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Cologne, July 2022 Simon Lesmeister

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Chapter 1

Introduction

This thesis consists of three essays that investigate investors' decisions in light of aspects concerning corporate and mutual fund governance. It focuses on the impact of competition from index and exchange traded funds (ETFs) on the performance-flow relation of actively managed mutual funds, the role of societal trust on shareholders' monitoring intensity and the influence of societal trust on the decision-making process in management teams.

Governance combines internal and external mechanisms to induce self-interested managers to maximize shareholders' value.[1] This definition is applicable to all sorts of organizational forms such as corporations or mutual funds. Agency theory suggests that managers act opportunistically when ownership and control of resources are separated and contracts are incomplete.[2] In line with this theory, empirical studies suggest several venues for how agents act opportunistically and opposed to the interests of principals. Studies related to mutual funds show, e.g., that managers try to extract rents by trying to distract fund investors from discovering mediocre managerial performance.[3] Corporate managers engage in opportunistic behavior, such as e.g., insider trading, where they use private information to profit

1 See, e.g., Denis (2001).
2 See, e.g., Fama and French (1983), Hart (1995) and Jensen and Meckling (1976).
3 See, e.g., Agarwal, Gay and Ling (2014) who show that managers try to mislead fund investors with respect to their true ability by distorting the portfolio in such a way that fund disclosures show disproportionately large amounts of stocks that performed well in the past year.

for themselves. This opportunistic behavior also correlates with other opportunistic practices such as earnings manipulation.[4]

The various instruments that mitigate managerial opportunistic behavior can be divided in external and internal mechanisms. Corporate external governance mechanisms are primarily the market for corporate control and monitoring by large shareholders.[5] With respect to the external mechanism for mutual funds, the literature focuses on the feature that investors can redeem their shares at net asset value in case they are unsatisfied with managerial performance.[6] Internal mechanisms are mainly the board of directors and internal structures that create incentives to align shareholders' and managers' interests, such as sensitivity of pay to performance, or constraints in the decision-making process.[7] It is important to understand factors that influence the efficiency and effectiveness of governance mechanisms. The essays in this thesis complement the literature that identifies such factors. The first two essays focus on external governance mechanisms while the third essay deals with internal governance.

The first essay (Lesmeister et al. (2021)) considers the impact of increasing availability of stock market indexing on the effectiveness of the external governance mechanism of actively managed mutual funds. In theory, this mechanism gives fund investors strong rights to discipline fund managers who do not, or insufficiently, act in fund investors' interests. By extracting capital, investors discipline fund managers because their compensation is dependent on assets under management. Consequently, fund managers managing larger funds receive more in compensation than fund managers managing smaller funds. Empirical studies show that this mechanism does not work properly. Research suggests that the relation between past performance and mutual fund flows is convex, which means that funds with superior recent performance enjoy disproportionately large capital inflows while funds with poor performance

4 See, e.g., Ali and Hirshleifer (2017).

5 Studies that are concerned with the market for corporate control include e.g., Darrough, Huang and Zur (2018), Gaspar, Massa and Matos (2005), Jensen and Ruback (1983), Lel and Miller (2015), Manne (1965), and Martin and McConnell (1991). Examples of studies related to blockholders or institutional shareholders and their impact on monitoring include Aminadav and Papaioannou (2020), Clifford and Lindsey (2016), Cronqvist and Fahlenbrach (2009), Edmans (2009), and McCahery, Sautner and Starks (2016).

6 Fama and French (1983) argue that on-demand redeemable claims of fund investors is such a strong external governance mechanism that it renders the board of directors less important. Empirical studies related to external governance mechanisms of mutual funds are Evans and Fahlenbrach (2012), Johnson (2010) and Qian (2011).

7 For an overview of the literature on management pay see, e.g., Edmans, Gabaix and Jenter (2017) and Frydman and Jenter (2010). Frydman and Jenter (2010). The board of directors is studied extensively in a corporate setting, for a survey of the literature see, e.g., Adams, Hermalin and Weisbach (2010) and more recently Adams (2017). Studies related to boards of directors in mutual funds include, among others, Chen, Goldstein and Jiang (2008), Ferris and Yan (2007), and Tufano and Sevick (1997). Finally, Almazan et al. (2004) study constraints on the decision-making power of mutual fund managers.

suffer relatively small outflows.[8] From the perspective of maximization of fund returns, investors should act contrary, i.e., extract capital from poorly performing funds. This would change the cross-sectional performance flow pattern to a more linear relation.[9] In this scenario, flows to poorly performing funds become more sensitive and flows to high performing funds become less sensitive.

