	0.140
	(0.209)	(0.211)	(0.219)	(0.219)	(0.213)	(0.217)
Intercept	2.057***	2.081***	0.909*	0.872*	2.039***	0.896*
	(0.550)	(0.548)	(0.518)	(0.525)	(0.558)	(0.526)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Errors Clustered at Firm Level	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.208	0.208	0.306	0.306	0.203	0.299
Observations	1822	1822	1199	1199	1822	1199

This table reports the fixed effects regression results. The dependent variable is *Ln(Tobin's Q)* that is the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. *Stock Importance* is the weight of the stock in question in the largest shareholders' portfolio. *Excess Vote* is (% of votes) - (% of capital) held by the largest shareholder. *Dual-class Share* is a dummy variable that equals one when the firm has a dual-class structure. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Ln(TA)* is the natural logarithm of total assets. *ROA* is EBITDA divided by total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. The dependent variable is measured at time *t* while all the independent variables are measured at time *(t-1)*. The ***, **, * denote statistical significance at the 1, 5, and 10% levels, respectively. Clustered errors at the firm level are in parenthesis.

$$Firm\ Value_{it} = \lambda_0 + \lambda_1(Stock\ Importance_{it-1}) + \lambda_2(Largest\ Investor's\ Vote_{it-1}) + \lambda_3(Stock\ Importance_{it-1} \times Dual - class\ Share_{it-1}) + \lambda_4(Dual - class\ Share_{it-1}) + \lambda_5 X_{Control\ Variables,\ it-1} + u_{it} \quad (2a)$$

$$Firm\ Value_{it} = \lambda_0 + \lambda_1(Stock\ Importance_{it-1}) + \lambda_2(Largest\ Investor's\ Vote_{it-1}) + \lambda_3(Stock\ Importance_{it-1} \times Excess\ Vote_{it-1}) + \lambda_4(Excess\ Vote_{it-1}) + \lambda_5 X_{Control\ Variables,\ it-1} + u_{it} \quad (2b)$$

In Eqs. (2a) and (2b), we interact *Stock Importance* with a *Dual-class Share* dummy variable, or with an *Excess Vote* continuous variable, respectively. Eqs. (2a) and (2b) also includes firm and year fixed effects. The errors are clustered at the firm level.[13]

This table suggests that *Stock Importance* may mitigate the negative effects of the dual-class structure. Thus, counter-intuitively, if a dual-class structure is in place, it may be better to have a large shareholder who holds a large proportion of his portfolio in the stock in question. This idea is supported by un-tabulated univariate test results that indicate that stock importance is higher in dual-class firms: the mean value of *Stock Importance* is 0.656 in dual-class firms whereas it is 0.480 in non-dual-class firms, and this difference is statistically significant at 1% level. In other words, large blockholders in dual-class firms might hold a bigger stake to counteract the detrimental effect of the dual-class voting structure.

The total effect of stock importance in Table 7, which is calculated by using both the constituent and the interaction coefficients ($\lambda 1 + \lambda 3$), is positive, but it seems that most of the effect is for firms with a dual-share structure.

The valuation premium we find is even higher than in earlier tables (Table 3) and reaches around 15%.[14] ROA also stays significant and positive across all the columns.

[13] We present the Lincom test results at the bottom of each regression column to determine if the total effect is statistically significant from zero.
[14] The premium is calculated as $(e^{\beta 1}-1) \times 100\% = (e^{(0.14)} - 1) \times 100\% = 15.02\%$.

Table 6
Stock importance at different levels and firm value.

	Dependent Variable: Ln(Tobin's Q)			
	Weight of the Stock in the Largest Investor's Portfolio is at least:			
	5%	10%	20%	50%
	(1)	(2)	(3)	(4)
Stock Imp. Dum05/10/20/50	0.062*	0.083***	0.091***	0.066**
	(0.034)	(0.031)	(0.027)	(0.033)
Largest Investor's Vote	−0.004	−0.020	−0.024	0.002
	(0.179)	(0.177)	(0.178)	(0.175)
Controls				
Ln(TA)	−0.038	−0.038	−0.041	−0.045
	(0.040)	(0.039)	(0.039)	(0.039)
ROA	0.388***	0.385***	0.370***	0.392***
	(0.102)	(0.104)	(0.103)	(0.101)
Leverage	−0.001	−0.001	−0.003	−0.007
	(0.120)	(0.120)	(0.120)	(0.120)
Net sales/TA	0.039	0.042	0.043	0.037
	(0.038)	(0.037)	(0.037)	(0.038)
Capex/TA	0.157	0.165	0.168	0.130
	(0.212)	(0.213)	(0.215)	(0.217)
Intercept	0.814	0.809	0.850	0.929*
	(0.528)	(0.519)	(0.516)	(0.522)
Firm Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Errors Clustered at Firm Level	Yes	Yes	Yes	Yes
R^2	0.297	0.301	0.304	0.298
Observations	1199	1199	1199	1199

This table reports the fixed effects regression results. The dependent variable is *Ln(Tobin's Q)* that is the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. *Stock Imp. Dum05/10/20/50%* are dummy variables that equal one when the weight of the stock in question in the largest shareholder's portfolio is at least 5%, 10%, 20% and 50%, respectively. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Ln(TA)* is the natural logarithm of total assets. *ROA* is EBITDA divided by total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. The dependent variable is measured at time *t* while all the independent variables are measured at time *(t-1)*. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively. Clustered errors at the firm level are in parenthesis.

