SHAREHOLDER HOMOGENEITY AND FIRM VALUE: THE DISCIPLINING ROLE OF NON-CONTROLLING SHAREHOLDERS[1]

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Abstract

We devise a new identifying strategy to empirically pin down the exogenous component of the firm shareholder structure and use it to study the relationship between shareholder homogeneity and firm value. We argue that shareholder homogeneity increases the value of the firm and its transparency versus the market. We test this hypothesis by using a dataset containing information on all the shareholders for each firm in Sweden from 1995 to 2001. We construct two proxies for shareholder homogeneity: the first based on the age cohort of the shareholders, and the second on their degree of college interaction. For each firm, we measure the degree of homogeneity across *all* its shareholders. We show that homogeneous shareholders act as a disciplining device on managers, inducing them to meet market expectations and to engage less in value-destroying activities. This leads to higher firm profitability, higher Tobin's Q and lower analyst dispersion and forecast errors. We argue that shareholder homogeneity represents an alternative and indirect source of corporate governance based on the stock market.

JEL Classification: **G30; G32**

Keywords: **firm value; shareholder heterogeneity; corporate finance and managerial decision making.**

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I. Introduction

An important question is how shareholders affect firm value. Corporate finance stresses the role of controlling shareholders as the main supervisors of managers and therefore as key determinants of firm value and stock price (Holmstrom and Tirole 1993; Bolton and Von Thadden 1998a, 1998b; Kahn and Winton 1998; Noe 2002; Faure-Grimaud and Gromb, 2003). However, it does not consider the role of the non-controlling shareholders. Asset pricing posits that all the shareholders affect the stock price. However, this takes place through the direct impact on price as opposed to directly disciplining the managers. Little attention has been devoted to studying how the *overall* shareholder structure — and therefore the characteristics of the non-controlling shareholders — affects firm value *by conditioning managerial decisions*.

This paper addresses this issue by studying the link between the distribution of the *non-controlling shareholders,* managerial behavior and firm value. We focus on shareholder homogeneity. We conjecture that homogeneous shareholders are likely to interpret information about the firm in a similar way and, as a result, to react in an (informally) coordinated fashion to the news about the firm. This implies that, in the presence of homogenous shareholders, an unsatisfactory piece of news induces a sell-off of the firm stock that will bring about a sharp drop in price.

The implicit threat of the shareholder sell-off makes it more expensive for equity-incentivized managers (or controlling shareholders) to engage in money-wasting activities. Less leeway for managers translates into better management and more value-enhancing strategies. At the same time, the higher the degree of shareholder homogeneity, the more the management will try to meet investor expectations. This, by reducing the market dispersion of forecasts and their errors, will effectively increase standard measures of firm transparency. Firms with homogeneous shareholders should therefore be characterized by higher transparency as well as higher profitability, and stock price.

These considerations suggest that the degree of homogeneity among shareholders may act as a disciplining device and represent an indirect and *market-based* source of corporate governance. This applies to US-type public companies with dispersed ownership as well as to the family-owned or tightly controlled companies more typical in Europe and Asia. In the former case, the existence of a high degree of homogeneity among non-controlling shareholders would act as a disciplining device against potentially

entrenched managers. In the latter case, homogeneity would act as a disciplining device against the controlling shareholders.

What defines shareholder homogeneity and how do we proxy for if? We argue that a main source of homogeneity is related to the investor's age. Indeed, different cohorts of investors have been exposed to different fads and cultures and have had different experiences. For example, investors who have lived through a stock market bubble will react differently to information about future cash flows than investors who have experienced only a stock market boom. "One generation learns, but then you get a lot of new guys. The question is, of the people in the market now-—they don't remember 1929, but do they remember 1987? It s always the new boys who need to get a baptism of fire. Each successive group of speculators is able to persuade itself that its own situation is unique in history." (Kindleberger, 2001) Moreover, investors of different ages have different objectives. Different life cycle considerations, for example, may induce them to give different weights to different types of shares (Poterba and Samwick 1997).

Alternatively, similar college experiences may induce investors to interpret information in similar ways. As a source of social interaction, college both shapes the thinking of the investor and defines a lasting network of relationships. That is, college-based interaction defines the common general imprinting due to the type and quality of education delivered by the school and shapes the bonding with other people attending the same school that persists over time on a friendship- or alumni-based relationship. People who went to the same college and received the same education should have a similar view of the world. Social interaction has been shown to affect stock market participation (Hong, Kubik and Stein, 2003) as well as portfolio choice (Massa and Simonov, 2005).

We therefore define two proxies for investor homogeneity based on either the age cohort of the shareholders or their college affiliation. For each firm, we measure the degree of homogeneity across *all* its individual non-controlling shareholders. The availability of complete information on all the shareholders for each firm allows us to devise a unique identifying strategy that pins down the exogenous component of the shareholder structure. Relying on the recent findings on local investment bias (Huberman 2001, Coval and Moskowitz 1999, 2001, Hong, Kubik and Stein 2005), we exploit the location of shareholders as an identifying restriction. This allows us to

address the issue created by the endogenous nature of ownership structure (Demsetz 1983, Demsetz and Lehn 1985).

We show that greater homogeneity raises firm profitability and stock price. Firms with higher shareholder homogeneity have higher stock market valuations and are more profitable. In particular, firms with homogeneity one standard deviation greater than the average display stock prices (Tobin' s Q) 13% higher than average; their profit margins are 30% higher than average (10% and 23% respectively in the case of ROA and ROE). Moreover, homogeneity reduces analyst error and analyst dispersion. An increase in homogeneity of one standard deviation reduces the standard deviation of forecast estimates by 36% of its unconditional mean. This suggests the existence of a novel channel through which shareholder characteristics affect the value of the firm.

These results are consistent with the findings of Boot and Thakor (2004) and Dittmar and Thakor (2005) who posit that firm value is an increasing function of the alignment between shareholders and managers. Their predictions are consistent with ours if we consider the increase in transparency as an increase in alignment between the shareholders and the firm.

It is also important to note that an extensive literature (e.g., Blau 1977; Westphal and Zajac 1995; Bourgeois, Eisenhardt, and Kahwajy 1997; Carter, Simkins and Simpson 2003; Adams and Ferreira 2005) has analyzed the impact of board diversity/homogeneity on firm value. In general, the idea is that the main benefit of a diverse team is that "team members are able to provide different perspectives on important issues, which may reduce the probability of complacency in decision-making. ... [Diversity] may add value by bringing different perspectives, experiences and opinions to the table" (Adams and Ferreira 2005). It could be the case that shareholder homogeneity may in fact proxy for board homogeneity. We directly account for this possibility by running a horse race between measures of board and shareholder homogeneity. The results show that shareholder homogeneity affects firm value in a way that is independent and *more important* than board homogeneity.

Our findings contribute to the literature along different dimensions. In particular, our results are related to the theory on the determinants of corporate governance and to the literature on the role of blockholders and institutional investors. It has been argued that managers are disciplined by either direct governance (Gompers, Ishii and Metrick 2003) or by indirect governance. Indirect governance has in general been associated with

blockholders or institutional shareholders — i.e., investors who have the resources to monitor managers and the power to correct them (Holmstrom and Tirole 1993, Cremers and Nair 2004). For example, Kahn and Winton (1998), Bolton and Von Thadden (1998a, 1998b), and Noe (2002) describe the role played by concentrated shareholdings and show how these shareholdings emerge. Faure-Grimaud and Gromb (2003) describe how concentrated shareholdings engage in value-increasing activities. Our main contribution is to provide evidence of a "hidden" source of governance and a more indirect form of managerial discipline, i.e., one that is related to the degree of shareholder homogeneity of the individual non-controlling shareholders.

Second, we contribute to the literature that relates shareholder composition (i.e., ownership structure) to firm performance (Morck, Shleifer and Vishny 1988; McConnell and Servaes 1990, 1995; Himmelberg, Hubbard and Palia 1999; Holderness, Kroszner and Sheenan 1999; Franks and Mayer 2001; Franks, Mayer and Renneboog 2001; McConnell, Servaes and Lins 2003). Unlike the standard approaches that focus on subsets of relevant/controlling shareholders (e.g., blockholders, institutional investors), we show the role played by the overall set of investors, including minority shareholders. More specifically, we show that it is not only a subset of qualified shareholders that affects firm performance, but that the entire ownership structure matters. Moreover, the use of a unique identifying strategy that pins down the exogenous component of the shareholder structure addresses the issue of endogeneity that has plagued the literature.

Third, we complement the literature on social interaction by providing evidence on the impact of social interaction on firm value. The literature on social interaction has mostly focused on the way social interaction affects individual behavior (e.g., Ellison and Fudenberg 1995; Bala and Goyal 1998; Bertrand, Luttmer and Mullainathan 1999). Only recently has social interaction been shown to affect stock market participation and portfolio choice (Hong, Kubik and Stein 2003). However, this paper is, to our knowledge, the first to show the direct impact of social interaction on firm value and stock price. We also relate to the burgeoning literature on the role of homogeneity in finance and in the agency literature in particular (Crawford and Sobel 1982, Cremer 1993, Aghion and Tirole 1997, Dessein 2002). Shared beliefs within an organization "decrease agency problems, lower the need to monitor and facilitate coordination" (Van den Steen 2004).

The paper is structured as follows. In the next section we set out the hypotheses. In Section III, we describe the data. In Section IV, we relate shareholder homogeneity to

the way shareholders react to news. In Section V, we provide empirical evidence of the impact of shareholder homogeneity on firm transparency. In Section VI, we relate shareholder homogeneity to firm profitability, while in Section VII, we study how homogeneity affects stock price. A discussion of the results is provided in Section VIII. A brief conclusion follows.

II. Testable Restrictions

We now lay out our testable restrictions. We will focus on the economic intuition, while a formal simple model is provided in the Appendix. We start from a simple fact: homogeneous shareholders tend to interpret information in the same way. This means that, in the presence of news about the firm, the more homogenous the shareholders are, the more they will react in a similar way. Heterogeneous shareholders, instead, by applying different priors to the same news, will draw different conclusions about the value of the firm. Therefore, in aggregate, their reaction will be more muffled. In other words, homogeneity, by (informally) coordinating shareholders, amplifies their reaction. This implies that, in the presence of homogenous shareholders, negative news about a firm will induce a more pronounced sell-off of the firm stock and a sharper drop than it would be in the case of more heterogeneous shareholders.

H1. Higher homogeneity increases the reaction of the shareholders to negative news.

We argue that the managers are aware of the implicit threat of the shareholder sell-off. The higher cost of disappointing the shareholders induces managers to meet investor expectations, thereby minimizing the market dispersion of forecasts and their errors. According to the standard measures, this will appear as an increase in firm transparency.

H2. Firms characterized by greater homogeneity among shareholders are more transparent.

At the same time, higher homogeneity increases the incentives of equity-incentivized managers not to disappoint their shareholders by engaging in money-wasting activities. This implies a positive correlation between shareholder homogeneity and firm *reported* profitability.

H3. Firms characterized by greater homogeneity among shareholders are more profitable.

The combined effect of higher transparency and higher profitability should increase the price of the firm.

H4. Firms characterized by greater homogeneity among shareholders have higher prices.

These considerations suggest a sort of disciplining effect provided by shareholder homogeneity. That is, more homogeneous investors are able to impose better discipline on the management/controlling shareholders, reducing their incentives to engage in value destruction or value appropriation. Before proceeding to the tests, we will describe the data and the methodology we will use.

III. Data, Construction of the Variables and Methodology

A. Data Sources

We use data obtained from a number of different sources. For each investor we have age and detailed information on individual stockholdings broken down at the stock level. For each stock we have detailed information on the company, and on the price, volume and volatility at which it trades. For a representative subset of investors we also have demographic information. We will now describe these data sources in more detail.

Individual stockholdings

We use the data on individual shareholders collected by the Swedish Security Register Center (Värdepapperscentralen VPC AB). The data contain both stockholding held directly and in the street name, including holdings of US-listed ADRs. In addition, SIS Ägarservice AB collects information on ultimate owners of shares held via trusts, foreign holding companies and the like (for details, see Sundin and Sundqvist 2002). Our data cover the period 1995 through 2000. Overall, the records provide information on the owners of 98% of the market capitalization of publicly traded Swedish companies, including their age. We have information on at least 81.6% of market capitalization of each company; for the median company, we have information on 97.9% of the equity. The data provided by SIS Ägarservice AB were linked by Statistics Sweden with the LINDA dataset described below.

LINDA

LINDA (Longitudinal INdividual DAta for Sweden) is a register-based longitudinal dataset and is a joint endeavor between the Department of Economics at Uppsala University, the National Social Insurance Board (RFV), Statistics Sweden and the

Ministries of Finance and Labor. It consists of a large representative panel of households for the population over the period 1960 to 2000. For each year, information on all family members of the sampled individuals is added to the dataset. The sampling procedure ensures that the data are representative for each year. Moreover, the same family is traced over time. This provides a real-time series dimension that, in general, is lacking in surveys\based on different cohorts polled over time.

The variables include individual characteristics (gender, age, marital status, country of birth, citizenship, year of immigration, place of residence detailed at the parish level, education, profession, employment status), housing information (type and size of housing, owner, rental and occupation status, one-family or several-family dwelling, year of construction, housing taxation value) and tax and wealth information. In particular, the income and wealth tax registers include information on labor income, capital gains and losses, business income and losses, pension contributions, taxes paid and taxable wealth. A detailed description of the dataset is provided by Edin and Fredriksson (2000) and is available on the website http://linda.nek.uu.se/. The combined LINDA/Shareholding dataset covers the period 1995 through 2000. The overall sample we use contains 1,757,406 observations. For the purpose of this paper, we use the background information on the parental household ("heritage variables"), including the size, wealth and income of the household during their childhoods.

For 25,500 investors who are part of 18,663 households, we also have information on the colleges they attended. In addition, for each college we have data on enrollment, average GPA, location and national ranking. From the total of 102 colleges, we used only 54, since for the 48 smallest colleges the sample was too small[i].

Firm-level information and other data

For individual security returns (including dividends) and the overall market index (SIX market index), we use the SIX Trust Database. For information on firm-level characteristics we use Market Manager Partners Database. These two databases are the equivalent of CRSP and COMPUSTAT, respectively. In addition, the Market Manager Partners Database contains information at the plant level, including municipality location of the plant. We derive information on firm profit margins, ROA and ROE, as well as other firm variables. We also use information on analysts following a firm derived from the international section of the I/B/E/S dataset. We collect data on the dispersion

of analysts' forecasts as well as analysts' forecast errors, based on the difference between analyst earnings forecasts and earnings announcements.

B. Construction of the Proxy for Shareholder Homogeneity

To test our hypothesis, we need a proxy for shareholder homogeneity. As we mentioned earlier, a natural proxy can be based either on the age cohort the investor belongs to or on the college he attended. Note that in the case of college-based affiliation, it could be argued that people with the same view of the world choose to attend the same college. The very same socioeconomic factors that determine the choice of college also affect portfolio choice. What matters to us here is that college attendance may be used to identify heterogeneity among investors. The age-based proxy has an additional advantage: while for the college-based proxy, we have information only on a representative sample of the overall population, for the age-based proxy, we have information on the overall Swedish population. This increases the power of our tests.

The higher the proportion of the shareholding structure of a firm that is represented by investors who are the same age or attended the same school, the stronger the degree of shareholder homogeneity. This implies that a proxy for shareholder homogeneity for a firm is the representation of either the different cohorts or the different colleges among its shareholders. That is, for each firm, we may construct our proxy for homogeneity as an index of "concentration" of the cohorts (colleges) in the firm. The degree of *Shareholder Homogeneity* for the *jth* firm is therefore:

$$HO_j = \sum_{c=1}^{C} \left(\frac{\sum_{i=1}^{I} N_{ijc}}{\sum_{c=1}^{C} \sum_{i=1}^{I} N_{ijc}} \right)^2 ,$$

where N_{ijc} is the number of shares that individual i who belongs to the same age cohort (graduated from college) c holds in firm j.

This measure can be interpreted as a Herfindahl index in which the "market share" of cohort (college) c in company j is given by the number of shares in the *jth* firm held by investors belonging to the same *cth* age cohort (attended the *cth* college). The intuition is that the impact of shareholder homogeneity is stronger for firms whose stocks are mostly held by investors of the same age (same college). In terms of age, we consider five cohorts: investors who, in 1995, were under 30 years of age, between 31 and 40,

between 41 and 50, between 51 and 60, and 61 and older. For the college subsample, we have information on investors who graduated between 1977 and 1996.

We define a raw measure of homogeneity (*Shareholder Homogeneity1*) and two alternative weighed measures constructed by weighing the raw measure by either by the level of free float (i.e., non-controlling shareholders) or the proportion of individual shareholders in the firm (non-controlling shareholders minus institutions). We call the former *Shareholder Homogeneity2* and the latter *Shareholder Homogeneity3*. The idea is to separately assess the impact of shareholder homogeneity for the small non-controlling shareholders and for the non-controlling shareholders overall (i.e., small shareholders and institutions). Given that the results are qualitatively the same, we report the findings only for *Shareholder Homogeneity1* and *Shareholder Homogeneity2*.

We provide some descriptive statistics of the sample and the main variables in Table 1. We report firm-related variables in Panel A. Panel B reports the distribution of the sample based on graduation year. In Figure 1, we plot the frequency distribution of the college-based measure of homogeneity.

C. Econometric Methodology

The econometric task involves the estimate of a panel structure in the presence of potentially correlated errors across firms and across time. Various approaches have been adopted to address this issue. Himmelberg, Hubbard and Palia (1999) employ a firm fixed-effect specification. Zhou (2001) argues that, given that ownership adjusts slowly over time, it is hard for a specification based on firm fixed effect to capture the relationship between ownership and firm value. McConnell and Servaes (1995) exploit the cross-sectional dimension, while Morck, Shleifer and Vishny (1988) and McConnell, Servaes and Lins (2003) employ industry fixed effects.

What is the problem? When the residuals are correlated across observations, OLS standard errors are biased and underestimate the true variability of the coefficients. It can be shown (Petersen, 2005) that in the presence of a firm-effect standard OLS, Newey West and Fama-MacBeth deliver biased standard errors, while (industry or firm) clustered standard errors are unbiased. The standard approach based on a panel estimation with firm fixed effect would also deliver unbiased standard errors, but *only if the firm effect is permanent*. This requirement is unlikely to be the case in our setup. In the case of both firm and time effects, there is no direct method that is optimally designed to address both problems and it depends on the dimension along which the bias

is more severe. In general, the best avenue is to "address one parametrically (e.g., including time dummies) and then estimate standard errors clustered on the other dimension" (Petersen 2005). We will, therefore, adopt as our approach a panel specification with time fixed effect and clustering at industry level. We also experiment with time effect and clustering at firm level as well as with a standard panel specification with firm fixed effect and clustering at both time and industry level. Given that the results are consistent and not qualitatively different, we report only the former. The estimation method is instrumental GMM.

Given the relative sluggishness of our main explanatory variables, we expect the bias to be particularly severe along the time dimension. Therefore, for the specifications for which we have a significant number of periods — i.e., the monthly ones — we also employ a Fama-MacBeth approach with correction for first-order autocorrelation. The Fama-MacBeth will be used for the analysis of stock returns, as well as analyst errors and dispersions. These are also the variables for which the Fama-MacBeth methodology has mostly been employed before. Therefore, its use allows us to compare our results to those of other studies.

D. Endogeneity

The main issue is endogeneity. In general, the endogenous nature of the ownership structure (Demsetz 1983, Demsetz and Lehn 1985) makes it hard to study its impact on firm value. For example, it is possible that firms with higher profitability may attract more homogeneous shareholders. In this case, it may be that, instead of shareholder homogeneity making firms more profitable by disciplining managerial behavior, firm profitability results in shareholder homogeneity by attracting similar individuals. Given the way we have constructed our variables — i.e., based on sources of heterogeneity rooted in the past — this is not very likely.

However, to control for any residual endogeneity, we also adopt two alternative approaches. The first approach is based on an instrumental variable estimation that exploits the identification restriction provided by the location of the shareholders. Investors have been shown to invest in the stocks of companies headquartered close to where they live (Huberman 2001, Coval and Moskowitz 1999, 2001) or of the country they come from (Bhattacharya and Groznik 2001). That is, location explains why investors invest in a firm that is *exogenous with respect to the main observable characteristics of the firm we want to study, such as profitability and stock returns*. We

can therefore project shareholders' distributional characteristics — i.e., concentration — on the distributional characteristics of the investors living close to the firm.

The idea behind this identifying restriction is that the firm's shareholder structure is determined by its location. That is, the degree of homogeneity of the shareholders of a firm is directly related to the degree of homogeneity of the investors living in the place where it is located. For example, let us consider two firms: A and B, the first located in Goteborg and the second in Malmo. We expect the homogeneity of the shareholders of firm A to be related to the homogeneity of the citizens of Goteborg and the homogeneity of firm B to be related to the homogeneity of the citizen of Malmo. In other words, historic, social and cultural reasons determine the distribution of the potential shareholders (i.e., citizens), and local bias induces them to invest in local firms. So, if there is a predominance of older people in Malmo — maybe because Malmo has a relatively milder climate or better health and welfare services — this will be reflected in a predominance of older shareholders for the firms located in Malmo.