We argue that the rise of passive investment opportunities reverses the convex effect of past performance on flows. Specifically, we follow theoretical arguments in Huang, Wei and Yan (2007) who develop a model that shows that fund investors' participation costs lead to the observed convex relation between flows and performance. Differences in participation costs arise because of heterogeneity in investor sophistication, cost of active information collection and transaction costs. In this theoretical model, past performance, which is a signal of managerial quality, must exceed a threshold value before an individual investor allocates resources to the fund. This threshold value depends on investors' participation costs. In comparison to institutional investors, retail investors face higher costs and only start to investigate a fund for potential investment when the signal on managerial quality, i.e., past performance, exceeds their costs. These investors allocate capital only to funds with superior past performance. These disproportionately large inflows to well performing funds creates the cross-sectional convexity between past performance and flows. Conclusively, markets with higher average participation costs display a more convex relation.

We conjecture that passive funds reduce average participation costs in a market. Economists and newspapers advertise the appealing feature of exchange traded funds to investors. Index-tracking products reduce the cost of active information collection because of their simplicity and market wide attention. The cost to make an informed investment decision in a passive product is considerably lower than those for the decision of investing in an actively managed product. Investors facing previously high participation costs now do not allocate capital to high past performers only. They no longer only investigate high-performing active funds because they can invest in low-cost indexing. This leads to a reduction of inflows for these high past-performers and the cross-sectional convex relation of performance and flow becomes more linear.

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[8] Sirri and Tufano (1998) show that past performance affects flows asymmetrically and explain their findings with fund investors' search costs. Other studies that show the convex relation between past performance and flows include Del Guercio and Tkac (2002), Ferreira et al. (2012), and Ippolito (1992).

[9] Studies showing that selling past losers and not chasing past winners is a reasonable strategy for fund investors include Brown and Goetzmann (1995), Carhart (1997), and Hendricks, Patel and Zeckhauser (1993).

In line with these theoretical predictions, we find that the market share of index funds reduces the sensitivity of flows to high past performance. At the same time the prevalence of indexers increases the sensitivity of flows to poor past performance. In the cross-section of active funds, the relation between past performance and flow becomes more linear. We find that an increase by one standard deviation of the market share of passive funds indicates a coefficient of 0.379 for low performance and 0.237 for high performance. The difference in coefficients for low and high past performance is no longer statistically significant (p-value = 0.2209) which means that investors are similarly sensitive to past good and past bad performance. We use the staggered introduction of exchange traded funds in a difference-in-differences setting and find similar results. When dividing our international sample into countries with a relatively sophisticated investor base, i.e., those countries with higher stock market participation and GDP per capita, we find that the effect of indexing on the performance-flow relation is especially pronounced for the less sophisticated investor. In the cross-section of funds we find that the effect is stronger where ex-ante participation and opportunity costs are higher, i.e., smaller, retail and more expensive funds. Lastly, we document real economic consequences and find that the performance-liquidation sensitivity of actively managed funds increases. Because fund investors become more sensitive to poor past performance, fund families are more likely to liquidate a poor performing fund. These results have important implications for fund managers whose compensation depends on fund size. The option like payoff character of fund managers' compensation is reduced in the face of a less convex performance-flow relation. This is important as e.g., opportunistic risk taking becomes less valuable for fund managers.

The findings from the first essay suggest that competition and product innovation have positive effects on the effectiveness of external governance mechanisms. A reduction in fund investors' participation costs leads to a linear relation between past performance and flows. This in turn disciplines managers to act more in the interest of fund shareholders. However, investors do not only have the power to exercise their right to exit securities but also may engage with portfolio companies to monitor agents. The most direct manifestation of shareholder monitoring is through engagement in the form of shareholder voting.