4.3. Identity of the largest investor, stock importance, vote ownership, and firm value

In this subsection, we investigate the effects of the identity of the largest investor. We classify the largest investor into family, corporation, financial institution, government, or individual (non-family) blockholder that is the reference group. Firm and year fixed effects are also used in this analysis. The errors are clustered at the firm level.[15]

Table 8 presents our findings. In the first regression, on the left-hand-side of the table, we interact *Stock Importance* with the identity variables. Similarly, we interact *Largest Investor's Vote* with the identity variables on the right-hand-side of the table. *Individual Blockholder* is the base group in both regressions. The left-hand-side analysis indicates that none of the identity groups is important for the value premium. In the analysis on the right, we show that a concentration of votes in family-controlled firms is weakly associated with lower firm value (compared to individual blockholder-controlled firms). We further find that a concentration of votes in government-controlled firms is associated with lower value (compared to individual blockholder-controlled firms). In other words, if families or the government have significant voting powers they can lower firm value. This is consistent with other works on family- and government-controlled firms (for example see Villalonga and Amit (2006) or Palia et al. (2008)). ROA remains significant and positive and most importantly, *Stock Importance* remains positive and significant throughout.

We also investigate the effect of the investment horizon on the relation between stock importance and firm value. In unreported results, we run an analysis that uses *Long-horizon DV*, a dummy variable that equals one if the investment horizon of the investor is above the sample median of 13.512 years. We then interact *Stock Importance* with *Long-horizon DV*. The coefficient of the interaction term is consistently insignificant that indicates the investment horizon does not affect the relation between stock importance and firm value.

[15] Lincom test results are not presented at the bottom of each regression column in Table 8 to save space, yet they are available on request.

Table 7
Stock importance by entrenched shareholders and firm value.

	Dependent Variable: Ln(Tobin's Q)		
	(1)	(2)	(3)
Stock Importance	0.061	0.058	0.087**
	(0.046)	(0.046)	(0.042)
Largest Investor's Vote		0.059	
		(0.182)	
Stock Importance X Dual-class Share	0.139*	0.142*	
	(0.081)	(0.085)	
Dual-class Share	−0.353***	−0.363***	
	(0.103)	(0.109)	
Stock Importance X Excess Vote			0.111
			(0.638)
Excess Vote			−0.260
			(0.516)
Controls			
Ln(TA)	−0.040	−0.037	−0.042
	(0.041)	(0.040)	(0.040)
ROA	0.386***	0.384***	0.385***
	(0.103)	(0.102)	(0.103)
Leverage	0.008	0.005	−0.004
	(0.123)	(0.122)	(0.122)
Net sales/TA	0.052	0.054	0.041
	(0.037)	(0.038)	(0.037)
Capex/TA	0.155	0.154	0.140
	(0.216)	(0.215)	(0.217)
Intercept	0.966*	0.913*	0.888*
	(0.516)	(0.520)	(0.530)
Firm Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Errors Clustered at Firm Level	Yes	Yes	Yes
R^2	0.308	0.308	0.299
Lincom test for the total effect: (λ1 + λ3)	0.202***	0.200***	0.199
Standard error of the total effect:: (λ1 + λ3)	(0.068)	(0.069)	(0.626)
Observations	1199	1199	1199

This table reports the fixed effects regression results. The dependent variable is *Ln(Tobin's Q)* that is the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. *Stock Importance* is the weight of the stock in question in the largest shareholders' portfolio. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Dual-class Share* is a dummy variable that equals one when the firm has a dual-class structure. *Excess Vote* is (% of votes) - (% of capital) held by the largest shareholder. *Ln(TA)* is the natural logarithm of total assets. *ROA* is EBITDA divided by total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. The dependent variable is measured at time *t* while all the independent variables are measured at time *(t-1)*. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively. Clustered errors at the firm level are in parenthesis.