This identifying restriction will therefore require the following three elements to be true. First, investors in Sweden are affected by local bias. Second, different localities have significantly different distributional characteristics for the investors living there. Third, the firms inherit the distributional characteristics of the localities in which they are located. The first point has already been amply proven, both in Sweden and abroad. For the case of Sweden, we refer to Massa and Simonov (2005) and Bodnaruk (2005).

To test the second point, we construct tests of differences of the degree of homogeneity across investors and localities. In Table 2, Panel A, we report the mean and standard deviation of the distribution of the firm shareholders and investors. We focus on two characteristics of these distributions: the average age and the concentration (i.e., Herfindahl index) of both their age and their college affiliation. We consider three classes of investors: all the Swedish investors, all the investors who live close to a firm ("local investors") *regardless of the firm in which they invest*, and all the investors who do not live close to a firm ("non-local investors") *regardless of the firm in which they invest*. "Local" is defined using either a 50- or 100-km radius around the main business units of the firm.[ii] Business units are defined as "the locations in which the productive activity takes place and [that have] at least 10 permanent employees" (MM Partners). Approximately 62% of the individual non-controlling shareholders live within the 50-km radius. We test for differences between the characteristics of the distributions of the five

classes. The results show a statistical difference between the values of the levels of concentration across classes of investors. That is, the degree of concentration of the local investors in terms of both age and college affiliation is different from the ones of the non-local ones and different from the overall national average. The same applies for the case of the average of age.

The third point is trickier. Indeed, we need to show that this difference translates at the firm level. We therefore regress, for each firm, the distributional characteristics of their shareholder structure on those of the investors living in the local area as well as on those of the investors who do not live in the local area and a set of control variables. The distributional characteristics are the average age, the Herfindahl index of age and the Herfindahl index of college affiliation (i.e., degree of homogeneity). The goal is to show that the distributional characteristics of the firm are related to the distributional characteristics of the investors living close to them and are not related to those of the non-close investors. Given the potential correlation between local and non-local homogeneity, we also consider an orthogonalized measure of non-local homogeneity constructed by regressing local on non-local homogeneity and taking the residuals.

We employ as control variables the ones we will use in the main specifications. This will also guarantee that our instrumented proxies will be uncorrelated with the other variables in our specifications. The control variables are *size*, measured as the logarithm of the market value of the company as at the end of the previous calendar year; *leverage*, measured as the ratio of debt to sum of equity and debt at the end of the previous fiscal year; *employees,* measured as the number of employees (categories 1–8) as provided by MM Partners; *dividend yield,* defined as the ratio of the dividends paid in the previous fiscal year divided by the share price at year-end; the amount of *cash* held by the firm (measured as logarithm); a *high-tech dummy* equal to 1 if the company belongs to a high-tech industry and 0 otherwise; and an *A-list dummy* that is equal to 1 if the company is part of a selected number of companies with higher disclosure requirements (A-list) and 0 otherwise. These variables are defined as at the end of the previous calendar year.

We augment these variables by adding a measure of the quality of corporate governance (*Corporate Governance Index*), a variable that represents the size of the firm's free float (*Share of Free Float*), and a variable that proxies for the part of the shares not held by either the controlling shareholders or the institutional investors

(*Share of Individuals*). The free float allows us to proxy for the presence of blockholders (i.e., 1-free float is the controlling group). The *Corporate Governance Index* is defined similarly to Gompers, Ishii and Metrick (2003) and is based on Cronqvist and Nilsson (2003). It is the sum of four dummies that are equal to 1 if (a) there are differential share classes, (b) controlling shareholders have preemption rights on high-voting shares, (c) voting restrictions are in place, and (d) a voting pact exists between large shareholders, and 0 otherwise. It is measured at the end of the previous fiscal year.

Share of Free Float and *Share of Individuals* refer to the share of non-strategic investors and individual investors, correspondingly, at the end of the previous calendar year. We also consider two alternative measures of board homogeneity: the first (*Board Homogeneity1*) is the Herfindahl index based on the share of board members belonging to the same age cohort. We define age cohorts between 0 and 30 years of age, between 31 and 40, 41–50, 51–60, and 61 and over. The second measure (*Board Homogeneity2*) is defined on the basis of gender, i.e., the share of males among board members.

The results are reported in Panels B, C and D, respectively, for the case of average age, Herfindahl index of age and Herfindahl index of college affiliation. We report three sets of specifications: in the first, we regress the average (Herfindahl index of the) age of the *local* shareholders of the firm on the average (Herfindahl index of the) age of the local investors (columns 1,2 and 4–5). In the second, we regress the average (Herfindahl index of the) age of *all* the shareholders of the firm on the average (Herfindahl index of the) age of the local investors (columns 7,8). In the third specification, we regress the difference between the average (Herfindahl index of the) age of *local and non-local* shareholders of the firm on the difference between the average (Herfindahl index of the) age of *local and non-local* shareholders overall (columns 3 and 6).

The findings show a strong statistical relationship between firm and location characteristics. The results are robust across specifications and for different definitions of locality (50 and 100 km). Also, they are consistent both in the case of the average value and in that of the Herfindahl index one. In particular, a one-standard-deviation increase in the average age (age concentration) of the investors in the locality raises the average age (age concentration) of the shareholder structure of the firm by 11% (17%). Similarly, a one-standard-deviation increase in the college-based concentration of the investors in the locality raises the degree of college-based concentration of the firm by 17% .

These results suggest that it is indeed the case that the shareholding structure of a firm is affected by the place in which the firm is located. We will therefore adopt as main instruments the average distributional characteristics of the locality. These are the average age of the locality, the degree of concentration (Herfindahl index) of age of the locality and the degree of concentration (Herfindahl index) of college affiliation of the locality. Here locality is defined by using a 50-km radius. We also use some variable that proxies for the "degree of sophistication" of the place in which the firm is located, such as the number of branches of the banks in the area. The assumption is that higher sophistication may actually affect investment in the local firm.

We also include additional instruments that describe the distribution of the investor base over capital and labor income of the investors' parental family when the investors were between 10 and 15 years old. To do this, we trace individual investors via the LINDA dataset to the parental household (or their own if they were adults in 1970). Then we build, at the firm level, Herfindahl indexes and standard deviations of labor/capital income of the parental families of the shareholders. These are either in monetary values (1970 Swedish krones) or in terms of the decile of the labor/capital income distribution they belonged to. We also calculated Herfindahl index based on locality of the shareholders' parents in 1970. These variables are meant to proxy for the determinants that have induced the shareholders to invest.

To assess the quality of our instruments, we report diagnostic statistics. We recall that the instruments should be correlated with the endogenous explanatory variables but orthogonal to any other omitted characteristics. That is, the instruments should be uncorrelated with the dependent variable of interest through any channel other than their effect via the endogenous explanatory variables. In other words, the correlation between the residuals of the second stage and the instruments should be null.

To test whether our instruments are correlated to the variable of interest, we report the RSquare of the first stage in the instrumental variable regression as well as the partial RSquares of the instruments in such a regression. Regarding whether our instruments are correlated with the residuals of the second stage, economic intuition suggests that this should not be the case. Indeed, it is not likely that age or college affiliation of the investors of a specific locality can be related to the financial characteristics (e.g., price) of a firm located there. However, as additional evidence, we also report the Hansen test of overidentification as well as the p-values of F-tests of the

residuals of the second stage regressed on the instruments.[iii] In all the specifications, the diagnostics show that the instruments are strongly statistically correlated with the endogenous proxy of interest and do not affect the dependent variable of interest through a channel other than their effect via the endogenous explanatory variables.

As a second alternative approach, we also experimented by using a combination of strictly exogenous variables (i.e., demographic variables, industry and time dummies) and, as suggested by Arellano and Bond (1991) and Arellano and Honore (2001), the lagged values of the explanatory variables. Also in this case we included variables that describe the distribution of the investor base over capital and labor income of the investors' parental family when they were between 10 and 15 years old. Given that the results are qualitatively consistent with the previous ones, they are not reported.

Finally, given our previous discussion on endogeneity, we also construct measures of homogeneity — as defined above — for only local shareholders, whom we define as shareholders living within a 50-km radius of either the firm's headquarters or its closest subsidiary. We call this measure local age-based homogeneity. The assumption is that the decision to invest in the firm for these investors should be even more predetermined.

IV. Shareholder Homogeneity and Reaction to News

We now discuss the empirical findings. We start with the first hypothesis (*H1*), which links shareholder homogeneity to the way shareholders react to news. We argue that if shareholders are homogenous, they will react in sync to news, selling (buying) in the case of bad (good) news. We therefore test whether higher homogeneity among shareholders increases the sensitivity of the overall order flow to an informational shock.

We construct a measure of sells and regress it on shareholder homogeneity and the information shock (*Surprise*). We consider the case of the aggregate shock and the case in which we split the shock for high or low shareholder homogeneity. In the latter case, we interact the surprise with dummies representing the level of homogeneity. A dummy of high (low) homogeneity takes the value 1 if homogeneity is above (below) the median value and 0 otherwise. We also employ control variables.

We define as sells either the percentage of non-controlling individual shareholders who sell or the percentage of shares sold. We define *Surprise* as the ratio between realized EPS and forecasted EPS as of the last month of the previous forecasting year.

The EPS data come from yearly EPS from IBES International. We use a semiannual frequency, December and June of each year. If the EPS release date is in the period between January and June, sells are based on the difference between the changes in the end-of-June holdings and the end-of-December holdings of the previous year. If the EPS release date falls between June and December, we use the difference between the holdings of the end-of-December of the same year and those of the end of June.

We use the two alternative measures of board homogeneity defined in Section III-D: *Board Homogeneity1* and *Board Homogeneity2*. We also use *Corporate Governance Index*, *Share of Free Float*, and *Share of Individuals*. The control variables are similar to the ones used by Gompers, Ishii and Metrick (2003). They include *size*, *leverage*, e*mployees, dividend yield, high-tech dummy* and *A-list dummy,* as defined in Section III-D. We also include the *bid-ask spread*, defined as the bid-ask spread as at month t-2; *turnover*, defined as the logarithm of the ratio of shares traded to shares outstanding at month t-2; and the *price* (in SEK) of the stock as at *t-2*.

The results are reported in Table 3. They show that on average, firms with higher shareholder homogeneity display lower sales. If we condition on the level of shareholder homogeneity, there is a strong negative correlation between sales and surprise in the case homogeneity is high. A positive surprise reduces sales, while a negative one increases them. In particular, an increase in homogeneity of one standard deviation decreases the sales from 26.8% to 17.3% in the case of sales defined in terms of the percentage of individuals who sell and from 21.5% to 12.5% in the case of the percentage of shares sold. The effect of *Surprise* is also strong. A *Surprise* of one standard deviation results in, an increase in sales of 4.5% and increase in sellers of 3.4% respectively in the case of high homogeneity. There is no analogous result for the case of low shareholder homogeneity. This suggests that the degree of shareholder homogeneity directly affects the way shareholders react to information shocks. As we postulated in our model, higher homogeneity does indeed make investors more likely to react in sync.

V. Shareholder Homogeneity and Firm Transparency

We now focus on the second restriction (*H2*). We argued that shareholder homogeneity induces managers to be meet market expectations. That is, higher homogeneity should reduce investors' forecasting errors and increase the convergence of their forecasts. In

particular, we expect a negative correlation between shareholder homogeneity and proxies of investor forecasting errors and information dispersion. We therefore estimate:

$$A_{jt} = \alpha + \beta HO_{jt} + \gamma C_{jt} + \varepsilon_{jt}, \qquad (1)$$

where A_{jt} is the proxy of investors errors and dispersion in beliefs for the *jth* stock at time *t*, HO_{jt} is our proxy for the degree of shareholder homogeneity of the *jth* firm at time *t*, and C_{jt} is a vector of control variables for the *jth* stock at time *t*. The measure of investors' errors is the forecasting error of the analysts following the stock. We define it according to the existing literature (e.g., Dittmar and Thakor, 2004). This is the absolute value of the difference between analysts' earnings forecasts and actual earnings, standardized by actual earnings. We use as a measure of investors' dispersion of beliefs the standard deviation of the forecasts across analysts. We focus on the yearly forecasts. We use monthly frequency and, for each stock, we calculate analysts' forecast errors by using all the forecasts released within a month.

We use two alternative measures of homogeneity: *Shareholder Homogeneity1* and *Shareholder Homogeneity2*. In both cases, we consider the raw measure of board homogeneity, as well as a measure constructed by interacting shareholder homogeneity with a variable that proxies for the power of the controlling shareholders. This proxy is a dummy taking the value of 1 if there are investors who own more than 20% of the votes in the firm and who have an excess of control rights on property rights — i.e., the ratio of the control of cash flow rights is greater than 1 (La Porta *et al.* 1998).[iv] The intuition is that the impact of non-controlling shareholders should be weaker if the controlling shareholders have a tighter grip on the firm using dual--class shares. The control variables are the same as the ones defined before. Following Gompers, Ishii and Metrick (2003), we also include measures of past stock returns. *Return 23* is the compounded gross return for the period between months t-2 and t-3, *Return 46* the compounded gross return for the period between months t-4 and t-6, and *Return 712* the compounded gross return for the period between months t-7 and t-12. The frequency is monthly.

We carry out both a panel estimation and a Fama-MacBeth estimation, as discussed in Section III. We consider alternative proxies for shareholder homogeneity, based on age and college affiliation and restricted to local investors. We recall that our working hypothesis requires $\beta < 0$. The results are reported in Table 4. In Panel A, we focus on the standard deviation of analysts' forecasts and in Panel B we focus on the

absolute errors of analysts' forecasts. Given that the results based on panel estimations are consistent with those based on Fama MacBeth, in the interest of brevity, we report only the results of the panel estimations.

The findings show that analysts' forecasting errors and the degree of divergence in their forecasts is significantly negatively related to shareholder homogeneity. This holds across all the specifications. Not only are our results statistically significant, but they are also economically relevant. An increase in homogeneity of one standard deviation reduces the standard deviation of the forecasts by 47% (20% and 38% respectively for the college-based and local age-based homogeneity measures) — or by 36% (15%, 28%) of its unconditional mean — and lowers the absolute error of analysts' forecasts by 67% (23% and 67% respectively for the college-based and local age-based homogeneity measures). The results also hold for the Fama-MacBeth estimation and are robust to the use of the homogeneity measure restricted to local shareholders (less than 50 km distance).

It is also important to note that the impact of shareholder homogeneity is stronger in the case of less powerful dominant shareholders. Moreover, these results hold regardless of the quality of governance of the firm — both internal and external — and of the degree of board homogeneity. The other measures of governance do not seem to be robust across specifications.

VI. Shareholder Homogeneity and Firm Profitability

We argued that shareholder homogeneity should be related to higher observed firm profitability (*H3*). We test this by applying the standard methodology (Gompers, Ishii and Metrick 2003) and estimating:

$$\Pi_{jt} = \alpha + \beta HO_{jt} + \gamma C_{jt} + \varepsilon_{jt}, \qquad (2)$$

where Π_{jt} is the measure of profitability of the *jth* firm at time t. We use three proxies for profitability: ROE, ROA and Profit Margins (as defined in the caption to Table 1).[v] HO_{jt} is our proxy for the degree of shareholder homogeneity of the *jth* firm at time *t*, and C_{jt} is a vector of control variables for the *jth* stock at time *t*. Both HO_{jt} and C_{jt} are defined as above. That is, we consider both the raw measure of homogeneity and a weighed one. We use one measure of homogeneity based on age, one based on college affiliation and one restricted to local investors. As before, we also control for the power of the dominant shareholders. Given that the data is available only at a yearly

frequency, we focus only on the panel estimation. We recall that our working hypothesis requires $\beta > 0$. The results are displayed in Table 5; we report the results for Profit Margins, ROA and ROE.

The results show that profitability is strongly affected by shareholder homogeneity. A strong and statistically significant positive relation is found between profitability and shareholder homogeneity. Firms characterized by more homogenous shareholders are more profitable. These results hold across all the specifications and are robust to the use of alternative weighing of the homogeneity measure.

Our results are both statistically and economically significant. Firms characterized by homogeneity one standard deviation higher than the average have profit margins 32% higher than average (43% and 25% for the college-based and local age-based homogeneity measures, respectively)[vi], ROA 9% higher than average (10% and 12% respectively for the college-based and local age-based homogeneity measures), and ROE 26% higher than average (23% and 26% respectively for the college-based and local age-based homogeneity measures).

As in the previous case, the impact of shareholder homogeneity is stronger if there are less powerful dominant shareholders. That is, non-controlling individual shareholders are less able to discipline managers in the presence of powerful dominant shareholders.

Also, the fact that we explicitly control for external and internal measures of governance (i.e., institutional and blockholding-based governance) as well as for board homogeneity suggests that our proxy for shareholder homogeneity is not proxying for other dimensions of governance. On the contrary, the other measures of governance do not provide any separate explanatory power, nor does it seem that the amount of free float or the fraction of small shareholders in a firm *directly* affect the firm's profitability.

Board concentration (*Board Homogeneity1*) has instead a direct positive impact on profitability. This result is robust across specifications and different definitions of profitability (ROE, ROA and Profit Margin). Firms characterized by board homogeneity one standard deviation higher than the average have profit margins 9% higher than the average (13%, 10% for the local age-based and college-based homogeneity measures). This is consistent with the existing theories on teams as well as theories on board composition showing how homogeneity among board members makes it easy for them to coordinate in the interest of the company. Corporate governance index is not

consistently significant. Also, among the other variables, size and leverage are consistently positively related to profitability and dividend yield most of the time, while the amount of cash of the firm is negatively related to it.

Overall, these findings suggest that, in general, firms with higher shareholder homogeneity are more profitable. We will now move on to see whether these effects — higher transparency and higher profitability — translate at the price level.

VII. Shareholder Homogeneity and Stock Price

What is the overall effect on firm market valuation? We argued that higher homogeneity by increasing firm profitability and increasing transparency should also increase the stock price (*H4*). To test it, we take a two-pronged approach, looking at both the relation between homogeneity and price (Tobin's Q) and that between changes in homogeneity and changes in prices (i.e., returns).

A. Shareholder Homogeneity and Tobin's Q

We start by looking at stock prices. In line with the literature (Coval and Moskowitz 2001, Gompers, Ishii and Metrick 2003, Hong, Kubik, and Stein 2003, 2005), we use Tobin's Q and regress it on the level of homogeneity at year-end and a set of control variables. In order to address the fact that computing measures of firm value may be problematic if the firm has majority ownership in subsidiaries, but there is some minority interest, we re-estimate the specification by just focusing on firm with whole owned subsidiaries. The (unreported) results do not differ.

We limit the set of control variables to those commonly used in the literature. These are firm characteristics such as size, leverage, number of employees, dividend yield, cash, high-tech dummy, and A-list dummy. We also include our measures of direct and indirect governance (i.e., corporate governance index, share of free float and share of individuals). All the variables are defined as in previous sections. We apply a panel estimation. We recall that our working hypothesis requires $\beta > 0$.

The results are reported in Table 6. They show that firms with higher shareholder homogeneity command higher market valuation. Prices (i.e., Tobin's Q) are positively and significantly related to shareholder homogeneity. As before, the results hold across specifications, both when we use a specification based on college affiliation and when we use one based on the age cohort. Moreover, the results are also robust when we use

shareholder homogeneity weighed by the free float measure. Firms with homogeneity greater than the average by one standard deviation have prices that are 15% higher than average for the age-based homogeneity measure (13% for the college-based homogeneity measure). These results also hold when we consider the local-homogeneity measure. Firms with homogeneity greater than the average by one standard deviation have prices that are 13.5% higher than average.

As in the previous estimates, the impact of shareholder homogeneity is stronger if the dominant shareholder is less powerful. Firms with homogeneity greater than the average by one standard deviation have prices that are 23% higher than average for the age-based homogeneity measure (14% and 17% for the college-based and local age-based homogeneity measures respectively) in the case of less powerful dominant shareholders and prices that are 1.8% higher than average for the age-based homogeneity measure (1.7% lower and 8% higher for the college-based and local age-based homogeneity measures respectively) for the case of more powerful dominant shareholders. It is also worth noting that the estimates for powerful dominant shareholders are not significant.

Among the other variables, it is important to note that both direct governance (corporate governance index) and indirect governance (share of free float) are significantly related to stock prices. The higher the quality of corporate governance (i.e., the lower the value of the index) and the higher the proportion of controlling shareholders (i.e., the lower the free float), the higher the stock prices are. This is consistent both with the US findings on corporate governance (Gompers, Ishii and Metrick 2003) and with those for Sweden (Cronqvist and Nilsson 2003). Taken together with the previous findings, these results suggest that the level of corporate governance is related to the level of stock prices. Also, there is a strong and persistent positive correlation (across specifications) between stock price and firm size and a negative one between stock price and leverage.