In the second essay (Lesmeister, Limbach and Goergen (2021)) we use shareholder voting as a manifestation of investors' monitoring efforts and as part of an external governance mechanism. In this context, we study the impact of societal trust on shareholders' monitoring intensity. There is a growing literature in business and economics that links economic outcomes to cultural aspects. However, scholars in finance have put relatively little emphasis on the

cultural aspects in financial decisions.[10] Literature in economics highlights the importance of societal trust for economic growth and productivity. In general, these studies highlight the importance of societal trust for cooperation. Increased economic growth is achieved because agents spend more time on cooperative productive tasks instead of costly monitoring.[11] The underlying assumption is that when agents are more trusting they do not monitor and rather cooperate and, thus, create growth. We directly address the assumption that trust acts as substitute for monitoring. More specifically, we focus on the relation between the level of trust in others that prevails in a country and shareholder voting. The latter is the most direct manifestation of shareholders' residual rights vis-à-vis the company and the primary mechanism via which most shareholders monitor corporate management.[12] Their votes enable shareholders to vote for or against the appointment or re-appointment of members to the board of directors, approve mergers and acquisitions as well as other voted proposals at the annual general shareholders' meeting (AGM) or a special shareholders' meeting. Extant empirical evidence suggests that voting is an effective governance mechanism around the world.[13] Ceteris paribus, a higher level of trust which mitigates shareholders' concerns of being expropriated and therefore, their anticipated benefits from monitoring, can be expected to reduce shareholders' voting effort. Furthermore, theory suggests that the potentially negative effect of reduced monitoring will be mitigated or even offset in high-trust countries where managers are less likely to exploit their discretion to act against the interests of shareholders due to the higher social costs of cheating.[14]

Consistent with this line of argumentation, we find that shareholder monitoring is significantly lower where the level of trust is higher. An increase in trust by one standard deviation is associated with a decrease in votes cast of 8.5 percentage points and with an increase in votes for management proposals, which corresponds to a lower likelihood of 5 percentage points for a management proposal being rejected. Importantly, we also find that the negative effect of low monitoring, i.e., a low percentage of votes cast and less dissent voting, on firm performance and value is offset in high-trust countries. This result indicates that, on average, managers do not exploit lower levels of monitoring in high-trust settings, consistent with trust being an equilibrium phenomenon. Several identification tests suggest a causal link

[10] See, e.g., Karolyi (2016).
[11] See, e.g., Zak and Knack (2001) and Knack and Keefer (1997).
[12] See, e.g., Yermack (2010) and Edmans and Holderness (2017).
[13] See, e.g., Iliev et al. (2015).
[14] See, e.g., Anderlini and Terlizzese (2017) for equilibrium game theory on trust. Studies that argue that norm-deviant behavior results in costs for the individual that cheats include, among others, Knack and Keefer (1997), Fehr and Gächter (2000), Francois and Zabojnik (2005), and Battigalli and Dufwenberg (2007).

between trust and shareholders' monitoring intensity. We employ instrumental variable regressions with instruments based on an extensive and well-established literature. We instrument trust with the share of people who belong to a hierarchical religion.[15] In a second identification test we use terror attacks that have been shown to have a negative effect on trust. We consider AGMs as treated when an attack happens shortly before the meeting date in the country of the firm's headquarters. Results from these identification tests suggest that trust indeed reduces shareholders' monitoring intensity and the negative effect of reduced monitoring is mitigated by trust.

The first two essays show how investors' decisions with respect to exercising governance mechanisms depend on market-wide competition and the general level of trust as external governance mechanisms. Turning to an internal governance mechanism, I focus on the effect of team composition on fund managers' decision-making process. Team composition is closely related to fund governance. Critical for decisions on fund manager composition is the fund's board of directors, which is responsible to hire and dismiss personnel. Furthermore, management structure has a direct effect on individual misbehavior. In particular, Almazan et al. (2004) argue that investment constraints are more likely to be implemented for team-managed funds because shared reputation risk makes individual misbehavior more likely. In contrast, Patel and Sarkissian (2021) argue that team structure leads to peer-monitoring, which limits opportunistic behavior compared to single-managed funds. Overall, team management creates opportunities and challenges. It is in fund families' and fund investors' interests to implement an organizational structure that incentivizes managers to cooperate and act in investors' best interest.