4.4. Stock importance for CEO and chairman shareholders and firm value

The role of stock importance might also depend on whether the large shareholder is also the CEO or the chairman of the firm. In theory, a large blockholder who is the CEO of the firm he owns, is expected to be freer from agency conflicts because of better alignment of interests. A large blockholder who serves as the chairman of the board is expected to have more incentives to monitor the manager. Hence, such inside investors should be able to more directly exert influence on the firm's behavior and policy. We use the following moderating-effect analysis:

$$\begin{aligned} Firm\ Value_{it} = {} & \psi_0 + \psi_1(Stock\ Importance_{it-1}) + \psi_2(Largest\ Investor's\ Vote_{i,t-1}) \\ & + \psi_3(Stock\ Importance_{it-1} \times Largest\ Investor's\ Role_{it-1}) + \psi_4(Largest\ Investor's\ Role_{it-1}) + \psi_5 X_{Control\ Variables,\ it-1} \\ & + u_{it} \end{aligned} \quad (3)$$

Largest Investor's Role includes four dummy variables and equals one when the largest investor is the CEO (Column 1), the chairman (Column 2), the CEO or the chairman (Column 3), and the CEO and the chairman at the same time (Duality) (Column 4). In Eq. (3), we interact *Stock Importance* with each of the *Largest Investor's Role* dummy variables one at a time. Eq. (3) also includes firm and year fixed effects. The errors are clustered at the firm level.[16]

[16] We present the Lincom test results at the bottom of each regression column. Similar to Eq. (2a) and (2b), we want to determine if the total effect is statistically significant from zero.

Table 8
Identity of the largest investor, stock importance, vote ownership, and firm value.

	Dep. Var.: Ln(TQ)		Dep. Var.: Ln(TQ)
Stock Importance	0.173*	Stock Importance	0.100**
	(0.105)		(0.049)
Family	0.035	Family	0.068
	(0.090)		(0.114)
Stock Importance*Family	−0.130	Largest Investor's Vote*Family	−0.506*
	(0.134)		(0.314)
Corporation	0.021	Corporation	−0.079
	(0.216)		(0.142)
Stock Importance*Corporation	−0.089	Largest Investor's Vote*Corporation	0.137
	(0.260)		(0.386)
Financial Institution	0.065	Finan. Inst.	0.029
	(0.079)		(0.108)
Stock Importance*Financial Institution	−0.043	Largest Investor's Vote*Financial Institution	0.029
	(0.116)		(0.383)
Government	−0.208	Government	−0.086
	(0.272)		(0.293)
Stock Importance*Government	0.034	Largest Investor's Vote*Government.	−2.175***
	(0.243)		(0.476)
Largest Investor's Vote	−0.027	Largest Investor's Vote	0.148
	(0.183)		(0.304)
Controls		Controls	
Ln(TA)	−0.051	Ln(TA)	−0.064
	(0.044)		(0.045)
ROA	0.378***	ROA	0.384***
	(0.104)		(0.102)
Leverage	0.003	Leverage	0.003
	(0.128)		(0.128)
Net sales/TA	0.044	Net sales/TA	0.038
	(0.042)		(0.041)
Capex/TA	0.160	Capex/TA	0.145
	(0.219)		(0.220)
Intercept	0.964*	Intercept	1.242**
	(0.588)		(0.609)
Firm Fixed Effects	Yes	Firm Fixed Effects	Yes
Year Fixed Effects	Yes	Year Fixed Effects	Yes
Errors Clustered at Firm Level	Yes	Errors Clustered at Firm Level	Yes
R^2	0.303	R^2	0.307
Observations	1199	Observations	1199

This table reports the fixed effects regression results. The dependent variable is *Ln(Tobin's Q)* that is the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. *Stock Importance* is the weight of the stock in question in the largest shareholders' portfolio. *Family, Corporation, Financial Institution, Individual* (*non-family*) *Blockholder*, and *Government* are dummy variables that take the value of one if the identity of the largest shareholder is one of the following five options: a) family, b) corporation, c) financial institution, d) individual (non-family) blockholder, or e) government and zero otherwise. *Individual* (*non-family*) *Blockholder* is the reference group. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Ln(TA)* is the natural logarithm of total assets. *ROA* is EBITDA divided by total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. The dependent variable is measured at time *t* while all the independent variables are measured at time *(t-1)*. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively. Clustered errors at the firm level are in parenthesis.

Table 9 shows that the largest shareholder's role does not make a difference. In other words, whether the largest blockholder is the CEO or the chairman of the firm where he or she is the largest blockholder does not matter. Further, *Stock Importance* stays significant and positive throughout the table. It seems to be that a large blockholder whose portfolio is heavily weighted in the stock in question provides sufficient monitoring and engagement so that their role in the company does not add value. As discussed earlier, this finding can be better understood in the institutional context in Sweden. The external nomination committee and the “semi-two tiered” board can directly and appreciably affect corporate decisions. Thus, a formal role as a CEO or chairman might not be required for monitoring and active engagement.