B. Shareholder Homogeneity and Stock Returns

We now consider stock returns. We recall that if greater homogeneity increases prices, a positive *change* in homogeneity should be positively related to stock returns. In other words, if the level of homogeneity explains prices, changes in homogeneity should explain changes in prices (i.e., returns). We therefore regress stock returns on our proxies for homogeneity and a set of control variables. For consistency and comparability with the

literature, we adopt a specification analogous to the one employed by Gompers, Ishii and Metrick (2003) and Coval and Moskowitz (1999 and 2001). We estimate:

$$R_{jt} = \alpha + \beta \Delta HO_{jt} + \gamma C_{jt} + \varepsilon_{jt}, \qquad (3)$$

where R_{jt} is the return of the *jth* stock at time *t*, HO_{jt} is our proxy for the degree of shareholder homogeneity of the *jth* firm at time *t*, ΔHO_{jt} represents the change over such a period, and C_{jt} is a vector of control variables for the *jth* stock at time *t*. The estimation frequency is monthly.

We consider alternative specifications based on the different measures of shareholder homogeneity: *Shareholder Homogeneity1* and *Shareholder Homogeneity2*. As before, we consider the raw measure as well as a measure constructed by interacting shareholder homogeneity with a variable proxying for the power of the controlling shareholders. We also control for board homogeneity (*Board Homogeneity1* and *Board Homogeneity2),* the quality of corporate governance (*Corporate Governance Index*), the size of the firm's free float (*Share of Free Float*), and the part of the shares not held by either the controlling shareholders or the institutional investors (*Share of Individuals*). The control variables are the same as the used by Gompers, Ishii and Metrick (2003) and the ones we defined in Section IV-B.

As in the previous estimates based on monthly data, we use both a panel and a standard Fama-MacBeth methodology. For the specification based on returns, we use the raw returns, the market-adjusted returns (residual of the CAPM market model) and the industry-adjusted returns (residual of the regression of stock returns on the industry value-weighted returns). We recall that our working hypothesis requires $\beta > 0$.

The results are reported in Table 7. Given that the results based on panel estimations are consistent with those based on Fama and MacBeth, in the interest of brevity, we report only the results of the panel estimations. In Panel A, we report the results for the age-based shareholder homogeneity proxy, in Panel B, we report the results for college-based shareholder homogeneity, and in Panel C, we report the results for local age-based shareholder homogeneity.

The results show that returns are positively and significantly related to changes in shareholder homogeneity. These results hold across all the specifications, both in the case of the panel specification and the Fama-MacBeth specification. Moreover, the results are also robust when we use shareholder homogeneity weighed by the measure of free float

(*Shareholder Homogeneity2*). This finding, coupled with the fact that the control variables include alternative governance measures and board homogeneity measures, suggests that shareholder homogeneity is not proxying for any external measure of governance (i.e., governance index) or internal measure of governance (i.e., blockholders, insider or controlling shareholders) nor for board homogeneity. Shareholder homogeneity has its own separate role in affecting stock returns.

Not only are our results statistically significant, but they are also economically significant. An increase in homogeneity of one standard deviation increases returns by 0.45% per month for the age-based homogeneity measure (0.49% for the local age-based and 0.45% for college-based homogeneity measures).

The impact of a change in homogeneity is stronger if the dominant shareholder is less powerful. The increase in homogeneity of one standard deviation increases returns by 0.47% per month for the age-based homogeneity measure in the case of less powerful dominant shareholders (0.54% for the local age-based and 0.53% for college-based homogeneity measures) as compared to 0.13% for the age-based homogeneity measure in the case of more powerful dominant shareholders (0.19% for the local age-based and -0.09% for college-based homogeneity measures).

Among the other variables, neither direct governance (corporate governance index) nor indirect governance (share of free float and share of individual investors) is related to returns. Nor do they seem to provide any additional explanatory power with respect to our measures. However, they have a significant explanatory power if used independently (Cronqvist and Nilsson, 2003). This may suggest that part of the explanatory power generally attributed to them may, in fact, be due to their relation to shareholder homogeneity. That is, firms with better governance are firms with higher shareholder homogeneity and not vice versa. Further, there is a strong and persistent negative correlation (across specifications) between returns and past price, past returns, past turnover and level of cash, and the positive one between returns and size.

Overall, these findings suggest that shareholder homogeneity is positively related to returns, which supports our hypothesis. It is important to stress that these findings also hold when we consider the local-homogeneity measure. Thus they could be interpreted as suggesting that homogeneity affects returns as opposed to returns inducing changes in shareholder homogeneity.

Would the change in homogeneity be forecastable or just unexpected? We address this issue by performing the following experiment.[vii] We decompose the change in homogeneity into its unexpected and expected components, and test whether the unexpected change affects stock prices. Indeed, increases in homogeneity will raise stock prices (i.e., positive return) only if they are unanticipated. Therefore, we first regress changes in homogeneity on the lagged company characteristics (size, book-to-market, leverage, number of employees, liquidity variables, industry and listing dummies, etc.). Then, the residuals of this regression are used as unexpected changes in homogeneity. The results (not reported) are consistent with the reported ones, suggesting that the impact of changes in homogeneity on stock prices is mostly related to unexpected shocks to homogeneity. That is, the degree of shareholder homogeneity is correctly priced and only unexpected changes to it induce stock price changes.

VIII. Discussion

Overall, these findings suggest that firms with higher shareholder homogeneity have higher stock prices, are more profitable and tend to meet more market expectations, as we have conjectured. In each case, these results hold regardless of the quality of governance of the firm — both internal and external — and of the degree of board homogeneity. That is, shareholder homogeneity is not proxying for some external measure of governance (i.e., governance quality) or internal measure of governance (i.e., blockholders, insider or controlling shareholders). Shareholder homogeneity has a distinct and important impact on stock prices.

Our results differ from those based on the theories relating differences in beliefs to stock prices in the presence of short-sale constraints (Miller 1977; Chen, Hong and Stein 2001; Diether, Malloy and Scherbina 2002). These posit that, given that investors with pessimistic views are reluctant to participate in the stock market, the stock price is a function of the view of relatively more optimistic investors. This implies that a higher the dispersion of opinions (i.e., lower homogeneity) would increase stock prices. Their channel is entirely market-based. That is, no direct impact on managerial behavior is assumed. Our results provide evidence in favor of a separate channel based on the reaction of the managers.

Our results are consistent with the recent findings of Boot and Thakor (2004) and Dittmar and Thakor (2005) on equity issuance decisions. They argue that the firm value is an increasing function of the alignment between shareholders and managers and show

that managers use equity to finance projects when they believe that investors' views about project payoffs are likely to be aligned with theirs, thus maximizing the likelihood of agreement with investors. Even if they do not test it directly, their predictions regarding price and profitability are consistent with ours, as long as alignment and homogeneity are positively correlated. Moreover, the measures of alignment they use — forecast error and dispersion of analyst forecasts — are similar to our measures of transparency. Therefore, the fact that shareholder homogeneity is related to transparency also indirectly suggests that it is related to alignment.

Overall, these sets of findings complement each other and provide a view of corporate governance in which the distribution of shareholders has a direct impact on the value of the firm because it conditions the decision of the managers and therefore, indirectly the stock price. This view sheds new light on the determinants of stock prices and of corporate decisions. Indeed, unlike in standard corporate theory, the decisions of the managers are directly affected by the investment decision of the investors, as opposed to direct monitoring. Unlike in standard asset pricing theory, the stock price is indirectly determined by the decision of the managers reacting to investors' pressure.

Conclusion

We study how the type of shareholding structure of a firm affects its financial and operating performance. In particular, we argue that the degree of homogeneity of shareholders affects firm value. Homogeneous shareholders are better able to informally coordinate their actions. This acts as a disciplining device for the managers and induces them to be meet market expectations and to engage less in value-destroying activities. This translates into higher profitability, higher stock prices and lower market forecast errors and dispersion.

We test this hypothesis by using a new and unique dataset containing information on all the shareholders for each firm in Sweden over the past decade. We exploit this information to construct two novel proxies for shareholder homogeneity. The first is based on the age cohort of the shareholders and the second on their degree of college affiliation. Using these proxies, we show that greater homogeneity increases firm profitability and returns, while it reduces analyst error and analyst dispersion. This suggests the existence of a channel through which shareholder distribution affects the value of the firm. Homogeneity across shareholders acts as a form of governance.

Our findings have relevant implications. Indeed, they show that exogenous differences in age cohorts or education may have a potent effect on the value of the firm and its relation vis-à-vis the market. This suggests an explanation of stock returns and firm value based on past interactions and new cohorts coming to the market, providing food for thought for corporate as well as asset pricing theory.

Appendix

We present a simple model. We make assumptions as close as possible to the existing literature (Kahn and Winton 1998, Maug 1998, Booth and Thakor 2004, Admati and Pfleiderer 2005). We assume that investors have only one firm to invest. This is analogous to assuming an extreme form of market segmentation. That is, markets are not perfectly elastic, the demand for stocks slopes down, and shareholders are not substitutable for each other. The main implication is that dissatisfied shareholders cannot be easily replaced. In the empirical part, we will use identifying restrictions that allow us to focus on the exogenous component of shareholder structure.

There are three periods: 0, 1 and 2. In period 0, the managers decide how much of the value of the firm to appropriate and how much to distribute as earnings. In period 1, earnings are announced. Finally, in period 2, the true value of the firm (V) is revealed. Investors trade in both period 0 and 1. In period 1, they decide to invest in the firm on the basis of their prior beliefs about the value of the firm. In period 1, they update their prior beliefs by observing the earnings. Most of the analysis concentrates on the price at period 1. For simplicity, we will omit the time subscript when it is not strictly required.

The investors

Following Barberis and Shleifer (2003) and Greenwood (2005) we assume that the (non-controlling) investors are endowed with CARA utility function and, at each time t, they maximize the exponential utility of next-period wealth subject to a wealth constraint:

$$max_{x_{i,t}} E\left[-exp(-\gamma W_{i,t+1})\right] \qquad \text{(A1)}$$

$$such\ that\ W_{i,t+1} = W_{i,t} + x_{i,t}\left[p_{t+1} - p_t\right], \qquad \text{(A2)}$$

where, for the *ith* investor, $W_{i,t}$ represents his wealth at time t, γ is his degree of risk aversion, $x_{i,t}$ is the amount he invests in the stock of the firm at time t, and p_t is the price of the stock at time t. Investors can alternatively invest in a riskless asset that

delivers a return that we assume to be equal to 0. There is a fixed supply of the stock equal to *S*. It can be shown that the investment in the firm of the *ith* investor is equal to: $x_{i,t} = \frac{E_{i,t}(V) - p_t}{\gamma Var_{i,t}(V)}$, where $E_{i,t}(V)$ and $Var_{i,t}(V)$ are, respectively, the *ith* investor's conditional mean and his conditional variance of the value of the firm (V) conditional on the information available at time *t*.

Investors reallocate their portfolios on the basis of their prior beliefs about the value of the firm (period 0) and of the new information contained in the announced earnings (period 1). Investors enter the market in period 0 with heterogeneous prior beliefs about the distribution of the value of the firm. Following Hertzberg (2006), we assume that all the investors agree about the expected value of the firm, but disagree abut the variance of the distribution $V \tilde{} N(\mu_V, \Sigma^2_{i,V})$. We assume that $\Sigma^2_{i,V} = \Sigma^2_V + \eta_i$, where η_i is uniformly distributed on the interval $[-H,+H]$. H represents the degree of heterogeneity of the investors. We assume that $H < \Sigma^2_V$. This implies that the reaction to new information (earnings) depends on the investor characteristics ($\Sigma^2_{i,V}$). Investors with similar characteristics interpret information in a similar way and react analogously.

In period 1, the investors observe the earnings announced by the firm (Y) and update their beliefs on the basis of them. In period 2, investors learn about the value of the firm. We assume that the earnings are: $Y = \alpha V + \varepsilon - f^2$, where V is the value of the firm and α represents the fraction of the firm value that is produced as earnings — a sort of "return on value of the firm." α is bounded between 0 and 1. The term f represents the value that is appropriated by the managers, and ε is an "information noise." Investors are not aware of the expropriation and use the value of the cash flows to draw inferences on the value of the firm (i.e., they assume $Y = \alpha V + \varepsilon$). This implies that a higher *f*, by reducing the earnings, lowers the expected value *f* the firm for the investors.

The value of expropriation represents the amount of earnings that are siphoned off by the managers. In the case of a public company with diffuse ownership, these can be thought of as perks and benefits accruing to entrenched managers, while in the case of a tightly controlled (family) firm, these can be seen as transfer benefits that accrue to the family/dominant shareholders. In the former case, f proxies for the conflict of interest between shareholders and managers, while in the latter case, it proxies for the conflict

between majority (controlling) and minority (non-controlling) shareholders. Following Admati and Pfleiderer (2005), we assume that the expropriation process is not value invariant.[viii] Quite the contrary, it leads to destruction of value. Therefore, we model it as $-f^2$. ε represents the noise in the transmission of the information about cash flows from the firm to the market. It is normally distributed and independent of investors' prior beliefs about the fundamental value of the firm. That is: $\varepsilon \sim N(0, \Sigma_{\varepsilon}^2)$ and $corr(V, \varepsilon)=0$.

The assumptions about the information structure allow us to define the belief of the *ith* investor as:

$$E_{i,1}(V) = \mu_V + \frac{\alpha\Sigma_{i,V}^2}{\alpha^2\Sigma_{i,V}^2 + \Sigma_{\varepsilon}^2}(Y - E[Y]) = \mu_V + \frac{\alpha\Sigma_{i,V}^2}{\alpha^2\Sigma_{i,V}^2 + \Sigma_{\varepsilon}^2}\left(\alpha V - f^2 + \varepsilon - \alpha\mu_V\right), \quad \text{(A3)}$$

where $Y = \alpha V - f^2 + \varepsilon$ represents the signal of the investor after the observation of the cash flows.[ix] The conditional variance for the *ith* investor is:

$$Var_{i,1}(V) = \Sigma_{i,V}^2 - \frac{\alpha^2\Sigma_{i,V}^4}{\alpha^2\Sigma_{i,V}^2 + \Sigma_{\varepsilon}^2}. \quad \text{(A4)}$$

We can now determine the aggregate demand by aggregating across all the investors in the market. This is the same as integrating over a uniform distribution, given that $\Sigma_{i,V}^2 = \Sigma_V + \eta_i$, where η_i is uniformly distributed on the interval *[-H,+H]*. Therefore, the aggregate demand in period 0 and 1 are, respectively,

$$D_0 = \frac{1}{2H}\int_{-H}^{+H} x_{i,0}\, d\eta_i = \frac{1}{2\gamma H}\int_{-H}^{+H} \frac{\mu_V - p_0}{\Sigma_{i,V}^2}\, d\eta_i = \frac{\mu_V - p_0}{2\gamma H}\left[Log\left(\Sigma_V^2 + H\right) - Log\left(\Sigma_V^2 - H\right)\right] \quad \text{(A5)}$$

$$D_1 = \frac{1}{2H}\int_{-H}^{+H} x_{i,1}\,d\eta_i = \frac{1}{2\gamma H}\int_{-H}^{+H} \frac{\mu_V + \dfrac{\alpha\Sigma_{i,V}^2}{\alpha^2\Sigma_{i,V}^2+\Sigma_\varepsilon^2}\left(\alpha V - f^2 + \varepsilon - \alpha\mu_V\right) - p_1}{\Sigma_{i,V}^2 - \dfrac{\alpha^2\Sigma_{i,V}^4}{\alpha^2\Sigma_{i,V}^2+\Sigma_\varepsilon^2}}\,d\eta_i =$$

$$= \frac{\alpha(Y-\alpha p_1)}{\gamma\Sigma_\varepsilon^2} + \frac{(\mu_V - p_1)}{2\gamma H}A, \quad \text{(A6)}$$

where $A = \left[Log(\Sigma_V^2 + H) - Log(\Sigma_V^2 - H)\right]$.

We are now ready to define the stock price as the one that equalizes demand and supply. We have assumed that the supply of stock is equal to S in both periods. Therefore, the price in the period 0 is determined by solving $D_0=S$, while in period 1 it is determined by solving $D_1=S$. This yields:

$$p_0 = \mu_V - \frac{2\gamma SH}{\left[Log(\Sigma_V^2 + H) - Log(\Sigma_V^2 - H)\right]}, \; p_2 = V,$$

and

$$p_1 = \left(\mu_V\Sigma_\varepsilon^2 A + 2\alpha HY - 2\gamma SH\Sigma_\varepsilon^2\right) / \left(2\alpha^2 H + \Sigma_\varepsilon^2 A\right). \quad \text{(A7)}$$

Prices react more to signals (Y) the higher the degree of homogeneity. That is, if we define the change in price following a change in earnings (ΔY) as $\Delta P = \Psi\Delta Y$, we can define the impact of earning announcements as:

$$\Psi = \frac{2\alpha H}{\left[2\alpha^2 H + \Sigma_\varepsilon^2 Log\left(\Sigma_V^2 + H\right) - \Sigma_\varepsilon^2 Log\left(\Sigma_V^2 - H\right)\right]},$$

Ψ is a decreasing function of H. Indeed, substituting $h = \dfrac{H}{\Sigma_V^2}$ and denoting $g(h) = \dfrac{\{Log(1+h) - Log(1-h)\}}{h}$, one can rewrite the equiation for Ψ as

$$\Psi = \frac{2\alpha}{\left[2\alpha^2 + \dfrac{\Sigma_\varepsilon^2}{\Sigma_V^2}\dfrac{\{Log(1+h) - Log(1-h)\}}{h}\right]} = \frac{2\alpha}{\left[2\alpha^2 + \dfrac{\Sigma_\varepsilon^2}{\Sigma_V^2}g(h)\right]} \quad \text{(A8)}$$

Since $d\Psi/dH \propto -dg/dh$, it is enough to show that $g(h)$ is monotonic and increasing function of h. Using Taylor expansion for $Log(1+h)$ for $|h|<1$, one can write:

$$\frac{Log(1+h)-Log(1-h)}{h} = 2\sum_{h=0}^{\infty}\frac{h^{2n}}{2n+1} = 2\left(1+\frac{h^2}{3}+\frac{h^4}{5}...\right). \quad \text{(A9)}$$

It can be seen that $g(h)$ is increasing function for any $h>0$. Thus, Ψ is increasing function of homogeneity (defined as $1/H$).

The managers

We now consider the policy of the manager. We will use the term "manager" to define the agent in control of the firm. This can be either the manager of a public company with diffuse ownership or the family/dominant shareholder of a tightly controlled firm. In line with standard literature, we assume them to be risk neutral and to have a standard objective function (Admati and Pfleiderer 2005):

$$\Pi = \omega p_1 + \omega V + f\ , \qquad \text{(A10)}$$

where ω can be interpreted as the fraction of the shares and options of the firm owned by the manager and f is the amount the manager is able to expropriate from the firm. For simplicity and no loss of generality, we assume that the manager discounts second-period profits at the riskless rate.

This specification assumes that the manager is interested in maximizing both period 1 payoff (i.e., p_1) and the terminal value. This assumption is consistent with standard literature (e.g., Ross 1977, Admati and Pfleiderer 2005) and assumes that manager's compensation depends on both the short-term (period 1) and long-term (period 2) price performance. The manager maximizes the value of the compensation ($\omega p_1 + \omega V$), as well as the amount he can siphon off by expropriation (f). The fraction ω determines the equity ownership of the managers. A small value of ω corresponds to managers with little equity- and option-based compensation, while a high value of ω corresponds to a firm with a family/dominant shareholder.

We assume that in period 0, the manager knows V. As we mentioned before, in period 1, the investors observe Y under the erroneous belief that $Y = \alpha V + \varepsilon$. That is, they think that earnings give a fair representation of the true value of the firm (V) without realizing that they are, instead, net of the amount appropriated by the managers.

This implies that expropriation from the managers has the important side effect of inducing the investors to think that the true value of the firm is lower than it actually is.

We focus on the trade-off the manager faces and, to keep the analysis simple, we assume that the true value of the firm (i.e., V) is exogenously given. The manager maximizes Π, choosing f. He may appropriate more (i.e., increase f). However, this will reduce the perceived earnings, lower the expected value of the firm and reduce the price of the stock and therefore his capital gain (ωp_1). Alternatively, the manager may appropriate less. This will increase the perceived earnings, raise the expected value of the firm and increase the price of the stock and therefore the managers' capital gain (ωp_1). In other words, higher expropriation lowers the perceived earnings and therefore reduces the price of the firm. In period 0, the manager decides the amount to be appropriated (f). We maximize equation A10, and, after simple algebraic manipulation, we find that the equilibrium level of expropriation is:

$$f = \frac{2\alpha^2 H + \left[Log\left(\Sigma_V^2 + H\right) - Log\left(\Sigma_V^2 - H\right)\right]\Sigma_\varepsilon^2}{4\alpha H \omega}. \quad \text{(A11)}$$

It can be shown that there is a negative relationship between the amount that is appropriated by the manager and investor homogeneity ($1/H$). That is, a higher degree of investor homogeneity reduces expropriation. The intuition is straightforward. Higher homogeneity induces investors to react in a similar way and allows investors to (informally) coordinate. If the markets are not perfectly elastic, shareholders are not substitutable for each other and dissatisfied shareholders cannot be easily replaced. In this context, managers have to be careful about the profitability of the firm and the earnings they report because dissatisfaction will bring about a sharp drop in stock price. In other words, the implicit threat of a shareholder sell-off, amplified by shareholder homogeneity, would induce managers to refrain from value-reducing strategies and to stick to high earning profiles. This reduces the incentive to expropriate and/or to engage in value-destroying activities. Indeed, the fall in prices due to a sell-off following bad earning announcements makes the loss from reduced value (ωp_1) bigger than the gain from appropriation (f).