The third essay (Lesmeister (2021)) addresses this issue and studies the impact of fund managers' cultural distance in trust on investment decisions. I argue that cultural trust distance between team members negatively affects cooperation and, eventually, results in lower team productivity. I use the mutual fund industry as a real-world laboratory to test this conjecture. Mutual funds' organizational structure changed dramatically over the last decade. It is no longer single star managers but teams who make investment decisions for a fund. Several advantages emerge out of this new structure. More managers lead to more investment ideas and more discussion, which ultimately results in synergies that enhances portfolio management. However, teams also create new challenges for the decision-making process. An important

[15] La Porta et al. (1997) argue that hierarchical religions discourage the formation of trust among people because of their focus on the vertical bond between people and the church.

challenge materializes in increased coordination costs among group members.[16] Management teams' diversity has an effect on both, advantages and disadvantages of team structures. Theory predicts a trade-off between benefits and costs of diversity. On the one hand, team diversity increases productivity when team members have different sets of task-relevant information and skills. The increase in the combined information and skill set leads to overall increased team productivity. On the other hand, diversity increases coordination costs, which lowers overall team productivity.[17] Differences in social trust represent one venue for how diversity increases coordination costs. Cultural diversity leads inevitably to differences in culturally ingrained social trust. These differences can have a negative effect as coordination and cooperation becomes limited. For example, in such an environment, managers find it harder to agree on investments ideas which makes implementation of a value-generating investment strategy difficult. Using mutual fund teams as a testing ground for this argument, I expect the distance in trust to have a negative effect on team productivity.

Results are in line with this argumentation and suggest a negative relation between distance in trust and team productivity. Specifically, higher distance in trust is negatively related to fund performance. In economic terms, an increase in trust distance by one standard deviation is associated with a decrease in Carhart 4-factor alpha by 2 bps per month. This lower fund performance stems from fewer implemented valuable investment ideas. Consistent with the theoretical argument, this effect is more pronounced in funds that require more coordination, such as funds with newly composed teams, larger funds suffering from decreasing returns to scale,[18] and funds from smaller families with fewer resources for investment research.[19] Furthermore, in order to establish a causal link between distance in trust and fund performance, I use terror attacks as a shock to trust in a difference-in-differences approach. Research shows that terror attacks are negatively related to trust.[20] Results from this analysis confirm the negative relation of distance in trust and fund performance. Furthermore, I show that it is decreased cooperation, e.g., a lower tendency to share, create and implement investment ideas that drive this negative performance effect. Funds with higher distance in trust follow more closely their benchmark shown by a lower Active Share which suggests a lack of investment ideas. Additionally, I show that funds with a high trust distance among team members are less

[16] For a recent overview of opportunities and challenges for team-managed compared to single managed funds see, e.g., Harvey et al. (2021).
[17] See, e.g., Lazear (1999).
[18] See, e.g., Berk and Green (2004) and Chen et al. (2004).
[19] See e.g., Bhojraj, Cho and Yehuda (2012) who argue that funds from larger families receive preferential treatment from investees and investment bank research analysts.
[20] See, e.g., Ahern (2018).

likely to implement individual team members' investment ideas. In particular, I use information on fund managers who simultaneously single-manage a different fund. The likelihood that trades from this single-managed fund are also implemented in the team fund is lower when distance in trust is higher. These results have important implications for the allocation of labor and managers' decision-making process in teams. Specifically, results are interesting for fund families who are responsible to assign managers to funds and for fund investors who allocate capital to fund managers.

In conclusion, these three essays provide new insights on external and internal governance mechanisms for mutual funds and corporations. First, competition from index funds enhances the external governance mechanism of actively managed mutual funds. Investors' flows react less sensitive to good past performance and more sensitive to bad past performance, which seems reasonable for fund investors given the empirical evidence on performance persistence. Second, societal trust is negatively related to shareholder monitoring. Managers do not exploit this lack of monitoring but cooperate. Finally, team members' differences in societal trust decrease cooperation, which results in fewer shared investment ideas and consequently in lower team productivity.