5. Robustness checks and endogeneity corrections

5.1. Alternative measures for stock importance

As a robustness check for our stock importance variable, we replace it with *Stock Importance Highest Weight* that is a dummy variable that equals one if the stock in question has most weight in the portfolio of the largest investor, and zero otherwise. Table 10 shows the results of this analysis. Columns 5–8 confirm our main findings that Tobin's Q increases with a higher level of stock

Table 9
Stock importance for CEO and chairman shareholders and firm value.

	Dependent Variable: Ln(Tobin's Q)			
	Largest Investor's Role is:			
	CEO	Chairman	CEO or Chairman	CEO-Chairman Duality
	(1)	(2)	(3)	(4)
Stock Importance	0.084**	0.090**	0.089**	0.085**
	(0.042)	(0.041)	(0.043)	(0.040)
Stock Importance X Largest Investor's Role	0.038	−0.057	−0.023	0.014
	(0.164)	(0.083)	(0.076)	(0.095)
Largest Investor's Role	0.021	0.017	0.015	0.024
	(0.081)	(0.047)	(0.037)	(0.030)
Largest Investor's Vote	0.031	0.043	0.040	0.038
	(0.172)	(0.184)	(0.178)	(0.182)
Controls				
Ln(TA)	−0.053	−0.052	−0.052	−0.052
	(0.043)	(0.042)	(0.043)	(0.042)
ROA	0.393***	0.392***	0.394***	0.393***
	(0.108)	(0.107)	(0.108)	(0.108)
Leverage	−0.076	−0.076	−0.075	−0.076
	(0.139)	(0.138)	(0.139)	(0.139)
Net sales/TA	0.070*	0.074*	0.074*	0.073*
	(0.041)	(0.043)	(0.042)	(0.043)
Capex/TA	0.056	0.048	0.048	0.051
	(0.225)	(0.229)	(0.227)	(0.227)
Intercept	0.906	0.877	0.886	0.890
	(0.627)	(0.616)	(0.620)	(0.616)
Firm Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Errors Clustered at Firm Level	Yes	Yes	Yes	Yes
R^2	0.314	0.314	0.313	0.313
Lincom test for the total effect: (ψ1 + ψ3)	0.123	0.033	0.065	0.099
Standard error for the total effect: (ψ1 + ψ3)	(0.158)	(0.086)	(0.074)	(0.102)
Observations	1063	1063	1063	1063

This table reports the fixed effects regression results. The dependent variable is *Ln(Tobin's Q)* that is the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. *Stock Importance* is the weight of the stock in question in the largest shareholders' portfolio. *Largest Investor's Role* are dummy variables created based on the role of the investor in the corporate governance system. *CEO* is a dummy variable that takes value of one when the largest shareholder is the CEO of the firm. *Chairman* is a dummy variable that takes the value of one when the largest shareholder is the chairman of the firm. *CEO or Chairman* is a dummy variable that takes the value of one when the largest shareholder is either the CEO *or* the chairman. *CEO-Chairman Duality* is a dummy variable that takes the value of one when the largest shareholder is the CEO *and* the chairman. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Ln(TA)* is the natural logarithm of total assets. *ROA* is EBITDA divided by total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. The dependent variable is measured at time *t* while all the independent variables are measured at time *(t-1)*. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively. Clustered errors at the firm level are in parenthesis.

importance, and the table is overall similar to Table 3. Among the control variables, ROA still stays positive and significant in the main specifications.

5.2. Alternative estimation techniques

5.2.1. Random effect model

In this section, we use a firm random effects (RE) model as an alternative estimation method. The six columns in Table 11 replicate the regressions in the last six columns in Table 3 except that we use RE instead of fixed effects (FE). The reason is that there is some indication in the Hausman test results that we could choose RE over FE. RE model requires the strict assumption that the error term should be uncorrelated with the independent variables (i.e., no presence of endogeneity). This assumption is fulfilled in Columns 4 and 6 according to the Hausman test results at the bottom of Table 11 (chi-square statistics are 18.54 and 17.86 respectively and are insignificant, which means that we cannot reject the null hypothesis that the random effects model is efficient and consistent). We also include other columns for the sake of comparability with Table 3. The RE estimations confirm our earlier findings. Tobin's Q increases with higher levels of stock importance (Column 1–6 in Table 11). Even the magnitudes are very similar.

Table 10
Stock importance highest weight, vote ownership, and firm value.