A direct effect is that shareholder homogeneity, by reducing expropriation, also reduces the errors made by the market. Indeed, the error is due to the fact that investors misinterpret an increase in f as lower intrinsic value of the firm (V) as opposed to mere

expropriation. This implies that higher homogeneity effectively make the firm meet market expectations and increases the transparency of the firm defined in terms of analysts forecasting errors and their dispersion.

To quantify the impact of shareholder homogeneity on price, we take the derivative of price with respect to H and do a second-order Taylor expansion around $H=0$. We consider the unconditional expected stock price and return, where $E[\varepsilon]=0$. Also, we normalize the true value of the firm and its unconditional expected to 0 (i.e., $\mu_V = V=0$), and we assume that $\Sigma_\varepsilon^2 = \Sigma_V^2 = 1$, $S=1$, and $\gamma=1$. We get:

$$\frac{\partial p_1}{\partial H} = -\frac{\left[H\left(1+2\alpha^2+\alpha^4-4\alpha\omega^2\right)\right]}{6\alpha\omega^2\left(1+\alpha^2\right)} \quad \text{(A12)}$$

that is negative if either α is small enough (less than 0.3) for any value of ω, or ω is less than 0.9, for any value of α. We recall that α is the return on assets of the firm and ω represents the fraction of ownership of either the managers or the controlling shareholders. Both for the case of Sweden and the USA, these constraints are easily met.

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[i] For example, we excluded the Drama School, School of Opera and Dance and other small colleges, since their yearly intake is normally between 15 and 25 students.

[ii] In Sweden there are 109 "labor market areas" (LLM) that are defined in terms of a high degree of economic integration with the core as measured by commuting ties. The average (median) population of a LLM is 81,200 (26,700). The average (median) area is 3,770 (2318) sq km. This corresponds to a linear dimension of approximately 50-60 kilometers. This consideration induces us to focus on 50 km and 100 km to define locality.

[iii] The Hansen test also allows us to choose the additional instruments (i.e., the ones based on the characteristics of the parental family of the investors) that are more appropriate in the different specification. The full-fledged set of instruments is reported in the heading of the tables.

[iv] We also control for the case in which shareholders "coordinate" their activities through voting pacts. syndacates or other agreements as well as pyramids and cross-shareholdings by aggregating their positions.

[v] Similar results also hold for ROS.

[vi] While those numbers are high, it is worth mentioning that the dispersion of profitability measures are extremely high (standard deviation is about 70%), so the change of 32% constitutes about 46% of dependent variable' standard deviation.

[vii] We thank Y. Amihud for pointing this out to us.

[viii] Admati and Pfleiderer (2005) define the impact of the appropriation as $-f-f^2$. To keep things simple and to provide a close solution, we eliminate the linear term. A specification with the linear term provides qualitatively similar results.

[ix] Notice that investors do not properly account for $-f^2$ in their expected value of the earnings. This follows from the assumption that they believe $Y=\alpha V+\varepsilon$.

Table 1. Descriptive Statistics

This table contains the descriptive statistics of the sample. Panel A reports firm-level characteristics. *Market-to-Book Ratio* is the ratio of the market value of the company to the book value of common equity. *Size* is the logarithm of the market value of the company. *Tobin's Q* is the sum of market value of equity and book value of debt divided by book value of assets . *Leverage* is the ratio of debt to the sum of equity and debt. *Employees* is the number of employees (categories 1–8) as provided by MM Partners. *Bid-Ask Spread* is the bid-ask spread of the stock price. *Price* is the price (in SEK) of a share. *Return 23* is the compounded gross return for the period between months t-2 and t-3. *Return 46* is the compounded gross return for the period between months t-4 and t-6. *Return 712* is the compounded gross return for the period between months t-7 and t-12. *High-Tech Dummy* is a dummy equal to 1 if the company belongs to a high-tech industry. *A-list* is a dummy equal to 1 if the company is listed in the A-list at t. *Turnover* is defined as the logarithm of the ratio of shares traded to shares outstanding. *Dividend Yield* is the dividend yield of stock, defined as the ratio of the dividends paid in the previous fiscal year divided by the share price at year-end. We also report the descriptive statistics for stock returns and the monthly standard deviation of daily returns, and do so for both raw and market-adjusted returns. *Return on Assets* (*ROA*) is defined as the ratio of earnings before interest, taxes and depreciation to book value of assets. *Return on Equity* (*ROE*) is defined as the ratio of earnings before interest, taxes and depreciation to book value of equity. *Return on Sales* (*ROS*) is defined as the ratio of earnings before interest, taxes and depreciation to sales. *Profit Margin* is defined as the ratio of net income to sales. *Cash* is defined as the logarithm of liquid assets in the company's balance sheet (measured in thousands of Swedish kronor, SEK). We define

$$ShareholderHomogeneity1_j = \sum_{c=1}^{C}\left(\sum_{i=1}^{I}\frac{N_{ijc}}{\sum_{c=1}^{C}\sum_{i=1}^{I}N_{ijc}}\right)^2,$$

where N_{ijc} is the number of shares that individual i who is member of group c holds in company j. We define the groups on the basis of age cohort (age groups as 0–30, 31–40, 41–50, 51–60, 61+), college attendance and age cohort for the sample of local investors (within a 100-km radius of the closest firm establishment). We use a raw measure of homogeneity (*Shareholder Homogeneity1*) and two weighed ones. The latter are constructed by weighting the raw measure by either the proportion of individual shareholders in the firms (non-controlling shareholders minus institutions) or by the free float variable (i.e., non-controlling shareholders). We call the former *Shareholder Homogeneity2* and the latter *Shareholder Homogeneity3*. We define *Board Homogeneity1* as a Herfindahl index of the proportion of board members based on age group. We define age groups as 0–30, 31–40, 41–50, 51–60, and 61+. We define *Board Homogeneity2* as the share of males among board members. *Corporate Governance Index* is defined similarly to Gompers, Ishii and Metrick (2003) and is based on Cronqvist and Nilsson (2003). It is the sum of four dummies that are equal to 1 if there are differential share classes, if there are preemption rights on high-voting shares, if there are voting restrictions in place, and if there is a voting pact among large shareholders, and 0 otherwise. We also report the ratio of free float to market cap at the end of the previous calendar year. Similar to the Morgan Stanley free-float indices, we subtracted from market cap strategic blockholdings (information was provided by SIS Ägarservice AB). We also report the share of market cap owned by individual investors (excluding blockholders) at the end of the previous calendar year. Panel B reports the distribution of the sample based on graduation year. Unless noted otherwise, all monetary values are in thousands of Swedish kronor (SEK).

Panel A: Firm-Related Variables

Variable	*Mean*	*Median*	*Std Dev*	*IQR*
Market-to-Book Ratio	3.430	1.941	8.331	2.075
Tobin's Q	1.543	0.957	2.262	0.954
Size	9.473	9.411	0.928	1.425
Leverage	0.473	0.135	0.895	0.657
Employees	2.669	2.775	1.345	1.767
Bid-Ask Spread	2.258	0.928	5.458	1.311
Price	112.372	86.500	111.849	105.500
High-Tech Dummy	0.127	0.000	0.333	0.000
A-list Dummy	0.445	0.000	0.497	1.000
Turnover	-1.612	-1.498	0.642	0.700
Dividend Yield	0.031	0.014	0.084	0.033
Raw Monthly Returns	0.012	0.005	0.137	0.124
Corporate Governance Index	0.654	0.000	0.791	1.000
Market-Adjusted Returns	-0.014	-0.016	0.133	0.132
Std Dev Daily Stock Ret. (monthly)	0.028	0.022	0.022	0.017
Std Dev Daily Mkt-Adjusted Stock Ret. (monthly)	0.014	0.013	0.006	0.008
ROA	0.049	0.083	0.204	0.079
ROE	0.069	0.155	0.556	0.209
ROS	0.054	0.070	0.498	0.128
Cash	5.029	5.076	1.181	1.079
Profit Margin	0.038	0.091	0.695	0.147
Age-Based Shareholder Homogeneity	0.414	0.369	0.257	0.149
College-Based Shareholder Homogeneity	0.246	0.178	0.205	0.203
Local Age-Based Shareholder Homogeneity	0.445	0.402	0.168	0.179
Free Float/Market Capitalization	0.714	0.733	0.186	0.270
Share of Individual Investors (% market cap)	0.242	0.194	0.189	0.290
Board Homogeneity1	0.424	0.375	0.164	0.111
Board Homogeneity2	0.825	0.889	0.217	0.199

Panel B: Graduation Year Distribution

Graduation Year	*% of Sample*
Before 1980	20.26%
1981–1985	24.64%
1986–1990	18.40%
1991–1994	15.96%
After 1995	20.74%

Table 2. Distributional Characteristics of Shareholders and Locations

This table describes the distributional characteristics of shareholders and locations. In Panel A, we report the mean and standard deviation of the distribution of the firm shareholders and investors. We focus on two characteristics of these distributions: the mean of their age and the concentration (i.e., Herfindahl) of both their age and their college affiliation. We consider three classes of investors: all the Swedish investors, all the investors who live close to a firm ("local investors") *regardless of the firm in which they invest*, and all the investors who do not live close to a firm ("non-local investors") *regardless of the firm in which they invest*. "Local" is defined using either a 50- or 100-km radius around the main business units of the firm. In Panels B, C and D, we regress, for each firm, the distributional characteristics of shareholder structure on those of the investors living in the local area as well as on those of the investors who do not live in the local area and a set of control variables. The distributional characteristics are the average age and the Herfindahl of age and college affiliation (i.e., degree of homogeneity). We also consider an orthogonalized measure of non-local homogeneity constructed by regressing local on non-local homogeneity and taking the residuals ("residual mean" or "residual Herfindahl"). In column 1, we regress mean (Herfindahl of) age *of local investors in firm i* on mean (Herfindahl of) age of all local investors, mean (Herfindahl of) age of non-local investors and set of explanatory variables. In column 2, we use the residual mean (Herfindahl of) age of local investors as explanatory variable. In column 3, we regress the difference between the mean (Herfindahl of) age of local and non-local investors in company *i* on the difference between the mean (Herfindahl of) age of all local and non-local investors. Columns 4–6 do the same with a 100-km radius as locality definition. In column 7, we regress the mean (Herfindahl of) age of *all investors in firm i* on mean (Herfindahl of) age of all local investors, mean (Herfindahl of) age of non-local investors and a set of explanatory variables. Column 8 is similar to 7, but uses the residual mean (Herfindahl of) age of local investors.

The control variables are *size*, measured as the logarithm of the market value of the company as at the end of the previous calendar year; *leverage*, measured as the ratio of debt to sum of equity and debt as at the end of the previous fiscal year; e*mployees,* measured as the number of employees (categories 1–8) as provided by MM Partners; *dividend yield,* defined as the ratio of the dividends paid in the previous fiscal year divided by the share price at year-end; the amount of *cash* held by the firm (measured as logarithm); a *high-tech dummy* equal to 1 if the company belongs to a high-tech industry and 0 otherwise; and an *A-list dummy* that is equal to 1 if the company is part of a selected number of companies with higher disclosure requirements (A-list) and 0 otherwise. These variables are defined as at the end of the *previous* calendar year; a measure of the quality of corporate governance (*Corporate Governance Index*), a variable that represents the size of the firm's free float (*Share of Free Float*), and a variable that proxies for the part of the shares not held by either the controlling shareholders or the institutional investors (*Share of Individuals*). The free float allows us to proxy for the presence of blockholders (i.e., 1-free float is the controlling group), at the end of the previous calendar year. The corporate governance index is defined similarly to Gompers, Ishii and Metrick (2003) and is based on Cronqvist and Nilsson (2003). It is the sum of four dummies that are equal to 1 if: (a) there are differential share classes, (b) controlling shareholders have preemption rights on high-voting shares, (c) voting restrictions are in place, and (d) a voting pact exists among large shareholders, and 0 otherwise. It is measured at the end of the previous fiscal year. We also consider two alternative measures of board homogeneity: the first (*Board Homogeneity1*) is the Herfindahl index based on the share of board members belonging to the same age cohort. We define age cohorts between 0 and 30 years of age, between 31 and 40, 41–50, 51–60, and 61 and over. The second measure (*Board Homogeneity2*) is defined on the basis of gender, i.e., the share of males among board members. In Panel B, we used average age as a measure of shareholder base. In Panel C, we use age-based Herfindahl Index In Panel D, we used college-based Herfindahl Index of as a measure of shareholder base. All the regressions are estimated with year fixed effects and (year and industry) clustered errors. We use 848 yearly observations (number of firms is between 91 and 271). The *t-statistics* are reported in parentheses.

Panel A: Investors and Shareholder Distributional Characteristics

		Age (years)				*Age-Based Herfindahl Index*				*College-Based Herfindahl Index*			
				t-test				*t-test*				*t-test*	
Statistics calculated over:		Mean	Std.Dev	(1)	(2)	Mean	Std Dev	(1)	(2)	Mean	Std Dev	(1)	(2)
All investors	(1)	55.71	2.32			0.321	0.031			0.090	0.020		
All local investors	(2)	55.55	2.56	8.79		0.383	0.095	-21.08		0.143	0.057	-31.55	
All non-local investors	(3)	55.82	2.19	-12.36	-9.88	0.314	0.034	13.4	21.26	0.084	0.035	3.43	33.86

Panel B: Mean Age of Firm Shareholders as Function of Its Locality Mean Age

Dependent Variable	*Mean age of firm i local investors*		*Difference between mean age of firm i local and non-local investors*				*Mean age of firm i local investors*				*Difference between mean age of firm i local and non-local investors*		*Mean age of firm i investors*			
	Radius = 50 km						Radius =100 km						Radius =50 km			
	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat
Mean Age of All Local Investors	2.419	(3.21)					2.132	(2.14)					1.004	(1.98)		
Residual Mean Age of All Local Investors			2.419	(3.21)					2.132	(2.14)					1.004	(1.98)
Mean Age of all Non-Local Investors	1.562	(1.38)	4.360	(2.50)			1.152	(1.87)	3.515	(2.30)			0.673	(0.65)	1.834	(1.26)
Difference Between Mean Age of All Local And Non-Local Investors					1.218	(3.56)					1.581	(2.26)				
Board Homogeneity1	-0.487	(-0.27)	-0.487	(-0.27)	1.862	(1.55)	-0.995	(-0.55)	-0.995	(-0.55)	-0.477	(-0.31)	-1.683	(-1.04)	-1.683	(-1.04)
Board Homogeneity2	-0.545	(-0.35)	-0.545	(-0.35)	0.289	(0.30)	-1.172	(-0.68)	-1.172	(-0.68)	-0.580	(-0.75)	-1.142	(-0.67)	-1.142	(-0.67)
Size	-1.798	(-2.98)	-1.798	(-2.98)	0.623	(2.27)	-1.922	(-3.16)	-1.922	(-3.16)	0.091	(0.21)	-2.184	(-4.04)	-2.184	(-4.04)
Leverage	0.144	(0.48)	0.144	(0.48)	0.086	(0.77)	0.109	(0.38)	0.109	(0.38)	-0.032	(-0.25)	0.108	(0.38)	0.108	(0.38)
Employees	-0.349	(-1.05)	-0.349	(-1.05)	-0.280	(-1.68)	-0.297	(-0.99)	-0.297	(-0.99)	-0.004	(-0.02)	-0.236	(-0.78)	-0.236	(-0.78)
Dividend Yield	-6.396	(-3.20)	-6.396	(-3.20)	-0.674	(-0.78)	-6.359	(-3.11)	-6.359	(-3.11)	-1.255	(-1.26)	-5.480	(-3.31)	-5.480	(-3.31)
Cash	-0.030	(-0.15)	-0.030	(-0.15)	-0.004	(-0.04)	-0.034	(-0.17)	-0.034	(-0.17)	0.038	(0.36)	-0.016	(-0.08)	-0.016	(-0.08)
High-Tech Dummy	3.455	(4.97)	3.455	(4.97)	0.991	(2.37)	3.353	(4.97)	3.353	(4.97)	0.654	(1.08)	2.932	(4.82)	2.932	(4.82)
A-list Dummy	-2.145	(-2.52)	-2.145	(-2.52)	0.176	(0.41)	-2.378	(-2.87)	-2.378	(-2.87)	-0.591	(-0.88)	-2.236	(-2.85)	-2.236	(-2.85)
Share of Free Float	2.299	(1.75)	2.299	(1.75)	-0.419	(-0.67)	2.119	(1.67)	2.119	(1.67)	-0.316	(-0.44)	2.151	(1.83)	2.151	(1.83)
Share of Individuals	1.419	(0.64)	1.419	(0.64)	2.435	(2.33)	1.666	(0.77)	1.666	(0.77)	1.712	(1.19)	0.637	(0.32)	0.637	(0.32)
Corporate Governance Index	-1.066	(-2.61)	-1.066	(-2.61)	-0.794	(-3.10)	-0.829	(-2.11)	-0.829	(-2.11)	-0.538	(-2.19)	-0.575	(-1.76)	-0.575	(-1.76)
Intercept	-97.804	(-1.50)	-113.20	(-1.64)	-5.144	(-1.71)	-68.990	(-1.19)	-78.565	(-1.27)	1.167	(0.25)	-3.766	(-0.07)	-10.159	(-0.18)
Adj R2	0.611		0.611		0.246		0.611		0.611		0.190		0.633		0.633	

Panel C: Herfindahl of Age of Firm Shareholders as Function of Its Locality Mean Age

Dependent Variable	*Herfindahl Index of firm i local investors*				*Difference between Herfindahl Indices of firm i local and non-local investors*		*Herfindahl Index of firm i local investors*				*Difference between Herfindahl Indices of firm i local and non-local investors*		*Herfindahl Index of firm i investors*			
	Radius = 50km						Radius =100 km						Radius =50 km			
	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat
Age Herfindahl All Local Investors	0.839	(3.22)					0.768	(4.22)					0.366	(1.99)		
Residual Age Herfindahl of All Local Investors			0.839	(3.22)					0.768	(4.22)					0.366	(1.99)
Age Herfindahl of All Non-Local Investors	1.256	(0.80)	2.045	(1.16)			1.015	(1.18)	1.758	(1.82)			0.234	(0.21)	0.579	(0.46)
Difference Between Age Herfindahl of All Local And Non-Local Investors					0.756	(4.59)					0.779	(4.61)				
Board Homogeneity1	0.065	(1.02)	0.065	(1.02)	0.114	(1.55)	0.062	(1.10)	0.062	(1.10)	0.134	(1.83)	0.066	(1.21)	0.066	(1.21)
Board Homogeneity2	0.001	(0.02)	0.001	(0.02)	-0.006	(-0.09)	0.008	(0.18)	0.008	(0.18)	-0.021	(-0.38)	0.026	(0.57)	0.026	(0.57)
Size	0.038	(1.91)	0.038	(1.91)	0.008	(0.35)	0.043	(2.34)	0.043	(2.34)	0.015	(0.67)	0.045	(2.50)	0.045	(2.50)
Leverage	-0.007	(-0.58)	-0.007	(-0.58)	-0.002	(-0.18)	-0.005	(-0.43)	-0.005	(-0.43)	0.001	(0.05)	-0.003	(-0.23)	-0.003	(-0.23)
Employees	-0.003	(-0.26)	-0.003	(-0.26)	-0.006	(-0.40)	0.000	(0.01)	0.000	(0.01)	0.000	(-0.01)	0.002	(0.21)	0.002	(0.21)
Dividend Yield	-0.169	(-2.29)	-0.169	(-2.29)	-0.202	(-2.15)	-0.184	(-2.58)	-0.184	(-2.58)	-0.205	(-2.25)	-0.160	(-2.60)	-0.160	(-2.60)
Cash	0.026	(4.03)	0.026	(4.03)	0.029	(2.55)	0.027	(4.60)	0.027	(4.60)	0.030	(2.57)	0.026	(4.32)	0.026	(4.32)
High-Tech Dummy	-0.061	(-2.01)	-0.061	(-2.01)	0.006	(0.17)	-0.066	(-2.13)	-0.066	(-2.13)	0.009	(0.21)	-0.067	(-2.46)	-0.067	(-2.46)
A-list Dummy	0.026	(0.64)	0.026	(0.64)	0.018	(0.37)	0.041	(1.10)	0.041	(1.10)	0.041	(0.92)	0.036	(1.03)	0.036	(1.03)
Share of Free Float	-0.214	(-3.96)	-0.214	(-3.96)	-0.189	(-3.02)	-0.209	(-4.33)	-0.209	(-4.33)	-0.180	(-3.06)	-0.221	(-4.61)	-0.221	(-4.61)
Share of Individuals	0.672	(8.86)	0.672	(8.86)	0.571	(6.13)	0.673	(9.02)	0.673	(9.02)	0.594	(6.38)	0.640	(8.53)	0.640	(8.53)
Corporate Governance Index	-0.004	(-0.23)	-0.004	(-0.23)	-0.003	(-0.18)	-0.009	(-0.56)	-0.009	(-0.56)	-0.008	(-0.45)	-0.005	(-0.35)	-0.005	(-0.35)
Intercept	-0.644	(-1.26)	-0.577	(-1.16)	-0.213	(-0.98)	-0.638	(-1.97)	-0.595	(-1.87)	-0.332	(-1.56)	-0.350	(-1.19)	-0.321	(-0.87)
Adj R2	0.427		0.427		0.364		0.437		0.437		0.361		0.410		0.410	