In this last paragraph of this introduction I provide description of my own contribution to each essay. The first essay's research idea was drafted by my co-authors. I reviewed the literature and helped to advance our hypotheses. I gathered data and carried out all empirical tests. The first draft of this essay was mainly written by my co-authors. We revised the paper according to feedback we received from various presentations. I developed the research idea of the second essay together with my co-authors. I introduced testable hypotheses on the basis of theoretical predictions and wrote the first draft of our paper. I gathered all necessary data and conducted all empirical tests. The third paper is solo-authored. I developed the research idea and hypotheses, conducted all empirical work on my own, and wrote the essay.

Chapter 2

Indexing and the Performance-Flow Relation of Actively-Managed Mutual Funds

Over the past few decades, an extensive literature (see, e.g., Ferreira et al. (2012)) has established that mutual fund flows are positively related to past performance and that the relationship is persistent and convex: Funds with superior recent performance enjoy disproportionately large new money inflows, while funds with poor performance suffer smaller outflows. However, in recent years, in a sample of broad-based U.S. equity and sector funds, Dannhauser and Pontiff (2021) note that the convexity of this relation appears to have vanished.

In this paper, we argue that one potential reason for this development is the rise of passive investment opportunities. We exploit the staggered introduction of Exchange Traded Funds (ETFs) in different segments and countries to study how increased competition from indexing affects the performance-flow relation and incentives of actively managed equity mutual funds. We find that the introductions of ETFs and, more generally, an increase in the market shares of available country-level index funds in active fund benchmarks are associated with a significantly lower sensitivity of flows to past performance and with a shift from a convex performance-flow relation towards a more linear relation. These results vary in the cross-section of funds and countries, as predicted by theory. Importantly, consistent with the above results, we find increased competition from index funds is associated with a significantly higher sensitivity of fund performance to fund liquidation.

Studying how competition affects the shape of the relationship between fund performance and flows to actively managed funds is important. Following several scandals and the relative underperformance of actively managed mutual funds over the last couple of decades, retail investors have shifted investments to broadly diversified low-cost index funds. The popular press[21] highlights the resulting "democratization of investments". Investor flows determine the size of funds, which in turn affects fund manager compensation and incentives.

How is competition from these passive funds likely to impact the returns earned by actively managed funds and the performance-flow relationship? The academic literature offers mixed conclusions. Consider the literature on the effect of competition from passive funds on the returns earned by active management. One strand of literature assumes that the presence of noise traders (such as retail investors) obscures the value of information in determining the fundamental value of assets. If retail investors shift into passive funds, Grossman and Stiglitz (1980) argue that the shift into passive funds increases the returns to information seeking activities by active mutual funds. The second strand of literature argues that retail investors drive prices away from fundamentals, which offers active fund managers the opportunities to earn returns by returning prices to fundamentals. In this vein, Bond and Garcia (2020) and Stambaugh (2014) argue that increased investment in passive funds reduces the degree of noise trading in the market as retail investors invest more of their money into index funds. This reduces professional investors' opportunities to earn returns from correcting this noise.

Similarly, the predictions from the prior literature on how competition from passive funds affects the performance-flow relationship are also mixed. Kostovetsky and Warner (2020) argue that a lower degree of product competition leads to a lower sensitivity of flow to performance because it is more difficult for investors to put their money in a comparable product. However, Huang, Wei and Yan (2007) suggest that the degree of convexity changes depending on the participation costs faced by the investors. Participation costs consist of information costs of learning about new funds and transaction costs of purchasing or redeeming fund shares. For medium-performance funds, the sensitivity of flow to performance for active funds increases with participation costs. For high-performance funds, the relationship reverses.

To test our hypotheses, we examine an international sample of actively managed equity mutual funds. This setting is econometrically preferable because ETFs are introduced at different points in time for different segments and in different countries, which allows us to control for both segment and country-time fixed effects. This staggered variation in competition

[21] For example, see Johnston (2011) "How ETFs have democratized investing" in the Business Insider.

by index funds helps identify potential effects of passive competition on the performance-flow relation.

We find that competition from index funds is associated with a lower sensitivity of investor flows to past fund performance. We also show that decreasing participation costs, associated with the presence of passive investment opportunities, translate into reducing the convexity of the performance-flow relation. Fund investors are less sensitive to high prior performance and more sensitive to poor past performance, indicating a shift from a convex functional form towards a more linear relation between past performance and flows.