	Dependent Variable: Ln(Tobin's Q)							
	OLS				Firm Fixed Effects			
	RHS at time *t*		RHS at time *t-1*		RHS at time *t*		RHS at time *t-1*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Stock Importance Highest Weight	0.019	0.046	0.031	0.058	0.092***	0.099***	0.072**	0.072***
	(0.058)	(0.060)	(0.058)	(0.061)	(0.034)	(0.033)	(0.031)	(0.030)
Largest Investor's Vote		−0.254*		−0.249*		−0.252		−0.006
		(0.154)		(0.154)		(0.197)		(0.177)
Controls								
Ln(TA)	−0.065***	−0.063***	−0.065***	−0.064***	−0.054	−0.063	−0.047	−0.047
	(0.018)	(0.018)	(0.018)	(0.018)	(0.043)	(0.044)	(0.041)	(0.040)
ROA	0.180	0.218	0.290	0.329	0.124	0.129	0.372***	0.372***
	(0.263)	(0.262)	(0.243)	(0.241)	(0.118)	(0.117)	(0.105)	(0.104)
Leverage	−0.581**	−0.593**	−0.634***	−0.644***	0.161	0.174	−0.013	−0.013
	(0.249)	(0.243)	(0.253)	(0.248)	(0.119)	(0.120)	(0.120)	(0.119)
Net sales/TA	−0.013	−0.011	−0.057	−0.056	0.281***	0.273***	0.034	0.034
	(0.041)	(0.041)	(0.040)	(0.040)	(0.043)	(0.043)	(0.038)	(0.039)
Capex/TA	−0.172	−0.156	−0.416	−0.411	0.226	0.231	0.176	0.176
	(0.434)	(0.418)	(0.415)	(0.399)	(0.256)	(0.266)	(0.219)	(0.219)
Intercept	1.359***	1.492***	1.434***	1.571***	0.639	0.883	0.957*	0.963*
	(0.284)	(0.291)	(0.281)	(0.290)	(0.567)	(0.588)	(0.524)	(0.533)
Firm Fixed Effects	No	No	No	No	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Errors Clustered at Firm Level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.186	0.195	0.194	0.203	0.310	0.313	0.293	0.293
Observations	1317	1317	1171	1171	1317	1317	1171	1171

The dependent variable is *Ln(Tobin's Q)* that is the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. *Stock Importance Highest Weight* is a dummy variable that equals one if the stock in question has the highest weight in the portfolio of the largest shareholder. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Ln(TA)* is the natural logarithm of total assets. *ROA* is EBITDA divided by total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively. Clustered errors at the firm level are in parenthesis.

5.2.2. Instrumental variable estimation

In Table 12, we use an instrumental variable (IV) estimation method to control for possible endogeneity that may be related to an omitted variable bias. We use an exogenous shock to the stockholding in the portfolios of the large blockholders (*Stock Importance*) to help identify the causality between stock importance and the firm's value. Sweden, as a member state of the European Union, is subject to the International Accounting Standards (IAS) Regulation adopted by the European Union in 2002. The EU IAS Regulation required the application of International Financial Reporting Standards (IFRS) for the consolidated financial statements of European listed firms starting in 2005. A few Swedish firms adopted IFRS prior to 2005. However, the vast majority of listed Swedish firms adopted IFRS as of 2005. Anecdotal evidence suggests that a handful of early adopters are not likely to matter for the analysis. Most large firms such as Volvo AB were not early adopters of IFRS.[17]

Accordingly, our instrument is *post-IFRS dummy* that equals one for post 2005. IFRS is expected to incentivize cross-border investments thanks to more transparent financial disclosure by firms, but it also reduces informational asymmetry between local firms and investors, and thus increases investors' confidence and appetite for investing in stocks. Thus, in our context, IFRS can be expected to exogenously affect stock importance. This exogenous shock to the composition of the largest blockholder's portfolio helps "extract" the "good" variation out of a potentially endogenous variable, *Stock Importance* (Roberts and Whited, 2012).

A valid IV has to fulfill two criteria (Wooldridge, 2002). The first condition is the instrument's relevance criterion. As seen in Column 1 of Table 12, the coefficient of the instrument is positive and highly significant. Unreported univariate results also show that the mean value of stock importance post-IFRS is 0.585, compared to 0.370 prior to IFRS. This difference is statistically significant.

The second condition is the exclusion restriction, that is, the error term in the regression on firm value has to have zero correlation with the IV. This condition is (always) very difficult to verify. The best a researcher can do is to check the correlation between the IV (post-IFRS dummy) and the firm's value (Tobin's Q). In our sample the correlation between post-IFRS dummy and ln(Tobin's Q) (as well as Tobin's Q) is 0.03 (0.02) and insignificant. Unreported univariate results also show that the mean value of the log Tobin's Q post-IFRS is 0.447, compared to 0.442 prior to the enactment of the IFRS. The difference is not statistically different than zero.

[17] "Changes of the Volvo Group's financial reporting in 2005 *as consequence of* adopting International Financial Reporting Standards (IFRS)", presentation by Volvo AB, Group Accounting, 2004-12-16.

Table 11
Alternative estimation technique: firm random effects.