Panel D: Herfindahl of College Affiliation of Firm Shareholders as Function of Its Locality Mean Age

Dependent Variable	*Herfindahl Index of firm i local investors*				*Difference between Herfindahl Indices of firm i local and non-local investors*		*Herfindahl Index of firm i local investors*				*Difference between Herfindahl Indices of firm i local and non-local investors*		*Herfindahl Index of firm i investors*			
	Radius = 50 km						Radius =100 km						Radius =50 km			
	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat
College Affiliation Herfindahl of All Local Investors	1.232	(2.64)					1.300	(2.17)					0.537	(2.09)		
Residual College Affiliation Herfindahl of All Local Investors			1.232	(2.64)					1.300	(2.17)					0.537	(2.09)
College Affiliation Herfindahl of All Non-Local Investors	0.139	(0.16)	-0.019	(-0.02)			-0.137	(-0.52)	-0.346	(-1.36)			-0.134	(-0.21)	-0.203	(-0.32)
Difference Between College Affiliation Herfindahl of All Local And Non-Local Investors					1.921	(5.32)					2.121	(4.85)				
Board Homogeneity1	-0.105	(-1.03)	-0.105	(-1.03)	-0.055	(-0.53)	-0.073	(-0.73)	-0.073	(-0.73)	-0.072	(-0.63)	-0.078	(-1.28)	-0.078	(-1.28)
Board Homogeneity2	-0.058	(-0.70)	-0.058	(-0.70)	0.030	(0.28)	-0.038	(-0.48)	-0.038	(-0.48)	0.027	(0.27)	-0.041	(-0.77)	-0.041	(-0.77)
Size	-0.087	(-3.09)	-0.087	(-3.09)	-0.009	(-0.35)	-0.078	(-2.65)	-0.078	(-2.65)	0.022	(0.78)	-0.074	(-4.75)	-0.074	(-4.75)
Leverage	-0.029	(-2.03)	-0.029	(-2.03)	-0.040	(-2.20)	-0.016	(-1.22)	-0.016	(-1.22)	-0.011	(-0.52)	-0.016	(-1.60)	-0.016	(-1.60)
Employees	-0.016	(-0.86)	-0.016	(-0.86)	0.017	(0.99)	-0.018	(-0.94)	-0.018	(-0.94)	0.012	(0.74)	-0.027	(-2.64)	-0.027	(-2.64)
Dividend Yield	-0.102	(-1.21)	-0.102	(-1.21)	-0.004	(-0.05)	-0.086	(-0.95)	-0.086	(-0.95)	-0.018	(-0.24)	-0.079	(-1.03)	-0.079	(-1.03)
Cash	-0.011	(-0.69)	-0.011	(-0.69)	-0.016	(-1.19)	-0.009	(-0.57)	-0.009	(-0.57)	-0.015	(-1.21)	-0.013	(-1.53)	-0.013	(-1.53)
High-Tech Dummy	-0.105	(-2.31)	-0.105	(-2.31)	-0.065	(-1.36)	-0.075	(-1.47)	-0.075	(-1.47)	0.024	(0.43)	-0.095	(-3.40)	-0.095	(-3.40)
A-list Dummy	0.021	(0.43)	0.021	(0.43)	0.031	(0.75)	0.010	(0.19)	0.010	(0.19)	0.045	(0.93)	0.044	(1.78)	0.044	(1.78)
Share of Free Float	-0.065	(-0.82)	-0.065	(-0.82)	-0.046	(-0.60)	-0.113	(-1.37)	-0.113	(-1.37)	-0.066	(-0.71)	-0.027	(-0.58)	-0.027	(-0.58)
Share of Individuals	0.145	(1.22)	0.145	(1.22)	0.151	(1.26)	0.100	(0.81)	0.100	(0.81)	0.190	(1.49)	0.153	(2.52)	0.153	(2.52)
Corporate Governance Index	-0.055	(-2.34)	-0.055	(-2.34)	-0.071	(-2.93)	-0.042	(-1.66)	-0.042	(-1.66)	-0.065	(-2.72)	-0.034	(-2.94)	-0.034	(-2.94)
Intercept	0.028	(0.59)	0.028	(0.59)	-0.184	(-3.19)	0.057	(1.22)	0.057	(1.22)	-0.133	(-1.83)	0.071	(1.28)	0.071	(1.28)
Adj R2	0.320		0.320		0.228		0.262		0.262		0.172		0.240		0.240	

Table 3. Shareholder Homogeneity as Amplifier of Surprise Shocks

We report the results of the regression of measures of sells on shareholder homogeneity, surprise shocks and a set of control variables. We define excess sells as either the percentage of non-controlling individual shareholders who sell (columns 1–6) or the percentage of shares sold (columns 7–12). We define *Surprise* as the ratio between realized EPS and forecasted EPS as of the last month of the previous forecasting year. The EPS data come from yearly EPS from IBES International. We use a semiannual frequency, December and June of each year. If the EPS release date is in the period between January to June, excess sells are based on the difference between the changes in the end-of-June holdings and the holdings of the end-of-December of the previous year. If the EPS release date falls between June and December, we use the difference between the end-of-December holdings and the holdings of the end of June. The measures of shareholder homogeneity and the control variables are as defined in Tables 1 and 2. We also include the *bid-ask spread*, defined as the bid-ask spread as at month t-2; *turnover*, defined as the logarithm of the ratio of shares traded to shares outstanding at month t-2; and the *price* (in SEK) of the stock as at *t-2*. We consider the case of the aggregate shock and the case in which we split the shock in the cases in which there is high or low homogeneity. In the latter case, we interact the surprise with dummies representing the level of shareholder homogeneity. A dummy of high (low) homogeneity takes the value 1 if homogeneity is above (below) the median value and 0 otherwise. The estimates are based on panel with time fixed effects and (year and industry) clustered errors. The *t-statistics* are reported in parentheses. We also report tests of equality of coefficients for low- and high-homogeneity surprises.

	Number of Sellers						**Sales**					
	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat
Shareholder.Homogeneity	-0.303	(-3.16)	-0.370	(-3.76)	-0.336	(-3.85)	-0.383	(-4.82)	-0.427	(-3.81)	-0.349	(-3.48)
Surprise	-0.011	(-1.64)					-0.007	(-1.66)				
Surprise*High Homogeneity			-0.032	(-2.70)	-0.041	(-3.47)			-0.021	(-2.09)	-0.030	(-4.21)
Surprise*Low Homogeneity			0.005	(1.14)	0.004	(0.87)			0.004	(0.86)	0.003	(0.73)
Board Homogeneity1	-0.115	(-1.51)	-0.085	(-1.21)	-0.060	(-1.25)	-0.043	(-0.67)	-0.024	(-0.39)	-0.031	(-0.61)
Board Homogeneity2	-0.139	(-3.15)	-0.137	(-3.30)	-0.099	(-2.54)	-0.134	(-3.08)	-0.133	(-3.11)	-0.107	(-2.95)
Market-to-Book	-0.001	(-0.64)	-0.001	(-0.61)	-0.001	(-0.88)	-0.002	(-3.46)	-0.002	(-3.47)	-0.001	(-3.11)
Size	-0.066	(-2.76)	-0.065	(-2.85)	-0.050	(-2.71)	-0.036	(-1.70)	-0.035	(-1.71)	-0.027	(-1.44)
Leverage	0.000	(0.01)	0.001	(0.09)	-0.003	(-0.56)	0.006	(0.82)	0.006	(0.87)	-0.001	(-0.22)
Employees	0.015	(1.46)	0.013	(1.36)	0.006	(0.92)	0.018	(2.55)	0.017	(2.50)	0.013	(2.37)
Bid-Ask Spread	-0.002	(-1.39)	-0.002	(-1.57)	-0.001	(-1.26)	0.000	(-0.54)	-0.001	(-0.73)	0.000	(0.29)
Price	0.001	(3.00)	0.001	(3.33)	0.000	(3.07)	0.000	(0.68)	0.000	(0.86)	0.000	(0.42)
High-Tech Dummy	0.053	(1.78)	0.055	(1.81)	0.038	(1.62)	-0.009	(-0.46)	-0.008	(-0.41)	-0.010	(-0.55)
A-list Dummy	-0.060	(-2.16)	-0.048	(-1.78)	-0.014	(-0.63)	-0.011	(-0.49)	-0.003	(-0.14)	-0.003	(-0.18)
Dividend Yield	-0.063	(-1.58)	-0.067	(-1.74)	-0.007	(-0.20)	0.021	(0.54)	0.018	(0.47)	0.046	(1.16)
Corporate Governance Index	-0.046	(-2.05)	-0.045	(-2.04)	-0.027	(-1.63)	-0.055	(-2.83)	-0.054	(-2.79)	-0.042	(-2.40)
Share of Free Float	-0.091	(-2.27)	-0.085	(-2.10)	-0.047	(-1.26)	-0.083	(-2.20)	-0.078	(-2.10)	-0.065	(-1.76)
Share of Individuals	0.008	(0.10)	0.022	(0.31)	0.054	(0.98)	-0.080	(-1.03)	-0.071	(-0.93)	-0.015	(-0.23)
Lagged Dependent Variable					0.367	(5.59)					0.201	(3.87)
Intercept	1.396	(6.63)	1.368	(6.78)	0.884	(5.33)	0.975	(4.81)	0.958	(4.81)	0.695	(4.10)
Adj R2	0.388		0.417		0.516		0.278		0.293		0.343	
Test of Surprise*HighHomog=Surprise*LowHomog			χ^2	p-value	χ^2	p-value			χ^2	p-value	χ^2	p-value
			8.32	0.0045	12.29	0.0006			5.29	0.0229	15.86	0.0001

Table 4. Shareholder Homogeneity and Firm Transparency

This table reports the results of the regression of proxies of investor forecasting errors and information dispersion on shareholder homogeneity and a set of control variables. We focus on the analysts following the stock and use either the Dispersion Analyst Yearly Forecasts (Panels A and B) or the Absolute Value of the Errors of the Yearly Forecasts (Panels C and D). The error is the absolute value of the difference between analysts' earnings forecasts and actual earnings standardized by actual earnings. We use as measure of investors' dispersion the standard deviation of the forecasts across analysts. We focus on the yearly forecasts. We use monthly frequency, and, for each stock, we calculate analysts' forecast errors by using all the forecasts released within a month. We remove all firm-month observations that have fewer than two analysts covering the firm. The measures of shareholder homogeneity and the control variables are defined as in Tables 1 through 3. We also include measures of past stock returns. *Return 23* is the compounded gross return for the period between months t-2 and t-3, *Return 46* the compounded gross return for the period between months t-4 and t-6, and *Return 712* the compounded gross return for the period between months t-7 and t-12. We also interact shareholder homogeneity with the interactive dummy (*DomShareh*) that takes value 1 if there exists a dominant shareholder who has control rights of the firm in excess of 20% and his cash-flow rights are lower than his control rights. We report the estimates based on panel with year fixed effects estimated with instrumental GMM as defined in the text. The Herfindahl index of local (50 km) age (college) homogeneity, the standard deviations of parental labor and capital income, and the Herfindahl indices of parental labor and capital income and parental residence (based on locality (*län*)) are used as instruments. The *t-statistics* are reported in parentheses. We also report the *p-value* of the Hansen overidentifying restrictions, the *p-value* of the test of difference between *Shareholder Homogeneity**(1- *DomShareh*) and *Shareholder Homogeneity*DomShareh* , the *RSquare* of the first stage of the instrumental variable estimation, the *Partial RSquare* of the instruments and *F-tests* of exclusion of instruments from the first stage. We also report the *p*-value of the *F-statistics* of the regression of the residuals on the instruments and the other exogenous variables, and the *p-value* of the *F-test* of exclusion of those instruments from the regression.

Panel A: Dispersion of Analyst Forecasts, Panel Estimates

	Age-Based Homogeneity Measures				**College-Based Homogeneity Measures**				**Local Age-Based Homogeneity Measures**			
Shareholder.Homogeneity1	-1.854				-0.957				-2.262			
	(-2.47)				(-2.19)				(-2.21)			
Shareholder Homogeneity1*(1- *DomShareh*)		-2.410				-1.649				-1.983		
		(-2.26)				(-3.87)				(-2.21)		
Shareholder Homogeneity1* *DomShareh*		-0.899				-0.140				-0.463		
		(-1.12)				(-0.33)				(-1.03)		
Shareholder Homogeneity2			-2.966				-1.174				-3.802	
			(-2.35)				(-2.17)				(-2.03)	
Shareholder Homogeneity2*(1- *DomShareh*)				-3.602				-1.884				-4.080
				(-2.24)				(-3.58)				(-2.98)
Shareholder Homogeneity2* *DomShareh*				-1.366				0.514				-2.801
				(-1.06)				(0.55)				(-2.52)
Board Homogeneity1	0.126	0.221	0.120	0.059	0.240	-0.176	0.257	-0.227	0.330	0.332	0.386	0.518
	(0.39)	(0.65)	(0.34)	(0.16)	(0.57)	(-0.54)	(0.61)	(-0.70)	(0.94)	(0.99)	(0.92)	(1.31)
Board Homogeneity2	-0.301	-0.186	-0.327	-0.271	-0.464	-0.483	-0.445	-0.489	-0.241	-0.144	-0.255	0.160
	(-0.97)	(-0.55)	(-1.10)	(-0.82)	(-1.51)	(-1.37)	(-1.44)	(-1.39)	(-0.82)	(-0.45)	(-0.92)	(0.51)
Control Variables												
Market-to-Book	-0.015	-0.009	-0.015	-0.007	-0.012	0.003	-0.013	0.002	-0.013	-0.012	-0.013	-0.010
	(-0.87)	(-0.42)	(-0.82)	(-0.31)	(-0.58)	(0.19)	(-0.61)	(0.15)	(-0.71)	(-0.57)	(-0.72)	(-0.80)
Size	-0.183	-0.253	-0.178	-0.273	-0.289	-0.458	-0.266	-0.424	-0.164	-0.245	-0.153	-0.113
	(-1.10)	(-1.42)	(-1.05)	(-1.55)	(-1.58)	(-3.51)	(-1.42)	(-3.01)	(-0.91)	(-1.33)	(-0.83)	(-0.73)
Leverage	-0.129	-0.131	-0.128	-0.134	-0.163	-0.239	-0.164	-0.244	-0.128	-0.140	-0.128	-0.216
	(-3.38)	(-3.59)	(-3.35)	(-3.81)	(-4.09)	(-5.02)	(-4.24)	(-5.31)	(-2.71)	(-3.57)	(-2.56)	(-4.78)
Employees	0.044	0.085	0.048	0.072	0.001	-0.002	0.004	-0.018	0.036	0.063	0.038	-0.008
	(0.98)	(1.59)	(1.04)	(1.45)	(0.02)	(-0.05)	(0.13)	(-0.38)	(0.76)	(1.27)	(0.72)	(-0.17)
Bid-Ask Spread	-0.013	-0.013	-0.014	-0.019	-0.013	-0.013	-0.011	-0.014	-0.012	-0.013	-0.014	-0.014
	(-0.49)	(-0.58)	(-0.54)	(-0.82)	(-0.59)	(-0.80)	(-0.53)	(-0.89)	(-0.44)	(-0.52)	(-0.50)	(-0.63)

Continues

Price	0.006	0.006	0.006	0.006	0.006	0.004	0.006	0.004	0.007	0.006	0.007	0.006
	(4.64)	(4.57)	(4.60)	(4.44)	(6.94)	(3.80)	(6.94)	(3.75)	(4.65)	(4.37)	(4.64)	(4.31)
Return 23	-0.582	-0.586	-0.571	-0.573	-0.519	-0.742	-0.513	-0.756	-0.597	-0.579	-0.590	-0.540
	(-3.06)	(-3.14)	(-2.96)	(-2.95)	(-1.85)	(-3.13)	(-1.80)	(-3.15)	(-3.15)	(-2.95)	(-3.01)	(-2.72)
Return 46	-0.381	-0.394	-0.380	-0.384	-0.365	-0.486	-0.364	-0.495	-0.385	-0.410	-0.389	-0.393
	(-3.12)	(-3.20)	(-3.17)	(-3.17)	(-1.99)	(-3.09)	(-1.96)	(-3.11)	(-3.17)	(-3.16)	(-3.39)	(-3.35)
Return 712	-0.187	-0.185	-0.187	-0.184	-0.177	-0.222	-0.180	-0.233	-0.181	-0.196	-0.188	-0.190
	(-3.69)	(-3.95)	(-3.73)	(-3.90)	(-2.53)	(-3.24)	(-2.55)	(-3.39)	(-3.49)	(-3.46)	(-3.79)	(-3.75)
High-Tech Dummy	-0.950	-1.079	-0.953	-1.083	-0.801	-0.794	-0.780	-0.756	-1.023	-1.005	-1.038	-0.893
	(-4.03)	(-4.24)	(-3.99)	(-4.03)	(-3.41)	(-2.64)	(-3.30)	(-2.55)	(-4.14)	(-3.91)	(-4.13)	(-4.07)
A-list Dummy	-0.146	-0.216	-0.120	-0.173	-0.205	-0.462	-0.198	-0.453	-0.064	-0.184	-0.021	-0.174
	(-1.01)	(-1.63)	(-0.82)	(-1.28)	(-1.06)	(-4.19)	(-1.04)	(-3.80)	(-0.37)	(-1.43)	(-0.11)	(-1.04)
Turnover	-0.105	-0.076	-0.107	-0.077	-0.074	-0.061	-0.073	-0.058	-0.110	-0.076	-0.110	-0.987
	(-6.43)	(-3.38)	(-6.17)	(-3.28)	(-4.53)	(-4.23)	(-4.65)	(-4.22)	(-5.54)	(-3.19)	(-5.22)	(-5.94)
Cash	0.301	0.229	0.301	0.267	0.232	0.380	0.222	0.388	0.254	0.216	0.256	0.285
	(2.00)	(1.34)	(2.05)	(1.63)	(1.57)	(3.35)	(1.47)	(3.15)	(1.71)	(1.42)	(1.80)	(2.16)
Dividend Yield	0.258	-0.129	0.252	-0.200	0.530	0.102	0.551	0.155	0.196	-0.004	0.202	0.037
	(0.76)	(-0.32)	(0.69)	(-0.42)	(3.18)	(0.43)	(3.24)	(0.64)	(0.53)	(-0.01)	(0.51)	(0.09)
Corporate Governance Index	-0.058	-0.133	-0.056	-0.142	0.014	-0.001	0.015	-0.008	-0.079	-0.125	-0.082	-0.096
	(-0.75)	(-1.28)	(-0.73)	(-1.28)	(0.23)	(-0.01)	(0.24)	(-0.10)	(-0.94)	(-1.18)	(-0.96)	(-1.32)
Share of Free Float	0.424	0.769	1.655	2.108	0.790	1.095	1.024	1.425	0.242	0.627	1.927	2.101
	(2.08)	(2.54)	(3.13)	(2.79)	(5.39)	(4.60)	(4.31)	(5.11)	(2.11)	(2.08)	(2.57)	(3.29)
Share of Individuals	0.828	0.666	0.784	0.514	-0.179	-1.175	-0.111	-1.132	1.563	0.726	1.675	0.895
	(1.08)	(0.89)	(1.07)	(0.77)	(-0.23)	(-2.30)	(-0.14)	(-2.10)	(1.35)	(0.81)	(1.36)	(1.01)
Intercept	2.573	3.384	1.716	2.647	3.390	5.167	2.984	4.612	2.708	3.348	1.510	0.853
	(2.04)	(2.45)	(1.31)	(1.86)	(1.69)	(3.52)	(1.47)	(3.03)	(1.91)	(2.27)	(0.94)	(0.60)
p-value of F-test of Difference		0.080		0.086		0.023		0.010		0.078		0.048
p-value of Hansen J-test	0.562	0.817	0.582	0.770	0.357	0.566	0.368	0.533	0.782	0.790	0.798	0.432
First-Stage Diagnostics												
First-Stage R2 of Either Shareholder Homogeneity, Raw, or Shareholder Homogeneity, Raw* (1-*DomShareh)*, Regressed on Instruments and Exogenous Variables	0.507	0.473	0.613	0.556	0.422	0.575	0.467	0.565	0.435	0.505	0.517	0.804
Partial R2 of Instruments	0.170	0.257	0.166	0.258	0.172	0.343	0.173	0.302	0.076	0.276	0.061	0.670
p-value of F-test of Instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
First-Stage R2 of Shareholder Homogeneity, Raw*, (*DomShareh)* Regressed on Instruments and Exogenous Variables		0.554		0.508		0.799		0.787		0.543		0.908
Partial R2 of Instruments		0.304		0.269		0.704		0.696		0.780		0.862
p-value of F-test of Instruments		0.000		0.000		0.000		0.000		0.000		0.000
p-value of Residuals' Regression F-stat	0.994	1.000	0.995	1.000	0.275	0.760	0.395	0.651	0.998	1.000	0.993	0.353
p-value of Residuals' Regression F-test of Instruments	0.527	0.901	0.569	0.871	0.369	0.565	0.408	0.501	0.735	0.840	0.757	0.470