On a country-level basis, our results are stronger in countries where competition among actively managed mutual funds is higher. They are also stronger for investors who face higher participation costs for investing in financial instruments. For example, we find that competition from index funds has a stronger effect in countries where a low share of population owns shares and in countries with low GDP. The effect on convexity is stronger in countries with lower country governance standards where investors arguably face higher information costs when delegating their investment decisions. On a fund level basis, we find a more pronounced effect on convexity for funds with a high proportion of retail investors, small funds and high-fee funds. This evidence suggests that competition from index funds has stronger effects on the performance-flow relation where opportunity and participation costs are higher, consistent with theory.

Our study contributes to a recent strand of papers highlighting the real economic implications of ETFs and other passive investments. Existing studies (see, e.g., Appel, Gormley and Keim (2016), Ben-David, Franzoni and Moussawi (2018), Da and Shive (2018)) show that higher market share by passive funds influences, among others, the corporate governance of covered firms, the volatility of the underlying securities, and stock return correlations. In a study related to ours, Cremers et al. (2016) show that actively managed equity mutual funds increase their active share and charge lower fees in the face of competition from passive funds. While the authors suggest that fund managers increase their active share because fund investors value this behavior, the relation between flows to active mutual funds and competition from index funds remains unclear. This relation is crucial to understand because it constitutes an important external governance mechanism in the mutual fund industry.

2.1. Theoretical Underpinning

Berk and Green (2004) develop a rational-choice equilibrium model for mutual funds where the equilibrium mechanism for mutual funds works via an adjustment of quantity. Fund investors react to information about managerial ability by adjusting their investment in the fund and create in- or outflows that change the size of a fund. Positive information about the funds' ability leads to inflows, while negative news leads to fund outflows. Fund managers' ability has decreasing returns to scale. Investment ideas are finite and in consequence the ability to deliver superior return is limited by fund size.

Berk and van Binsbergen (2017) note that the gross alpha generated by a fund manager depends on the amount of assets, q, she manages and is equal to

$$\alpha(q) = \alpha - bq \tag{2.1}$$

The fund manager can extract an amount α on the first dollars under her discretion. As the supply of investment ideas is finite, she implements the best ideas first. The amount a declines at a rate b for every increase of invested capital q. For more skilled fund managers, the rate b is smaller. In other words, these fund managers have more/better investment ideas. More capital flows into funds of more capable managers. They can implement all their ideas until the fund becomes too large. The size of funds increases until the expected returns to fund investors are competitive and the market is in equilibrium. Therefore, the inability of fund managers as a group to outperform is not a sign of low skill. It only shows that capital provision is competitive and capital flows to the most productive investments, i.e., the average alpha from fund managers is zero.

Stambaugh (2014) develops a model that shows that the growth in indexing leads to noise traders (e.g., unsophisticated retail investors) switching from direct investments in stocks to passively managed funds. Bond and Garcia (2020) develop a similar model that also shows a reduction of uninformed agents trading in the market. They link this decline explicitly to the decline in costs of indexing strategies. French (2008) also documents that the number of unsophisticated investors who trade in individual stocks has declined. This decrease in noise traders leads to less noise that can be corrected by active fund managers. Stambaugh (2014, p.1418) notes that "less noise trading implies a lower capacity for profitable active management" and "active management must then have a smaller footprint".

By transferring the insights from Stambaugh (2014) to the equilibrium model by Berk and Green (2004), the increase in passive funds leads to a decrease in the proportion of noise

traders in the market, which in turn increases parameter *b* in equation (2.1). As there are fewer opportunities for active managers to take advantage of that noise by applying profitable investment ideas, the importance of fund manager skill decreases. With a higher rate of *b*, the market equilibrating quantity *q* decreases, leading to a decline in sensitivity of past performance on fund flows.

Turning to the convexity of the relation between performance and flow, Huang, Wei and Yan (2007) develop a model that shows how participation costs create the convex performance-flow relation. The model is based on the following assumptions. First, investors learn about managerial ability from past performance as in Berk and Green (2004). Second, investors have participation costs. Huang, Wei and Yan (2007, p.1274) argue that this cost friction "can lead to different flow responses at different performance levels and can cause the cross-sectional variations in the flow-performance relationship". Differences in participation costs arise because of heterogeneity in investor sophistication, cost of active information collection, and transaction costs. In the model of Huang, Wei and Yan (2007), past performance has to exceed a threshold value before an individual investor will start to investigate whether to invest in a fund. Investors with higher participation costs, such as retail investors, only start investigating a potential investment in a fund that has a high past performance. Because of this friction, investors with high opportunity costs only invest in funds with high past performance, which in turn, causes the observable cross-sectional pattern of a convex relation between performance and flows. Funds with high past performance experience disproportionately high inflows.