	Dependent Variable: Ln(Tobin's Q)					
	RHS at time *t*			RHS at time *t-1*		
	(1)	(2)	(3)	(4)	(5)	(6)
Stock Importance	0.098**		0.113***	0.076**		0.081**
	(0.047)		(0.047)	(0.037)		(0.037)
Largest Investor's Vote		−0.278***	−0.283**		−0.158	−0.105
		(0.1130	(0.142)		(0.105)	(0.134)
Controls						
Ln(TA)	−0.081***	−0.089***	−0.082***	−0.077***	−0.105***	−0.077***
	(0.021)	(0.020)	(0.021)	(0.020)	(0.020)	(0.020)
ROA	0.120	0.083	0.113	0.386***	0.292***	0.389***
	(0.114)	(0.096)	(0.047)	(0.098)	(0.103)	(0.097)
Leverage	0.067	0.083	0.076	−0.115	0.015	−0.113
	(0.112)	(0.170)	(0.112)	(0.113)	(0.163)	(0.112)
Net sales/TA	0.176***	0.089***	0.178***	0.002	0.006	0.003
	(0.131)	(0.030)	(0.031)	(0.028)	(0.027)	(0.028)
Capex/TA	0.291	0.503**	0.297	0.075	0.213	0.077
	(0.259)	(0.221)	(0.267)	(0.213)	(0.203)	(0.214)
Intercept	1.142***	1.641***	1.278***	1.422***	2.058***	1.473***
	(0.290)	(0.276)	(0.291)	(0.273)	(0.295)	(0.275)
Firm Random Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Random Effects	Yes	Yes	Yes	Yes	Yes	Yes
Errors Clustered at Firm Level	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.304	0.199	0.308	0.296	0.198	0.296
Hausman test: Fixed vs. Random (Chi-sq.)	51.87***	59.05***	46.19***	18.54	39.78***	17.86
Observations	1346	1974	1346	1199	1822	1199

This table reports the random effect regression results. The dependent variable is *Ln(Tobin's Q)* that is the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. *Stock Importance* is the weight of the stock in question in the largest shareholders' portfolio. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Ln(TA)* is the natural logarithm of total assets. *ROA* is EBITDA divided by total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. The dependent variable is measured at time *t* while all the independent variables are measured at time *(t-1)*. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively. Clustered errors at the firm level are in parenthesis.

Overall, the checks on the instrument's relevance and exogeneity condition suggest that the IFRS regulation may improve the firm's value only through our stock importance variable, which is the setting we need for an IV estimation.

The second column in Table 12 shows the second stage in the analysis and confirms our earlier findings that stock importance significantly enhances value. In this analysis, the largest investor's vote is negative and significant. We conclude that stock importance increases value even in an IV setting, and the discrepancy between voting and cash flow rights might be another control mechanism (in addition to dual-class shares) with negative effects on a firm's value.

5.2.3. Reverse causality

In Table 13, we run a reverse causality test, that is, we run stock importance as a dependent variable on Tobin's Q as an independent variable (lagged one period). The table shows that the coefficient of Tobin's Q in the regressions is insignificant throughout. In unreported results we also run Tobin's Q lagged by two periods. There is no significance either. These results give us further confidence that indeed, as Table 3 suggests, the causality runs the “right” way.

6. Stock importance, vote ownership, and firm profitability

As another robustness check, we estimate in this section the role of stock importance on another proxy for the enhancement of the firm's value, namely profitability. We calculate profitability as EBITDA over total assets (*EBITDA/TA*). This is our ROA variable, and the regression is described in Eq. (4). Similar to the analysis in Table 3, we present both OLS and FE models.

$$\mathrm{ROA}_{it} = \eta_0 + \eta_1(\mathit{Stock\ Importance}_{i,t-1}) + \eta_2(\mathit{Largest\ Investor's\ Vote}_{i,t-1}) + \eta_3 X_{\mathit{Control\ Variables},\ i,t-1} + u_{it} \quad (4)$$

The findings from this analysis are in Table 14. The results for the firm FE show that stock importance (mainly at time t) is

Table 12
Instrumental variable estimation - stock importance and firm value.

	Dependent Variables:	
	Stock Importance	Ln(Tobin's Q)
	1st Stage	2nd Stage
Stock Importance		1.564**
		(0.693)
Largest Investor's Vote	0.447***	−0.799**
	(0.104)	(0.364)
Post-IFRS dummy	0.069***	
	(0.025)	
Controls		
Ln(TA)	−0.044***	−0.075**
	(0.018)	(0.038)
ROA	0.161***	0.248*
	(0.054)	(0.152)
Leverage	0.031	−0.081
	(0.083)	(0.154)
Net sales/TA	−0.078***	0.132*
	(0.030)	(0.078)
Capex/TA	0.317**	−0.237
	(0.155)	(0.362)
Intercept	1.067***	0.744
	(0.286)	(0.823)
Firm Fixed Effects	Yes	Yes
Year Fixed Effects	No	No
R^2	0.040	0.040
Observations	1306	1306