Panel B: Absolute Error of Analyst Forecasts, Panel Estimates

	Age-Based Homogeneity Measures				College-Based Homogeneity Measures				Local Age-Based Homogeneity Measures			
Shareholder Homogeneity1	-2.665				-1.147				-3.348			
	(-4.63)				(-2.64)				(-3.91)			
Shareholder Homogeneity1*(1- *DomShareh*)		-2.954				-1.126				-3.603		
		(-4.60)				(-2.51)				(-4.68)		
Shareholder Homogeneity1* *DomShareh*		-2.164				-0.586				-3.013		
		(-3.15)				(-1.42)				(-3.78)		
Shareholder Homogeneity2			-4.142				-1.314				-5.588	
			(-4.50)				(-2.42)				(-3.76)	
Shareholder Homogeneity2*(1- *DomShareh*)				-4.874				-1.319				-3.503
				(-3.69)				(-2.35)				(-4.45)
Shareholder Homogeneity2* *DomShareh*				-3.069				-0.343				-2.949
				(-2.70)				(-0.60)				(-3.88)
Board Homogeneity1	0.249	0.421	0.216	0.107	0.119	0.067	0.120	0.036	0.468	0.552	0.614	0.093
	(0.95)	(1.38)	(0.76)	(0.31)	(0.40)	(0.23)	(0.40)	(0.12)	(1.48)	(1.76)	(1.62)	(0.34)
Board Homogeneity2	-0.392	-0.165	-0.354	-0.311	-0.553	-0.545	-0.499	-0.505	-0.300	-0.116	-0.311	-0.351
	(-1.05)	(-0.49)	(-1.00)	(-0.92)	(-2.91)	(-2.94)	(-2.72)	(-2.80)	(-0.75)	(-0.32)	(-0.81)	(-1.85)
Control Variables												
Market-to-Book	-0.011	-0.011	-0.010	-0.011	-0.008	-0.007	-0.008	-0.007	-0.013	-0.015	-0.013	-0.018
	(-2.43)	(-2.11)	(-2.22)	(-2.35)	(-2.30)	(-1.91)	(-2.36)	(-1.93)	(-2.30)	(-2.54)	(-2.31)	(-3.97)
Size	0.191	0.163	0.199	0.223	-0.035	-0.025	-0.012	-0.009	0.286	0.274	0.317	0.136
	(2.18)	(1.57)	(2.24)	(1.60)	(-0.42)	(-0.29)	(-0.16)	(-0.11)	(2.75)	(2.12)	(2.75)	(1.46)
Leverage	-0.187	-0.215	-0.183	-0.187	-0.176	-0.180	-0.177	-0.182	-0.188	-0.239	-0.185	-0.243
	(-3.00)	(-3.91)	(-2.84)	(-3.05)	(-5.56)	(-5.70)	(-5.67)	(-5.82)	(-2.80)	(-4.04)	(-2.58)	(-4.91)
Employees	-0.090	-0.075	-0.088	-0.084	-0.120	-0.110	-0.114	-0.108	-0.119	-0.106	-0.125	-0.101
	(-2.18)	(-1.68)	(-2.12)	(-1.82)	(-3.38)	(-3.42)	(-3.25)	(-3.27)	(-2.85)	(-2.41)	(-2.68)	(-2.39)
Bid-Ask Spread	-0.007	-0.008	-0.007	-0.007	-0.001	-0.001	-0.003	-0.003	-0.002	-0.004	0.000	-0.009
	(-1.07)	(-1.15)	(-1.10)	(-1.02)	(-0.19)	(-0.15)	(-0.43)	(-0.46)	(-0.18)	(-0.40)	(-0.03)	(-2.57)
Price	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001
	(0.47)	(-0.07)	(0.50)	(0.64)	(-0.39)	(-0.27)	(-0.66)	(-0.51)	(1.21)	(0.46)	(1.08)	(0.89)
Return 23	0.291	0.341	0.307	0.234	0.222	0.145	0.254	0.167	0.248	0.298	0.255	0.321
	(1.75)	(2.09)	(1.79)	(1.05)	(1.35)	(0.84)	(1.61)	(0.99)	(1.43)	(1.81)	(1.40)	(1.83)
Return 46	0.313	0.350	0.321	0.252	0.223	0.137	0.249	0.152	0.327	0.334	0.313	0.314
	(1.99)	(2.17)	(2.05)	(1.31)	(1.35)	(0.73)	(1.52)	(0.82)	(1.94)	(2.09)	(1.85)	(1.86)
Return 712	0.303	0.330	0.308	0.246	0.224	0.158	0.244	0.168	0.311	0.320	0.295	0.278
	(2.35)	(2.52)	(2.35)	(1.51)	(1.80)	(1.12)	(2.00)	(1.19)	(2.26)	(2.49)	(2.09)	(2.09)
High-Tech Dummy	0.173	0.055	0.174	0.126	0.026	-0.076	0.062	-0.051	0.046	-0.140	0.031	0.294
	(0.66)	(0.20)	(0.67)	(0.52)	(0.13)	(-0.33)	(0.31)	(-0.22)	(0.18)	(-0.54)	(0.12)	(1.42)
A-list Dummy	0.187	0.069	0.217	0.192	0.092	0.037	0.095	0.041	0.251	0.122	0.317	0.151
	(1.09)	(0.44)	(1.28)	(1.16)	(0.95)	(0.35)	(1.00)	(0.40)	(1.28)	(0.65)	(1.52)	(1.56)

Continues

Turnover	-0.063	-0.061	-0.064	-0.059	-0.029	-0.026	-0.029	-0.024	-0.076	-0.087	-0.080	-0.042
	(-2.71)	(-2.63)	(-2.64)	(-2.04)	(-2.10)	(-1.88)	(-2.18)	(-1.78)	(-2.87)	(-3.21)	(-2.87)	(-2.59)
Cash	0.002	0.007	0.002	0.014	0.018	0.037	0.014	0.036	-0.013	0.029	0.010	-0.002
	(0.03)	(0.09)	(0.02)	(0.22)	(0.32)	(0.60)	(0.24)	(0.58)	(-0.17)	(0.48)	(0.12)	(-0.07)
Dividend Yield	1.072	0.953	1.005	0.749	1.071	0.854	1.080	0.830	0.950	0.888	0.920	0.867
	(2.79)	(2.60)	(2.66)	(2.09)	(2.65)	(2.02)	(2.57)	(1.92)	(2.68)	(2.47)	(2.64)	(1.93)
Corporate Governance Index	-0.178	-0.231	-0.177	-0.242	-0.130	-0.158	-0.127	-0.158	-0.226	-0.284	-0.237	-0.185
	(-4.23)	(-4.76)	(-4.31)	(-4.31)	(-2.67)	(-2.97)	(-2.63)	(-3.01)	(-4.25)	(-4.66)	(-4.30)	(-4.30)
Share of Free Float	-0.476	-0.343	1.271	1.486	0.004	0.039	0.328	0.341	-0.814	-0.691	1.627	1.263
	(-2.15)	(-1.49)	(3.63)	(3.22)	(0.02)	(0.20)	(1.27)	(1.40)	(-2.67)	(-2.59)	(3.44)	(3.97)
Share of Individuals	3.478	3.233	3.365	3.830	2.064	2.146	2.047	2.119	4.826	4.636	5.065	3.223
	(3.96)	(3.18)	(3.92)	(3.09)	(4.08)	(3.95)	(4.00)	(3.83)	(4.29)	(3.83)	(4.13)	(5.20)
Intercept	-0.978	-1.012	-2.274	-2.347	0.698	0.711	0.086	0.243	-1.492	-1.715	-3.495	-1.482
	(-0.89)	(-0.86)	(-1.81)	(-1.34)	(0.58)	(0.61)	(0.08)	(0.23)	(-1.29)	(-1.26)	(-2.34)	(-1.15)
p-value of F-test of Difference		0.010		0.020		0.043		0.013		0.075		0.003
p-value of Hansen J-test	0.593	0.463	0.632	0.712	0.215	0.264	0.197	0.260	0.599	0.631	0.553	0.598
First-Stage Diagnostics												
First-Stage R2 of Either Shareholder Homogeneity, Raw, or Shareholder Homogeneity, Raw*, (1-*DomShareh)* Regressed on Instruments and Exogenous Variables	0.507	0.473	0.613	0.556	0.422	0.575	0.467	0.565	0.435	0.505	0.517	0.804
Partial R2 of Instruments	0.170	0.257	0.166	0.258	0.172	0.343	0.173	0.302	0.076	0.276	0.061	0.670
p-value of F-test of Instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
First-Stage R2 of Shareholder Homogeneity, Raw*, (*DomShareh)* Regressed on Instruments and Exogenous Variables		0.554		0.508		0.799		0.787		0.543		0.908
Partial R2 of Instruments		0.304		0.269		0.704		0.696		0.325		0.862
p-value of F-test of Instruments		0.000		0.000		0.000		0.000		0.000		0.000
p-value of Residuals' Regression F-stat	1.000	1.000	1.000	1.000	0.109	0.974	0.136	0.975	1.000	1.000	1.000	0.960
p-value of Residuals' Regression F-test of Instruments	0.672	0.650	0.727	0.918	0.107	0.293	0.122	0.319	0.677	0.786	0.608	0.878

Table 5. Shareholder Homogeneity and Profitability

This table reports the result of the regression of Return on Assets (Panel A), Return on Equity (Panel B) and Profit Margins (Panel C) *in excess of corresponding industry median* on shareholder homogeneity, board homogeneity and a set of stock characteristics. The measures of shareholder homogeneity and the control variables are defined as in Tables 1–4. We interact shareholder homogeneity with the interactive dummy (*"DomShareh"*) that takes value 1 if there exists a dominant shareholder who has control rights of the firm in excess of 20% and his cash-flow rights are lower than his control rights. We report the estimates based on panel with year fixed effects with industry- and time-clustered errors, as we described in Section III-C and III-D in the text. We employ instrumental GMM and use as instruments the Herfindahl index of local (50-km) age- (college-) based homogeneity, the number of branches (plants) of the firm, the standard deviation of the parental capital income of the investors and the Herfindahl index based on the parental capital income decile and parental residence (*län*) of the investors. We use 848 yearly observations (number of firms is between 91 and 271). The *t-statistics* are reported in parentheses. We also report the *p-value* of the Hansen overidentifying restrictions, the *p-value* of the test of difference between *Shareholder Homogeneity**(1- *DomShareh*) and *Shareholder Homogeneity***DomShareh*, the *RSquare* of the first stage of the instrumental variable estimation, the *Partial RSquare* of the instruments and *F-tests* of exclusion of instruments from the first stage. We also report the *p*-value of the *F-statistics* of the regression of the residuals on the instruments and the other exogenous variables, and the *p-value* of the *F-test* of exclusion of those instruments from the regression.

Panel A: ROA

	Age-Based Homogeneity Measures				**College-Based Homogeneity Measures**				**Local Age-Based Homogeneity Measures**			
Shareholder Homogeneity1	0.375				0.491				0.681			
	(2.61)				(4.36)				(3.17)			
Shareholder Homogeneity1*(1- *DomShareh*)		0.482				0.369				0.714		
		(2.67)				(2.91)				(2.57)		
Shareholder Homogeneity1* *DomShareh*		0.249				0.200				0.454		
		(1.42)				(1.07)				(1.92)		
Shareholder Homogeneity2			0.467				0.606				0.984	
			(2.26)				(4.17)				(3.19)	
Shareholder Homogeneity2*(1- *DomShareh*)				0.772				0.438				0.997
				(3.11)				(2.38)				(2.70)
Shareholder Homogeneity2* *DomShareh*				0.434				0.186				0.680
				(1.73)				(0.99)				(2.04)
Board Homogeneity1	0.096	0.106	0.095	0.115	0.188	0.176	0.195	0.165	0.109	0.099	0.093	0.098
	(3.42)	(3.33)	(3.47)	(3.52)	(4.47)	(3.49)	(4.57)	(2.58)	(3.42)	(3.15)	(3.02)	(2.99)
Board Homogeneity2	0.075	0.054	0.102	0.070	0.168	0.146	0.169	0.131	0.139	0.113	0.136	0.125
	(1.69)	(1.38)	(2.30)	(1.88)	(4.62)	(2.63)	(4.96)	(1.96)	(2.64)	(2.23)	(2.70)	(2.62)
Control Variables												
Size	0.033	0.052	0.048	0.049	0.093	0.086	0.088	0.076	0.052	0.064	0.056	0.065
	(2.21)	(2.99)	(3.50)	(3.00)	(7.42)	(4.80)	(7.31)	(3.82)	(3.65)	(4.20)	(3.90)	(4.37)
Leverage	0.017	0.016	0.016	0.016	0.018	0.019	0.017	0.016	0.024	0.021	0.023	0.020
	(4.07)	(3.28)	(3.74)	(3.81)	(3.38)	(2.41)	(3.16)	(1.98)	(4.36)	(3.79)	(4.00)	(3.62)
Employees	0.014	0.009	0.009	0.012	0.023	0.023	0.022	0.024	0.012	0.009	0.011	0.009
	(1.84)	(1.22)	(1.11)	(1.52)	(2.45)	(2.12)	(2.36)	(1.93)	(1.36)	(1.06)	(1.12)	(1.03)
High-Tech Dummy	0.011	0.050	0.003	0.050	-0.029	0.003	-0.024	0.004	0.064	0.067	0.061	0.061
	(0.46)	(1.74)	(0.12)	(1.76)	(-1.31)	(0.11)	(-0.88)	(0.12)	(1.93)	(1.78)	(1.75)	(1.58)

Continues

A-list Dummy	0.023	0.043	0.024	0.032	0.038	0.040	0.036	0.024	0.034	0.040	0.022	0.027
	(1.44)	(2.46)	(1.66)	(1.81)	(2.62)	(2.05)	(2.38)	(1.04)	(2.07)	(2.28)	(1.33)	(1.42)
Cash	-0.011	-0.012	-0.014	-0.012	-0.015	-0.008	-0.013	-0.007	-0.037	-0.032	-0.032	-0.030
	(-1.23)	(-1.21)	(-1.72)	(-1.33)	(-2.36)	(-1.99)	(-1.94)	(-1.80)	(-3.11)	(-2.62)	(-2.86)	(-2.63)
Dividend Yield	0.047	0.105	0.037	0.108	0.022	0.043	0.014	0.036	0.085	0.117	0.086	0.115
	(2.33)	(3.57)	(1.74)	(3.64)	(0.50)	(0.92)	(0.37)	(0.67)	(2.45)	(2.83)	(2.31)	(2.64)
Corporate Governance Index	0.076	0.047	-0.161	-0.236	-0.093	-0.067	-0.246	-0.174	0.103	0.047	-0.352	-0.344
	(2.01)	(1.09)	(-2.53)	(-3.12)	(-2.14)	(-1.64)	(-6.47)	(-2.70)	(1.86)	(0.82)	(-3.42)	(-3.07)
Share of Free Float	-0.061	0.015	0.007	0.019	0.125	0.152	0.104	0.140	-0.260	-0.130	-0.186	-0.093
	(-0.83)	(0.16)	(0.11)	(0.25)	(3.18)	(3.02)	(2.66)	(2.43)	(-2.02)	(-0.87)	(-1.77)	(-0.78)
Share of Individuals	0.002	0.020	0.002	0.021	0.016	0.002	0.016	0.008	0.007	0.020	0.005	0.017
	(0.42)	(3.56)	(0.41)	(3.87)	(2.33)	(0.25)	(2.46)	(0.66)	(1.40)	(2.81)	(0.93)	(2.58)
Intercept	-0.643	-0.835	-0.599	-0.652	-1.193	-1.132	-1.038	-0.939	-0.883	-0.941	-0.609	-0.694
	(-5.13)	(-6.15)	(-4.67)	(-4.03)	(-6.54)	(-4.90)	(-6.74)	(-4.02)	(-6.19)	(-6.48)	(-4.65)	(-4.64)
p-value of F-test of Difference		0.000		0.000		0.0840		0.098		0.0000		0.0007
p-value of Hansen J-test	0.233	0.319	0.255	0.292	0.417	0.165	0.425	0.062	0.602	0.523	0.686	0.475
First-Stage Diagnostics												
First-Stage R2 of either Shareholder Homogeneity, Raw, or Shareholder Homogeneity, Raw*, (1-*DomShareh)* Regressed on Instruments and Exogenous Variables	0.489	0.462	0.546	0.538	0.370	0.522	0.417	0.511	0.434	0.465	0.487	0.538
Partial R2 of Instruments	0.137	0.313	0.130	0.289	0.175	0.338	0.163	0.279	0.066	0.304	0.056	0.281
p-value of F-test of Instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
First-Stage R2 of Shareholder Homogeneity, Raw*, (*DomShareh)* Regressed on Instruments and Exogenous Variables*)*		0.597		0.547		0.755		0.732		0.596		0.540
Partial R2 of Instruments		0.371		0.335		0.670		0.653		0.370		0.325
p-value of F-test of Instruments		0.000		0.000		0.000		0.000		0.000		0.000
p-value of Residuals' Regression F-stat	0.974	0.701	0.968	0.633	1.000	0.622	0.999	1.000	1.000	1.000	1.000	1.000
p-value of Residuals' Regression F-test of Instruments	0.537	0.217	0.564	0.181	0.585	0.628	0.453	0.774	0.846	0.812	0.864	0.758

Panel B: ROE

	Age-Based Homogeneity Measures				College-Based Homogeneity Measures				Local Age-Based Homogeneity Measures			
Shareholder Homogeneity1	1.029				1.117				1.603			
	(2.86)				(5.93)				(3.08)			
Shareholder Homogeneity1*(1- *DomShareh*)		1.461				0.693				1.633		
		(3.54)				(2.97)				(2.81)		
Shareholder Homogeneity1* *DomShareh*		1.074				0.211				1.269		
		(2.46)				(1.17)				(2.20)		
Shareholder Homogeneity2			1.723				1.244				2.601	
			(3.27)				(5.15)				(3.22)	
Shareholder Homogeneity2*(1- *DomShareh*)				2.281				0.864				2.487
				(4.06)				(2.42)				(2.99)
Shareholder Homogeneity2* *DomShareh*				1.787				0.491				2.166
				(2.91)				(0.80)				(2.44)
Board Homogeneity1	0.193	0.196	0.170	0.197	0.341	0.336	0.323	0.290	0.233	0.203	0.178	0.174
	(2.52)	(2.44)	(2.26)	(2.45)	(3.47)	(2.68)	(3.18)	(1.88)	(2.60)	(2.31)	(2.01)	(1.98)
Board Homogeneity2	0.161	-0.050	0.158	0.003	0.300	0.187	0.265	0.179	0.126	0.100	0.120	0.119
	(1.45)	(-0.47)	(1.51)	(0.03)	(2.84)	(1.66)	(2.59)	(1.38)	(0.95)	(0.72)	(0.94)	(0.91)
Control Variables												
Size	0.098	0.068	0.096	0.067	0.215	0.187	0.198	0.171	0.116	0.143	0.126	0.145
	(2.48)	(1.73)	(2.54)	(1.90)	(6.79)	(5.12)	(6.40)	(4.01)	(2.78)	(3.46)	(3.05)	(3.56)
Leverage	0.019	0.011	0.018	0.012	0.028	0.020	0.023	0.015	0.042	0.039	0.044	0.041
	(2.22)	(1.13)	(2.01)	(1.31)	(2.57)	(1.29)	(2.10)	(0.93)	(3.69)	(3.30)	(3.44)	(3.30)
Employees	0.013	-0.004	0.010	0.000	0.046	0.030	0.041	0.036	0.012	0.010	0.014	0.015
	(0.83)	(-0.25)	(0.57)	(0.00)	(2.79)	(1.29)	(2.55)	(1.33)	(0.65)	(0.51)	(0.62)	(0.69)
High-Tech Dummy	0.029	0.093	0.036	0.087	-0.114	-0.029	-0.094	-0.040	0.154	0.165	0.164	0.165
	(0.48)	(1.35)	(0.57)	(1.29)	(-2.04)	(-0.45)	(-1.28)	(-0.54)	(1.77)	(1.80)	(1.76)	(1.71)
A-list Dummy	0.051	0.042	0.032	0.016	0.066	0.065	0.052	0.035	0.048	0.055	0.011	0.017
	(1.96)	(1.38)	(1.20)	(0.53)	(2.36)	(1.61)	(1.76)	(0.76)	(1.32)	(1.49)	(0.28)	(0.39)
Cash	-0.060	-0.031	-0.053	-0.031	-0.038	-0.018	-0.036	-0.016	-0.093	-0.088	-0.088	-0.088
	(-3.26)	(-1.33)	(-3.02)	(-1.45)	(-2.74)	(-190)	(-2.41)	(-1.95)	(-3.08)	(-2.79)	(-2.98)	(-2.88)
Dividend Yield	0.101	0.164	0.092	0.157	0.063	0.134	0.054	0.145	0.200	0.235	0.199	0.228
	(1.65)	(2.44)	(1.59)	(2.47)	(0.51)	(1.00)	(0.49)	(0.96)	(2.44)	(2.76)	(2.43)	(2.65)
Corporate Governance Index	0.015	0.032	0.013	0.032	0.049	0.000	0.046	0.009	0.030	0.048	0.026	0.041
	(1.07)	(2.08)	(1.05)	(2.20)	(2.94)	(-0.02)	(2.85)	(0.35)	(1.75)	(2.56)	(1.66)	(2.50)
Share of Free Float	0.064	0.094	-0.655	-0.793	-0.259	-0.178	-0.563	-0.373	0.215	0.121	-0.965	-0.963
	(0.64)	(0.89)	(-4.13)	(-4.45)	(-2.84)	(-1.99)	(-5.52)	(-2.42)	(1.56)	(0.85)	(-3.77)	(-3.61)
Share of Individuals	-0.315	-0.410	-0.279	-0.363	0.208	0.249	0.177	0.227	-0.807	-0.597	-0.712	-0.562
	(-1.66)	(-1.77)	(-1.74)	(-2.07)	(2.26)	(2.36)	(1.93)	(1.84)	(-2.32)	(-1.53)	(-2.35)	(-1.68)
Intercept	-1.392	-1.174	-0.938	-0.648	-2.579	-2.221	-2.108	-1.903	-1.707	-1.885	-1.048	-1.225
	(-4.31)	(-4.07)	(-2.58)	(-1.88)	(-7.14)	(-5.26)	(-6.46)	(-4.31)	(-4.57)	(-5.33)	(-2.71)	(-3.06)