This table reports the fixed effects IV estimation results. In the first stage of the two-stage IV estimation, the dependent variable is *Stock Importance* that is the weight of the stock in question in the largest shareholders' portfolio. In the second stage of the two-stage IV estimation, the dependent variable is *Ln(Tobin's Q)* that is the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Post-IFRS* is the instrumental variable that is a dummy that equals one for post 2005, when by the EU legislation IFRS became mandatory. *Ln(TA)* is the natural logarithm of total assets. *ROA* is EBITDA divided by total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. The dependent variables are measured at time *t* while all the independent variables are measured at time *(t-1)*, except *Stock Importance* and *Post-IFRS dummy*. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively.

positively associated with ROA. The explanation might be that Tobin's Q reflects future profitability whereas ROA reflects the current success of the firm. In other words, if a blockholder holds a large position in a stock in his or her portfolio, it improves current performance and could also improve the firm's outlook and market valuation (Table 3, Columns 10 and 12). In unreported results, we also run our main table, Table 3 with Jensen's Alpha (following Ekholm and Maury, 2014), using monthly stock returns for each firm for each calendar year as the dependent variable. The coefficient of stock importance is positive when significant.

7. Conclusion

The role of large shareholders in shaping the firm's value and policies has gained considerable attention in the corporate finance literature. This paper complements recent studies focusing on the composition of large blockholders' portfolios such as Ekholm and Maury (2014) and Fich et al. (2015). Our novel Swedish ownership data set allows us to investigate whether the role of large blockholders on firm value depends on the importance of the stock in question in a blockholder's portfolio. We argue that blockholders are much more motivated to act in the interests of shareholders (as monitors or advisors or nominating committee members) if the stock in question constitutes a big part of their own portfolios.

We show that Tobin's Q increases in the weight of a stock in a large shareholder's portfolio. This increase indicates that if a large investor “cares” about a stock, block-holding is beneficial. The value premium we find is around 9%, and it is fairly consistent across

Table 13
Reverse causality between stock importance and firm value.

	Dependent Variable: Stock Importance									
	All right-hand-side variables are at time *t-1*									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Largest Investor's Vote	0.523***	0.514***	0.502***	0.470***	0.481***	0.455***	0.426***	0.427***	0.427***	0.432***
	(0.162)	(0.167)	(0.171)	(0.173)	(0.170)	(0.162)	(0.166)	(0.162)	(0.160)	(0.162)
ln(Tobin's Q)		0.011	0.019	0.022	0.028	0.024	0.042	0.040	0.045	0.047
		(0.039)	(0.038)	(0.039)	(0.040)	(0.040)	(0.042)	(0.042)	(0.042)	(0.043)
ROA			0.095	0.094	0.079	0.099	0.118*	0.127*	0.119*	0.121*
			(0.070)	(0.071)	(0.071)	(0.070)	(0.071)	(0.073)	(0.073)	(0.073)
Dual-class Share				0.181	0.170	0.175	0.190	0.191	0.194	0.187
				(0.223)	(0.223)	(0.222)	(0.212)	(0.211)	(0.212)	(0.215)
Ln(TA)					0.018	0.013	−0.011	−0.011	−0.011	−0.002
					(0.031)	(0.032)	(0.036)	(0.036)	(0.034)	(0.034)
Leverage						0.038	0.015	0.017	0.032	0.023
						(0.096)	(0.097)	(0.097)	(0.099)	(0.103)
Net sales/TA							−0.068*	−0.071*	−0.071*	−0.073*
							(0.039)	(0.040)	(0.040)	(0.041)
Capex/TA								0.249	0.442**	0.441**
								(0.249)	(0.215)	(0.215)
Dividend/TA									0.265	0.268
									(0.194)	(0.193)
Cash/TA										−0.057
										(0.103)
Intercept	0.313***	0.315***	0.311***	0.230*	−0.012	0.047	0.458	0.452	0.295	0.321
	(0.076)	(0.083)	(0.086)	(0.142)	(0.446)	(0.438)	(0.516)	(0.514)	(0.500)	(0.506)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered Errors	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.041	0.037	0.040	0.044	0.045	0.044	0.048	0.051	0.058	0.059
Observations	1391	1363	1348	1342	1342	1338	1336	1330	1316	1316

This table reports the fixed effects regression results. The dependent variable is *Stock Importance* that is the weight of the stock in question in the largest shareholders' portfolio. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Ln(Tobin's Q)* is the natural logarithm of the sum of the market value of equity plus the book value of total liabilities, all divided by the book value of assets. *ROA* is EBITDA divided by total assets. *Dual-class Share* is a dummy variable that equals one when the firm has a dual-class structure. *Ln(TA)* is the natural logarithm of total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. *Dividend/TA* is the total cash dividends paid divided by total assets. *Cash/TA* is the total cash and cash equivalents divided by total assets. The dependent variables are measured at time *t* while all the independent variables are measured at time *(t-1)*. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively. Clustered errors at the firm level are in parenthesis.