Continues

p-value of F-test of Difference		0.000		0.001		0.089		0.094		0.004		0.029
p-value of Hansen J-test	0.126	0.218	0.183	0.194	0.063	0.131	0.181	0.051	0.164	0.191	0.244	0.205
First-Stage Diagnostics												
First-Stage R2 of either Shareholder Homogeneity, Raw, or Shareholder Homogeneity, Raw*, (1-*DomShareh)* *Regressed on Instruments and Exogenous Variables*	0.489	0.462	0.546	0.538	0.370	0.522	0.417	0.511	0.434	0.465	0.487	0.538
Partial R2 of Instruments	0.137	0.313	0.130	0.289	0.175	0.338	0.163	0.279	0.066	0.304	0.056	0.281
p-value of F-test of Instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
First-Stage R2 of Shareholder Homogeneity, Raw*, (*DomShareh)* Regressed on Instruments and Exogenous Variables		0.597		0.547		0.755		0.732		0.596		0.540
Partial R2 of Instruments		0.371		0.335		0.670		0.653		0.370		0.325
p-value of F-test of Instruments		0.000		0.000		0.000		0.000		0.000		0.000
p-value of Residuals' Regression F-stat	0.979	0.868	0.929	0.777	0.957	0.622	0.907	0.999	0.998	0.997	1.000	0.998
p-value of Residuals' Regression F-test of Instruments	0.462	0.201	0.193	0.165	0.133	0.628	0.125	0.519	0.286	0.368	0.365	0.373

Panel C: Profit Margins

	Age-Based Homogeneity Measures				College-Based Homogeneity Measures				Local Age-Based Homogeneity Measures			
Shareholder Homogeneity1	1.248				2.113				1.581			
	(4.66)				(4.90)				(2.45)			
Shareholder Homogeneity1*(1- *DomShareh*)		1.329				2.197				1.583		
		(5.45)				(4.73)				(2.18)		
Shareholder Homogeneity1* *DomShareh*		0.745				1.076				0.697		
		(2.67)				(2.49)				(1.27)		
Shareholder Homogeneity2			1.991				2.528				2.068	
			(5.03)				(4.61)				(3.22)	
Shareholder Homogeneity2*(1- *DomShareh*)				2.802				2.518				2.170
				(6.45)				(4.28)				(2.29)
Shareholder Homogeneity2* *DomShareh*				1.223				0.670				0.858
				(3.06)				(1.05)				(1.09)
Board Homogeneity1	0.543	0.502	0.529	0.535	0.838	0.894	0.841	0.914	0.618	0.555	0.631	0.552
	(3.49)	(3.84)	(3.46)	(3.88)	(3.61)	(3.50)	(3.75)	(3.46)	(3.36)	(2.89)	(3.46)	(2.71)
Board Homogeneity2	0.426	0.771	0.462	0.765	0.941	0.853	0.870	0.782	0.992	0.720	0.956	0.613
	(1.68)	(3.22)	(1.90)	(3.03)	(2.22)	(2.32)	(2.09)	(2.13)	(2.34)	(1.88)	(2.45)	(1.54)
Control Variables												
Size	0.151	0.134	0.157	0.118	0.372	0.386	0.340	0.354	0.208	0.233	0.214	0.231
	(3.85)	(2.23)	(4.17)	(2.12)	(6.34)	(6.70)	(6.31)	(6.69)	(4.76)	(3.88)	(5.42)	(4.02)
Leverage	0.130	0.140	0.131	0.139	0.156	0.149	0.146	0.136	0.164	0.144	0.159	0.135
	(8.89)	(7.86)	(8.56)	(7.98)	(7.31)	(6.31)	(7.25)	(5.92)	(6.40)	(5.20)	(6.57)	(4.73)
Employees	0.001	0.000	-0.006	0.014	0.050	0.033	0.039	0.017	0.014	-0.014	0.011	-0.022
	(0.03)	(0.00)	(-0.19)	(0.42)	(1.13)	(0.76)	(0.86)	(0.38)	(0.29)	(-0.32)	(0.24)	(-0.50)
High-Tech Dummy	0.046	0.210	0.044	0.205	0.002	0.018	-0.037	-0.021	0.175	0.169	0.143	0.119
	(1.01)	(2.70)	(0.96)	(2.71)	(0.03)	(0.21)	(-0.53)	(-0.25)	(1.77)	(1.50)	(1.86)	(1.00)
A-list Dummy	0.070	0.105	0.070	0.063	0.170	0.155	0.162	0.138	0.129	0.104	0.088	0.071
	(1.30)	(1.61)	(1.28)	(0.94)	(2.30)	(2.28)	(2.21)	(2.12)	(1.76)	(1.30)	(1.32)	(0.88)
Cash	-0.077	-0.042	-0.074	-0.049	-0.065	-0.033	-0.061	-0.031	-0.091	-0.067	-0.079	-0.063
	(-4.07)	(-1.95)	(-4.00)	(-2.35)	(-3.46)	(-1.53)	(-3.03)	(-1.36)	(-3.26)	(-2.47)	(-3.07)	(-2.37)
Dividend Yield	0.347	0.579	0.344	0.582	0.309	0.259	0.291	0.291	0.377	0.509	0.383	0.455
	(3.51)	(3.88)	(3.39)	(3.96)	(2.14)	(1.74)	(2.54)	(2.45)	(2.40)	(2.67)	(2.70)	(2.24)
Corporate Governance Index	0.035	0.138	0.032	0.134	0.056	0.077	0.053	0.078	-0.004	0.070	-0.001	0.066
	(2.15)	(6.29)	(2.02)	(6.02)	(1.76)	(2.68)	(1.64)	(2.76)	(-0.17)	(2.45)	(-0.05)	(2.45)
Share of Free Float	0.095	0.217	-0.679	-1.179	-0.125	-0.044	-0.803	-0.636	0.456	0.160	-0.543	-0.559
	(0.99)	(1.87)	(-4.27)	(-6.08)	(-0.83)	(-0.33)	(-4.66)	(-4.54)	(2.50)	(1.17)	(-2.41)	(-1.76)
Share of Individuals	-0.341	-0.561	-0.271	-0.526	0.267	0.289	0.194	0.221	-0.718	-0.259	-0.450	-0.128
	(-1.72)	(-1.94)	(-1.54)	(-2.26)	(1.59)	(1.71)	(1.23)	(1.41)	(-1.58)	(-0.61)	(-1.67)	(-0.36)
Intercept	-2.160	-3.031	-1.744	-1.951	-4.948	-5.184	-3.994	-4.257	-3.594	-3.351	-2.920	-2.656
	(-4.25)	(-4.43)	(-3.43)	(-2.65)	(-4.35)	(-4.71)	(-4.04)	(-4.38)	(-4.29)	(-3.46)	(-4.17)	(-2.82)

Continues

p-value of F-test of Difference		0.000		0.000		0.024		0.023		0.008		0.030
p-value of Hansen J-test	0.148	0.337	0.179	0.286	0.834	0.418	0.769	0.262	0.699	0.185	0.675	0.132
First-Stage Diagnostics												
First-Stage R2 of either Shareholder Homogeneity, Raw, or Shareholder Homogeneity, Raw*, (1-*DomShareh)* *Regressed on Instruments and Exogenous Variables*	0.489	0.462	0.546	0.538	0.370	0.522	0.417	0.511	0.434	0.465	0.487	0.538
Partial R2 of Instruments	0.137	0.313	0.130	0.289	0.175	0.338	0.163	0.279	0.066	0.304	0.056	0.281
p-value of F-test of Instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
First-Stage R2 of Shareholder Homogeneity, Raw*, (*DomShareh)* Regressed on Instruments and Exogenous Variables		0.597		0.547		0.755		0.732		0.596		0.540
Partial R2 of Instruments		0.371		0.335		0.670		0.653		0.370		0.325
p-value of F-test of Instruments		0.000		0.000		0.000		0.000		0.000		0.000
p-value of Residuals' Regression F-stat	0.945	0.984	0.943	0.977	1.000	0.999	1.000	0.955	1.000	0.999	1.000	0.996
p-value of Residuals' Regression F-test of Instruments	0.782	0.498	0.798	0.442	0.730	0.490	0.882	0.270	0.890	0.422	0.872	0.288

Table 6. Shareholder Homogeneity and Tobin's Q

This table reports the results of the regression of Tobin's Q on shareholder homogeneity, board homogeneity and a set of stock characteristics. The measures of shareholder homogeneity and the control variables are defined as in Tables 1–4. We also interact shareholder homogeneity with the interactive dummy (*DomShareh*) that takes value 1 if there exists a dominant shareholder who has control rights of the firm in excess of 20% and his cash-flow rights are lower than his control rights. We report the estimates based on panel with year fixed effects estimated with instrumental GMM as defined in the text. We use as instruments Herfindahl index of local (50 km) age- (college-) based homogeneity, standard deviation of parental capital income and Herfindahl index based on parental capital income decile and parental residence (*lan*). We use yearly dummies. We use 848 yearly observations (number of firms is between 91 and 271). The *t-statistics* are reported in parentheses. We also report the *p-value* of the Hansen overidentifying restrictions, the *p-value* of the test of difference between *Shareholder Homogeneity**(1-*DomShareh*) and *Shareholder Homogeneity***DomShareh* , the *RSquare* of the first stage of the instrumental variable estimation, the *Partial RSquare* of the instruments and *F-tests* of exclusion of instruments from the first stage. We also report the *p*-value of the *F-statistics* of the regression of the residuals on the instruments and the other exogenous variables, and the *p-value* of the *F-test* of exclusion of those instruments from the regression.

	Age-Based Homogeneity Measures				**College-Based Homogeneity Measures**				**Local Age-Based Homogeneity Measures**			
Shareholder Homogeneity1	0.908				0.970				1.236			
	(2.81)				(3.07)				(2.13)			
Shareholder Homogeneity1*(1- *DomShareh*)		0.978				1.048				1.270		
		(2.64)				(2.43)				(2.01)		
Shareholder Homogeneity1* *DomShareh*		0.252				-0.127				0.613		
		(1.61)				(-0.18)				(1.04)		
Shareholder Homogeneity2			1.615				1.214				1.887	
			(2.93)				(3.14)				(2.00)	
Shareholder Homogeneity2*(1- *DomShareh*)				1.815				1.389				2.143
				(2.77)				(2.60)				(1.95)
Shareholder Homogeneity2* *DomShareh*				0.843				-0.365				0.572
				(1.87)				(-0.39)				(1.11)
Board Homogeneity1	-0.528	-0.551	-0.633	-0.570	-0.092	-0.110	-0.077	-0.043	-0.446	-0.467	-0.498	-0.447
	(-4.03)	(-3.68)	(-4.28)	(-3.34)	(-0.53)	(-0.63)	(-0.43)	(-0.25)	(-3.88)	(-3.46)	(-3.93)	(-3.00)
Board Homogeneity2	-0.433	-0.513	-0.433	-0.480	-0.117	-0.185	-0.127	-0.161	-0.422	-0.469	-0.410	-0.424
	(-3.05)	(-3.22)	(-3.01)	(-2.98)	(-0.74)	(-1.12)	(-0.79)	(-0.96)	(-3.20)	(-3.28)	(-3.14)	(-2.95)
Control Variables												
Size	0.325	0.429	0.314	0.409	0.573	0.572	0.553	0.551	0.394	0.459	0.402	0.456
	(4.09)	(6.20)	(4.08)	(6.05)	(8.74)	(9.19)	(8.64)	(9.17)	(4.42)	(5.59)	(4.53)	(5.59)
Leverage	-0.081	-0.085	-0.077	-0.083	-0.074	-0.080	-0.078	-0.082	-0.089	-0.094	-0.089	-0.094
	(-3.12)	(-3.16)	(-2.93)	(-3.12)	(-2.83)	(-3.18)	(-3.05)	(-3.32)	(-3.86)	(-4.42)	(-3.69)	(-4.45)
Employees	-0.119	-0.109	-0.132	-0.118	-0.047	-0.062	-0.053	-0.058	-0.113	-0.106	-0.118	-0.107
	(-2.94)	(-2.46)	(-3.32)	(-2.63)	(-0.94)	(-1.23)	(-1.06)	(-1.17)	(-2.67)	(-2.38)	(-2.76)	(-2.36)
High-Tech Dummy	0.923	0.908	0.976	0.955	0.734	0.716	0.721	0.709	0.760	0.777	0.761	0.782
	(5.18)	(5.51)	(5.41)	(5.60)	(5.39)	(5.42)	(5.25)	(5.34)	(4.75)	(4.90)	(4.72)	(4.85)

Continues

A-list Dummy	-0.326	-0.337	-0.340	-0.349	-0.387	-0.407	-0.385	-0.405	-0.387	-0.369	-0.400	-0.385
	(-4.31)	(-4.55)	(-4.49)	(-4.66)	(-5.09)	(-5.54)	(-5.00)	(-5.39)	(-6.42)	(-5.46)	(-7.14)	(-6.09)
Cash	-0.064	-0.053	-0.063	-0.059	-0.038	-0.030	-0.032	-0.029	-0.069	-0.060	-0.067	-0.063
	(-2.13)	(-1.56)	(-1.98)	(-1.67)	(-1.16)	(-0.97)	(-0.95)	(-0.89)	(-2.31)	(-1.84)	(-2.18)	(-1.87)
Dividend Yield	-0.678	-0.548	-0.626	-0.460	-0.719	-0.583	-0.751	-0.601	-0.719	-0.562	-0.695	-0.518
	(-3.74)	(-3.26)	(-3.48)	(-2.69)	(-3.47)	(-2.93)	(-3.65)	(-3.02)	(-3.85)	(-3.35)	(-3.75)	(-2.94)
Corporate Governance Index	-0.082	-0.028	-0.076	-0.017	-0.061	-0.008	-0.065	-0.009	-0.080	-0.027	-0.081	-0.025
	(-3.78)	(-1.02)	(-3.53)	(-0.64)	(-1.90)	(-0.24)	(-2.01)	(-0.27)	(-3.05)	(-1.02)	(-3.21)	(-0.91)
Share of Free Float	0.164	-0.139	-1.318	-1.350	-0.463	-0.546	-0.867	-0.830	-0.131	-0.327	-1.104	-1.172
	(0.78)	(-0.68)	(-3.49)	(-3.45)	(-3.25)	(-3.18)	(-4.04)	(-3.74)	(-0.65)	(-1.66)	(-3.23)	(-3.15)
Share of Individuals	-0.679	-0.069	-0.729	-0.189	0.781	0.825	0.724	0.769	-0.192	0.252	-0.116	0.251
	(-1.25)	(-0.15)	(-1.40)	(-0.41)	(3.42)	(3.85)	(3.12)	(3.43)	(-0.37)	(0.57)	(-0.23)	(0.57)
Intercept	-1.351	-2.131	-0.332	-1.248	-3.694	-3.525	-3.194	-3.174	-1.603	-2.170	-1.056	-1.658
	(-2.51)	(-4.37)	(-0.46)	(-1.79)	(-5.55)	(-5.55)	(-5.84)	(-6.13)	(-3.00)	(-4.24)	(-1.38)	(-2.21)
p-value of F-test of Difference		0.000		0.000		0.012		0.014		0.000		0.000
p-value of Hansen J-test	0.133	0.285	0.206	0.360	0.606	0.394	0.589	0.335	0.221	0.387	0.222	0.348
First-Stage Diagnostics												
First-Stage R2 of either Shareholder Homogeneity, Raw, or Shareholder Homogeneity, Raw*, (1-*DomShareh)* Regressed on Instruments and Exogenous Variables	0.494	0.737	0.515	0.754	0.365	0.499	0.407	0.494	0.478	0.731	0.492	0.733
Partial R2 of Instruments	0.089	0.101	0.071	0.080	0.139	0.315	0.121	0.237	0.096	0.641	0.074	0.596
p-value of F-test of Instruments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
First-Stage R2 of Shareholder Homogeneity, Raw*, (*DomShareh)* Regressed on Instruments and Exogenous Variables		0.902		0.888		0.733		0.711		0.903		0.885
Partial R2 of Instruments		0.129		0.107		0.656		0.647		0.844		0.839
p-value of F-test of Instruments		0.000		0.000		0.000		0.000		0.000		0.000
p-value of Residuals' Regression F-stat	0.896	0.996	0.971	0.999	1.000	1.000	1.000	1.000	0.999	1.000	0.999	1.000
p-value of Residuals' Regression F-test of Instruments	0.164	0.455	0.571	0.186	0.838	0.787	0.801	0.713	0.395	0.693	0.405	0.669

Table 7. Shareholder Homogeneity and Stock Returns

This table reports the results of the regression of stock returns on changes of shareholder homogeneity and a set of control variables. We define the groups on the basis of age cohort (Panel A), college affiliation (Panel B), and age cohort for the sample of local investors (within a 50-km radius of the closest firm establishment, Panel C) for each year. Changes in homogeneity are defined from year t-1 to year t. We use raw returns, market-adjusted returns (residuals of the CAPM market model) and industry-adjusted returns (residuals of the regression of excess returns on industry excess returns). We use a raw measure of homogeneity (*Shareholder Homogeneity1*) and ones weighted by the free float variable (i.e., non-controlling shareholders) (*Shareholder Homogeneity2*). We also interact measures of shareholder homogeneity with the interactive dummy (*DomShareh*) that takes value 1 if there exists a dominant shareholder who has control rights of the firm in excess of 20% and his cash-flow rights are lower than his control rights. Other control variables are as defined in Tables 1–4. All the reported estimates for the pooled regressions are done with yearly and quarterly dummies with (industry and year) and (industry and time) clustered errors. We use 10,176 monthly observations (the number of firms is between 91 and 271). All the estimates are multiplied by 100. The *t-statistics* are reported in parentheses. We report the *Adjusted R-Square* for the pooled regression estimations as well as p-value of the difference test of *Shareholder Homogeneity*(1- DomShareh)= Shareholder Homogeneity* DomShareh.*

Panel A: Age-Based Homogeneity Measures, Panel Regression Estimates

	Raw Returns								*Market-Adj. Returns*								*Industry-Adj. Returns*					
	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat
Shr. Homogeneity1	6.29	(2.75)							6.34	(2.80)							7.38	(2.89)				
Shr. Homogeneity1*(1- *DomShareh*)			6.62	(2.36)							7.42	(2.55)							8.65	(2.86)		
Shr. Homogeneity1**DomShareh*			1.81	(0.62)							3.40	(1.20)							3.94	(0.83)		
Shr. Homogeneity2					10.99	(2.66)							10.67	(2.57)							10.87	(2.43)
Shr. Homogeneity2*(1- *DomShareh*)							12.97	(2.56)							12.65	(2.47)						
Shr. Homogeneity2**DomShareh*							5.32	(0.97)							5.00	(0.92)						
Board Homogeneity1	2.18	(1.48)	2.32	(1.64)	2.24	(1.53)	2.22	(1.50)	1.72	(1.19)	1.71	(1.18)	1.78	(1.24)	1.76	(1.21)	1.88	(1.37)	1.87	(1.35)	1.95	(1.42)
Board Homogeneity2	0.87	(0.75)	0.74	(0.66)	0.88	(0.77)	0.80	(0.71)	0.73	(0.61)	0.67	(0.57)	0.74	(0.63)	0.67	(0.57)	0.62	(0.51)	0.55	(0.46)	0.65	(0.54)
Control Variables																						
Market-to-Book	0.02	(0.55)	0.02	(0.57)	0.02	(0.54)	0.02	(0.53)	0.02	(0.64)	0.02	(0.65)	0.02	(0.63)	0.02	(0.63)	0.03	(0.74)	0.03	(0.75)	0.03	(0.72)
Size	2.53	(5.16)	2.58	(5.33)	2.53	(5.15)	2.53	(5.19)	2.87	(5.56)	2.87	(5.60)	2.87	(5.54)	2.88	(5.60)	2.66	(5.28)	2.66	(5.32)	2.67	(5.26)
Leverage	0.11	(0.42)	0.11	(0.41)	0.10	(0.38)	0.10	(0.38)	0.11	(0.47)	0.11	(0.46)	0.11	(0.44)	0.10	(0.43)	0.14	(0.57)	0.14	(0.56)	0.14	(0.54)
Employees	0.16	(0.75)	0.15	(0.73)	0.15	(0.73)	0.15	(0.74)	0.16	(0.75)	0.16	(0.76)	0.15	(0.72)	0.15	(0.74)	-0.13	(-0.54)	-0.12	(-0.53)	-0.13	(-0.57)
Bid-Ask Spread	0.02	(0.39)	0.01	(0.21)	0.02	(0.37)	0.02	(0.34)	0.12	(2.23)	0.11	(2.21)	0.11	(2.23)	0.11	(2.21)	0.09	(1.96)	0.09	(1.91)	0.09	(1.92)
Price	-0.01	(-2.11)	-0.01	(-2.11)	-0.01	(-2.10)	-0.01	(-2.09)	-0.01	(-3.36)	-0.01	(-3.35)	-0.01	(-3.35)	-0.01	(-3.35)	-0.01	(-3.95)	-0.01	(-3.88)	-0.01	(-3.88)
Return 23	0.54	(0.62)	0.75	(0.88)	0.52	(0.60)	0.52	(0.60)	-0.51	(-0.60)	-0.51	(-0.60)	-0.53	(-0.62)	-0.53	(-0.62)	-0.23	(-0.25)	-0.23	(-0.25)	-0.23	(-0.25)
Return 46	-0.54	(-0.91)	-0.45	(-0.76)	-0.56	(-0.94)	-0.56	(-0.95)	-1.29	(-2.28)	-1.29	(-2.29)	-1.31	(-2.32)	-1.31	(-2.34)	-0.75	(-1.31)	-0.75	(-1.32)	-0.75	(-1.31)
Return 712	-0.55	(-1.43)	-0.50	(-1.31)	-0.55	(-1.43)	-0.55	(-1.43)	-0.29	(-0.76)	-0.29	(-0.76)	-0.29	(-0.76)	-0.29	(-0.76)	-0.56	(-1.44)	-0.56	(-1.45)	-0.56	(-1.41)
High-Tech Dummy	-2.68	(-2.24)	-2.88	(-2.45)	-2.61	(-2.17)	-2.59	(-2.17)	-2.25	(-1.84)	-2.24	(-1.84)	-2.19	(-1.78)	-2.17	(-1.78)	-2.01	(-1.70)	-2.00	(-1.70)	-1.96	(-1.66)
A-list Dummy	-0.27	(-0.52)	-0.23	(-0.44)	-0.26	(-0.50)	-0.25	(-0.47)	-0.46	(-0.85)	-0.44	(-0.81)	-0.45	(-0.83)	-0.43	(-0.80)	-0.31	(-0.58)	-0.29	(-0.54)	-0.31	(-0.57)
Turnover	-1.04	(-2.74)	-1.11	(-3.09)	-1.02	(-2.70)	-1.01	(-2.72)	-1.09	(-2.91)	-1.08	(-2.92)	-1.07	(-2.87)	-1.06	(-2.89)	-1.38	(-3.72)	-1.37	(-3.73)	-1.36	(-3.68)
Cash	-0.61	(-2.15)	-0.60	(-2.11)	-0.61	(-2.15)	-0.61	(-2.16)	-0.64	(-2.41)	-0.63	(-2.42)	-0.64	(-2.41)	-0.64	(-2.42)	-0.56	(-1.80)	-0.56	(-1.81)	-0.57	(-1.81)
Dividend Yield	-2.37	(-1.43)	-2.58	(-1.56)	-2.40	(-1.45)	-2.43	(-1.47)	-2.61	(-1.56)	-2.63	(-1.58)	-2.64	(-1.58)	-2.66	(-1.60)	-3.34	(-2.09)	-3.37	(-2.11)	-3.35	(-2.10)
Corporate Governance Index	-0.07	(-0.22)	-0.15	(-0.46)	-0.08	(-0.25)	-0.11	(-0.34)	-0.15	(-0.45)	-0.18	(-0.51)	-0.16	(-0.48)	-0.19	(-0.57)	-0.15	(-0.48)	-0.17	(-0.57)	-0.15	(-0.51)
Share of Free Float	-0.41	(-0.49)	-0.67	(-0.82)	-0.33	(-0.39)	-0.33	(-0.39)	-0.46	(-0.54)	-0.49	(-0.57)	-0.39	(-0.46)	-0.38	(-0.46)	-1.33	(-1.44)	-1.36	(-1.48)	-1.30	(-1.39)
Share of Individuals	1.29	(0.75)	2.12	(1.48)	1.33	(0.77)	1.51	(0.87)	2.28	(1.31)	2.39	(1.38)	2.32	(1.33)	2.50	(1.43)	2.02	(1.22)	2.15	(1.33)	2.10	(1.26)
Intercept	-19.68	(-3.99)	-20.61	(-4.28)	-19.65	(-3.97)	-19.65	(-4.00)	-25.41	(-5.04)	-25.37	(-5.07)	-25.42	(-5.02)	-25.42	(-5.07)	-23.41	(-4.79)	-23.36	(-4.80)	-23.54	(-4.77)
Adj R2	0.103		0.103		0.103		0.103		0.111		0.111		0.111		0.112		0.076		0.077		0.076	
p-value of F-test of Difference Shareholder Homog*(1-*DomShareh*) = Shareholder Homog**DomShareh*			0.239				0.304				0.329				0.310				0.406			

Panel B: College-Based Homogeneity Measures, Panel Regression Estimates

	Raw Returns								*Market-Adj. Returns*								*Industry-Adj. Returns*					
	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat
Shr. Homogeneity1	3.08	(2.41)							3.10	(2.43)							3.46	(2.70)				
Shr. Homogeneity1*(1- *DomShareh*)			3.50	(2.50)							3.33	(2.38)							3.60	(2.55)		
Shr. Homogeneity1**DomShareh*			-0.59	(-0.34)							1.08	(0.63)							2.24	(1.23)		
Shr. Homogeneity2					4.28	(2.47)							4.20	(2.42)							4.53	(2.63)
Shr. Homogeneity2*(1- *DomShareh*)							4.64	(2.50)							4.44	(2.39)						
Shr. Homogeneity2**DomShareh*							-0.11	(-0.04)							1.28	(0.45)						
Board Homogeneity1	1.92	(1.44)	1.90	(1.42)	1.85	(1.38)	1.84	(1.37)	1.67	(1.27)	1.66	(1.26)	1.61	(1.22)	1.60	(1.21)	1.54	(1.26)	1.53	(1.25)	1.47	(1.20)
Board Homogeneity2	0.71	(0.62)	0.72	(0.64)	0.71	(0.63)	0.71	(0.63)	0.56	(0.49)	0.57	(0.50)	0.56	(0.49)	0.56	(0.49)	0.41	(0.34)	0.42	(0.34)	0.41	(0.34)
Control Variables																						
Market-to-Book	0.04	(1.08)	0.04	(1.09)	0.04	(1.09)	0.04	(1.10)	0.04	(1.32)	0.04	(1.33)	0.04	(1.33)	0.04	(1.33)	0.04	(1.59)	0.04	(1.59)	0.04	(1.59)
Size	2.33	(5.10)	2.33	(5.09)	2.32	(5.09)	2.32	(5.09)	2.65	(5.50)	2.65	(5.49)	2.64	(5.49)	2.64	(5.49)	2.45	(5.17)	2.46	(5.17)	2.45	(5.16)
Leverage	0.46	(2.25)	0.45	(2.23)	0.45	(2.22)	0.45	(2.18)	0.43	(2.01)	0.42	(1.99)	0.42	(1.98)	0.41	(1.95)	0.45	(1.99)	0.45	(1.98)	0.45	(1.96)
Employees	0.19	(1.03)	0.18	(0.99)	0.18	(0.97)	0.17	(0.94)	0.19	(1.01)	0.19	(0.99)	0.18	(0.95)	0.18	(0.93)	-0.06	(-0.28)	-0.06	(-0.29)	-0.07	(-0.34)
Bid-Ask Spread	-0.02	(-0.36)	-0.01	(-0.32)	-0.02	(-0.38)	-0.02	(-0.34)	0.08	(1.56)	0.08	(1.62)	0.08	(1.55)	0.08	(1.63)	0.06	(1.13)	0.06	(1.16)	0.05	(1.12)
Price	-0.01	(-2.05)	-0.01	(-2.04)	-0.01	(-2.04)	-0.01	(-2.04)	-0.01	(-3.36)	-0.01	(-3.35)	-0.01	(-3.36)	-0.01	(-3.36)	-0.01	(-4.02)	-0.01	(-4.00)	-0.01	(-4.01)
Return 23	0.62	(0.60)	0.60	(0.58)	0.60	(0.58)	0.59	(0.57)	-0.64	(-0.68)	-0.65	(-0.69)	-0.66	(-0.70)	-0.67	(-0.71)	0.18	(0.18)	0.18	(0.17)	0.16	(0.15)
Return 46	-0.33	(-0.51)	-0.34	(-0.52)	-0.34	(-0.53)	-0.35	(-0.53)	-1.06	(-1.45)	-1.06	(-1.45)	-1.07	(-1.46)	-1.07	(-1.46)	-0.23	(-0.33)	-0.23	(-0.34)	-0.24	(-0.35)
Return 712	-0.33	(-0.69)	-0.33	(-0.70)	-0.33	(-0.69)	-0.34	(-0.70)	-0.14	(-0.31)	-0.14	(-0.31)	-0.15	(-0.31)	-0.15	(-0.31)	-0.52	(-1.12)	-0.52	(-1.12)	-0.52	(-1.12)
High-Tech Dummy	-3.43	(-2.52)	-3.48	(-2.56)	-3.47	(-2.52)	-3.51	(-2.55)	-3.00	(-2.18)	-3.03	(-2.20)	-3.04	(-2.18)	-3.07	(-2.20)	-2.68	(-1.99)	-2.69	(-2.00)	-2.72	(-2.00)
A-list Dummy	0.07	(0.13)	0.04	(0.07)	0.08	(0.14)	0.05	(0.10)	-0.16	(-0.30)	-0.18	(-0.32)	-0.16	(-0.29)	-0.17	(-0.31)	-0.10	(-0.18)	-0.11	(-0.20)	-0.09	(-0.17)
Turnover	-1.21	(-3.23)	-1.19	(-3.23)	-1.20	(-3.23)	-1.19	(-3.25)	-1.22	(-3.29)	-1.21	(-3.28)	-1.22	(-3.28)	-1.21	(-3.28)	-1.52	(-3.99)	-1.52	(-3.99)	-1.52	(-3.97)
Cash	-0.67	(-2.14)	-0.67	(-2.13)	-0.66	(-2.11)	-0.65	(-2.09)	-0.70	(-2.39)	-0.69	(-2.38)	-0.68	(-2.35)	-0.68	(-2.34)	-0.61	(-1.78)	-0.61	(-1.78)	-0.59	(-1.74)
Dividend Yield	-2.97	(-1.74)	-3.04	(-1.80)	-3.00	(-1.77)	-3.03	(-1.79)	-3.14	(-1.81)	-3.17	(-1.84)	-3.17	(-1.83)	-3.18	(-1.85)	-3.88	(-2.36)	-3.90	(-2.38)	-3.91	(-2.38)
Corporate Governance Index	-0.02	(-0.07)	-0.01	(-0.03)	-0.03	(-0.10)	-0.02	(-0.08)	-0.10	(-0.29)	-0.09	(-0.27)	-0.11	(-0.32)	-0.10	(-0.31)	-0.11	(-0.38)	-0.11	(-0.36)	-0.12	(-0.42)
Share of Free Float	-0.62	(-0.79)	-0.65	(-0.83)	-0.56	(-0.73)	-0.56	(-0.73)	-0.70	(-0.89)	-0.72	(-0.91)	-0.65	(-0.83)	-0.65	(-0.82)	-1.50	(-1.67)	-1.51	(-1.68)	-1.45	(-1.62)
Share of Individuals	1.77	(1.06)	1.81	(1.08)	1.82	(1.09)	1.87	(1.11)	2.50	(1.46)	2.52	(1.47)	2.55	(1.49)	2.59	(1.51)	2.36	(1.50)	2.37	(1.51)	2.42	(1.52)
Intercept	-19.60	(-4.15)	-19.56	(-4.13)	-19.53	(-4.14)	-19.54	(-4.13)	-23.83	(-5.05)	-23.81	(-5.04)	-23.78	(-5.04)	-23.78	(-5.03)	-22.33	(-4.80)	-22.32	(-4.79)	-22.28	(-4.79)
Adj R2	0.099		0.100		0.099		0.099		0.110		0.110		0.110		0.110		0.076		0.077		0.076	
p-value of F-test of Difference Shareholder Homog*(1-*DomShareh*) = Shareholder Homog**DomShareh*			0.057				0.119				0.296				0.346				0.550			

Panel C: Local Age-Based Homogeneity Measures, Panel Regression Estimates

	Raw Returns								*Market-Adj. Returns*								*Industry-Adj. Returns*					
	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat	Estim.	t-stat
Shr. Homogeneity1	4.99	(2.59)							5.08	(2.66)							5.85	(2.82)				
Shr. Homogeneity1*(1- *DomShareh*)			6.21	(2.40)							6.43	(2.51)							7.18	(2.76)		
Shr. Homogeneity1**DomShareh*			2.18	(1.21)							1.94	(1.08)							2.78	(0.80)		
Shr. Homogeneity2					8.26	(2.53)							8.06	(2.49)							8.13	(2.34)
Shr. Homogeneity2*(1- *DomShareh*)							9.96	(2.42)							9.96	(2.43)						
Shr. Homogeneity2**DomShareh*							3.41	(0.97)							2.63	(0.76)						
Board Homogeneity1	2.19	(1.47)	2.25	(1.51)	2.23	(1.50)	2.30	(1.54)	1.73	(1.18)	1.79	(1.23)	1.77	(1.21)	1.85	(1.26)	1.90	(1.35)	1.96	(1.39)	1.94	(1.38)
Board Homogeneity2	0.95	(0.82)	0.87	(0.76)	0.96	(0.84)	0.89	(0.79)	0.81	(0.68)	0.72	(0.62)	0.83	(0.70)	0.75	(0.64)	0.71	(0.59)	0.63	(0.53)	0.74	(0.61)
Control Variables																						
Market-to-Book	0.02	(0.54)	0.02	(0.54)	0.02	(0.52)	0.02	(0.52)	0.02	(0.63)	0.02	(0.63)	0.02	(0.61)	0.02	(0.61)	0.03	(0.72)	0.03	(0.72)	0.03	(0.70)
Size	2.53	(5.16)	2.53	(5.23)	2.53	(5.15)	2.54	(5.23)	2.86	(5.56)	2.87	(5.66)	2.87	(5.56)	2.88	(5.66)	2.65	(5.29)	2.66	(5.39)	2.67	(5.28)
Leverage	0.11	(0.42)	0.11	(0.41)	0.10	(0.38)	0.10	(0.38)	0.12	(0.47)	0.11	(0.46)	0.11	(0.44)	0.11	(0.43)	0.14	(0.57)	0.14	(0.56)	0.14	(0.54)
Employees	0.17	(0.79)	0.17	(0.81)	0.16	(0.78)	0.17	(0.80)	0.17	(0.79)	0.17	(0.81)	0.16	(0.77)	0.17	(0.80)	-0.11	(-0.48)	-0.11	(-0.46)	-0.12	(-0.51)
Bid-Ask Spread	0.02	(0.43)	0.02	(0.37)	0.02	(0.40)	0.02	(0.36)	0.12	(2.27)	0.11	(2.22)	0.12	(2.27)	0.11	(2.22)	0.09	(2.01)	0.09	(1.92)	0.09	(1.96)
Price	-0.01	(-2.12)	-0.01	(-2.11)	-0.01	(-2.11)	-0.01	(-2.10)	-0.01	(-3.36)	-0.01	(-3.35)	-0.01	(-3.36)	-0.01	(-3.36)	-0.01	(-3.98)	-0.01	(-3.89)	-0.01	(-3.89)
Return 23	0.54	(0.62)	0.54	(0.62)	0.52	(0.60)	0.52	(0.61)	-0.51	(-0.61)	-0.51	(-0.62)	-0.52	(-0.62)	-0.52	(-0.62)	-0.24	(-0.25)	-0.24	(-0.26)	-0.23	(-0.24)
Return 46	-0.55	(-0.92)	-0.56	(-0.93)	-0.56	(-0.94)	-0.57	(-0.96)	-1.30	(-2.29)	-1.31	(-2.31)	-1.31	(-2.31)	-1.32	(-2.34)	-0.76	(-1.32)	-0.77	(-1.34)	-0.76	(-1.31)
Return 712	-0.56	(-1.44)	-0.56	(-1.46)	-0.56	(-1.44)	-0.56	(-1.46)	-0.30	(-0.78)	-0.31	(-0.79)	-0.30	(-0.77)	-0.30	(-0.78)	-0.57	(-1.46)	-0.57	(-1.49)	-0.56	(-1.43)
High-Tech Dummy	-2.66	(-2.22)	-2.64	(-2.21)	-2.61	(-2.17)	-2.58	(-2.16)	-2.23	(-1.82)	-2.20	(-1.81)	-2.19	(-1.78)	-2.16	(-1.77)	-1.99	(-1.68)	-1.96	(-1.66)	-1.97	(-1.66)
A-list Dummy	-0.34	(-0.64)	-0.32	(-0.60)	-0.36	(-0.68)	-0.34	(-0.64)	-0.53	(-0.96)	-0.50	(-0.93)	-0.54	(-1.00)	-0.52	(-0.97)	-0.39	(-0.71)	-0.37	(-0.67)	-0.40	(-0.74)
Turnover	-1.03	(-2.68)	-1.02	(-2.71)	-1.00	(-2.64)	-1.00	(-2.68)	-1.07	(-2.85)	-1.06	(-2.88)	-1.05	(-2.81)	-1.05	(-2.84)	-1.36	(-3.65)	-1.35	(-3.68)	-1.34	(-3.61)
Cash	-0.62	(-2.17)	-0.62	(-2.18)	-0.62	(-2.16)	-0.62	(-2.18)	-0.65	(-2.43)	-0.64	(-2.45)	-0.65	(-2.42)	-0.65	(-2.44)	-0.57	(-1.83)	-0.57	(-1.84)	-0.58	(-1.83)
Dividend Yield	-2.40	(-1.43)	-2.35	(-1.42)	-2.42	(-1.44)	-2.35	(-1.42)	-2.64	(-1.57)	-2.59	(-1.55)	-2.65	(-1.57)	-2.58	(-1.55)	-3.38	(-2.09)	-3.32	(-2.07)	-3.36	(-2.07)
Corporate Governance Index	-0.05	(-0.16)	-0.08	(-0.26)	-0.06	(-0.17)	-0.09	(-0.29)	-0.13	(-0.39)	-0.17	(-0.50)	-0.14	(-0.40)	-0.18	(-0.54)	-0.12	(-0.40)	-0.16	(-0.53)	-0.13	(-0.41)
Share of Free Float	-0.36	(-0.43)	-0.37	(-0.45)	-0.31	(-0.37)	-0.30	(-0.36)	-0.41	(-0.48)	-0.42	(-0.50)	-0.37	(-0.44)	-0.36	(-0.43)	-1.28	(-1.37)	-1.29	(-1.39)	-1.28	(-1.38)
Share of Individuals	1.01	(0.58)	1.15	(0.67)	0.99	(0.58)	1.19	(0.69)	1.98	(1.14)	2.14	(1.24)	1.99	(1.14)	2.22	(1.27)	1.68	(1.03)	1.84	(1.14)	1.77	(1.07)
Intercept	-19.59	(-3.94)	-19.67	(-3.99)	-19.54	(-3.93)	-19.70	(-3.99)	-25.32	(-5.01)	-25.41	(-5.08)	-25.31	(-4.99)	-25.49	(-5.09)	-23.31	(-4.75)	-23.40	(-4.81)	-23.43	(-4.74)
Adj R2	0.103		0.103		0.103		0.103		0.111		0.111		0.111		0.111		0.076		0.076		0.076	
p-value of F-test of Difference Shareholder Homog*(1-*DomShareh*) = Shareholder Homog**DomShareh*			0.193				0.221				0.147				0.168				0.312			

Figure 1. Plot of Frequency Distribution of the Age-Based Homogeneity Measure