tests. We also find that the role of the large investor does not matter–put differently, you do not have to be the CEO or chairman to monitor a firm, engage with management, and increase value. Also, we are the first to show that the identity of the large investor (e.g., institutional investor, family, and corporation) is not important and that the block size does not matter—in all cases "stock importance" seems to increase the firm's value. However, control enhancing mechanisms and in particular a dual-class structure are detrimental to a firm's value. We are also the first to show that stock importance may mitigate such negative effects; in other words, somewhat counter-intuitively, in the presence of control enhancing mechanisms, shareholders would want a large entrenched blockholder to include the stock in question as a prominent component in their portfolio. While we cannot directly explore the mechanism leading to the value enhancement, the institutional setting in Sweden provides large blockholders, regardless their identity, with a clear role in the firm's board selection and policies. This institutional setting suggests that monitoring and engagement might be the root cause of the effect we find (See Gillan and Starks (2007), and McCahery et al. (2016)). Our findings also seem to weigh in favor of the positive role of blockholders, if they are motivated and enabled.

Our results also help explain the inconclusive findings on the effect of block-holding on the firm's value and profitability (See Holderness, 2009; and Holderness and Sheehan, 1988; Cronqvist and Nilsson, 2003; Claessens et al., 2002; Thomsen et al., 2006; and Konijn et al., 2011). Our paper indicates that the reason for the mixed findings in the literature may be that the data in most papers contains blockholders with well-diversified portfolios as well as other large investors whose portfolios focus on the stock in question. We argue that blockholders' positive impact may come from investors with a high degree of stock importance.

Table 14
Stock importance, vote ownership, and firm profitability.

	Dependent Variable: ROA											
	OLS						Firm Fixed Effects					
	RHS at time *t*			RHS at time *t-1*			RHS at time *t*			RHS at time *t-1*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Stock Importance	0.066***		0.054***	0.052**		0.037*	0.042**		0.039*	−0.015		−0.012
	(0.020)		(0.019)	(0.022)		(0.021)	(0.021)		(0.021)	(0.022)		(0.022)
Largest Investor's Vote		0.150	0.085**		0.158	0.095***		−0.035	0.073		−0.006	−0.056
		(0.035)	(0.037)		(0.035)	(0.039)		(0.083)	(0.114)		(0.076)	(0.081)
Controls												
Ln(TA)	0.031***	0.033***	0.030***	0.023***	0.026***	0.021***	0.120***	0.095***	0.123***	−0.024	−0.002	−0.025
	(0.005)	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.027)	(0.022)	(0.028)	(0.017)	(0.016)	(0.017)
Leverage	−0.069	−0.019	−0.063	−0.025	0.049	−0.018	−0.215***	−0.183***	−0.218***	0.021	0.009	0.024
	(0.055)	(0.043)	(0.056)	(0.060)	(0.043)	(0.060)	(0.064)	(0.060)	(0.063)	(0.044)	(0.046)	(0.045)
Net sales/TA	0.074***	0.091***	0.073***	0.076***	0.099***	0.075***	0.107***	0.106***	0.109***	0.021	0.077**	0.020
	(0.016)	(0.015)	(0.015)	(0.017)	(0.016)	(0.017)	(0.032)	(0.039)	(0.031)	(0.022)	(0.035)	(0.022)
Capex/TA	−0.108	0.287**	−0.105	0.240***	0.321***	0.239***	−0.290**	−0.205**	−0.291**	−0.090	−0.166**	−0.088
	(0.128)	(0.124)	(0.127)	(0.087)	(0.100)	(0.087)	(0.139)	(0.095)	(0.135)	(0.077)	(0.079)	(0.080)
Intercept	−0.426***	−0.531***	−0.463***	−0.262***	−0.480***	−0.304***	−1.517***	−1.289***	−1.588***	0.450**	0.017**	0.497**
	(0.099)	(0.081)	(0.103)	(0.104)	(0.078)	(0.109)	(0.364)	(0.338)	(0.393)	(0.237)	(0.250)	(0.256)
Firm Fixed Effects	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustured Errors	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.208	0.273	0.217	0.179	0.264	0.191	0.155	0.149	0.157	0.035	0.088	0.036
Observations	1361	1998	1361	1185	1806	1185	1361	1998	1361	1185	1806	1185

The dependent variable is ROA that is EBITDA divided by total assets. *Stock Importance* is the weight of the stock in question in the largest shareholders' portfolio. *Largest Investor's Vote* is the % of votes held by the largest shareholder. *Ln(TA)* is the natural logarithm of total assets. *Leverage* is the total long-term debt divided by total assets. *Net Sales/TA* is net sales divided by total assets. *Capex/TA* is capital expenditures divided by total assets. The ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively. Clustered errors at the firm level are in parenthesis.

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