Passive funds arguably reduce participation costs in a market. They appeal to unsophisticated investors because of their simplicity, increased advertising and attention, and recommendations by financial experts. Bond and Garcia (2020, p.1) state that "the standard investment recommendation that financial economists offer to retail investors is to purchase a low-fee index mutual fund or exchange traded fund". The simplicity of an index-tracking product also reduces the cost of active information collection. The cost to make an informed investment decision in a passive product is considerably lower than those for the decision of investing in an actively managed product.

The prevalence of passive funds leads to a reduction in participation costs and therefore reduces the performance-flow convexity. Investors with previously higher participation costs do not allocate capital to high past performers only. They no longer only investigate high-performing active funds because they have the opportunity to invest in low-cost indexing. This

leads to a reduction of inflows for these high past-performers and the cross-sectional convexity of performance and flow becomes more linear. Thus, we expect the effect of competition by passive investments to be the strongest in an environment where participation costs are high and where potential gains from shifting flows to passive funds are large.

2.2. Data, Methodology, and Summary Statistics

2.2.1. Data Sources and Sample Selection

We use an international sample of mutual funds on a yearly basis for the period 1995−2018. Our primary data source is the Lipper database that comprises a comprehensive sample of globally headquartered mutual funds. This data has been used extensively in prior research covering international funds (see, e.g., Cremers et al. (2016), Ferreira et al. (2012)). The Lipper data is survivorship-bias free as it includes operating, liquidated, and merged funds. We focus on open-end equity mutual funds for which we obtain data on basic fund characteristics such as fund name, domicile, benchmark, returns, expense ratio, and total net assets. As the unit of observation, we use the share class that Lipper identifies as the primary share class. Variables at the fund-level, such as return and expense ratio, equal the total net asset (TNA)-weighted average across all fund share-classes. We exclude funds with TNA lower than 5mn US$, because of the incubation bias described by Evans (2010). In additional to actively managed equity funds, Lipper also provides information on passively managed open-end equity mutual funds and equity exchange traded funds (ETFs), specifically, the country where the share class is registered for sale and the same basic information as for the actively managed fund sample.

Our final sample consists of 11,928 open-end equity mutual funds with information on the market share of passive funds, fund size, expense ratio, and investor flows. Overall, our regressions are based on 96,817 to 87,215 fund-year observations, depending on available control variables.

2.2.2. Key Variables and Methodology

As in Cremers et al. (2016), our main independent variable is the market share of passive funds, denoted *MS Passive*. We use data on passive funds and calculate the sum of TNA by country of sale, year, and benchmark. The benchmark is the index that the active fund states in its prospectus. Active mutual fund performance is measured against this benchmark

performance. Using the same procedure for actively managed mutual funds, we calculate the market share of passive funds using the following formula:

$$MS_{c,bm,t} = \frac{\sum TNA^{p}_{c,bm,t}}{\sum TNA^{a}_{c,bm,t} + TNA^{p}_{c,bm,t}}, \tag{2.2}$$

Where $TNA^{p}_{c,bm,t}$ is the TNA of all passive funds in country *c* and benchmark *bm* in year *t*, and $TNA^{a}_{c,bm,t}$ is the TNA of all actively managed funds in country *c* and benchmark *bm* in year *t*. The market share of passive funds is matched to the actively managed fund sample by country, benchmark, and year.

As in Chevalier and Ellison (1997) and Sirri and Tufano (1998), we define the yearly flow as the growth rate of TNA not due to capital gains and dividends. The flow for fund *i* domiciled in country *c* in year *t* is:

$$Flow_{i,c,t} = \frac{TNA_{i,c,t} - TNA_{i,c,t-1}(1 + R_{i,c,t})}{TNA_{i,c,t-1}}, \tag{2.3}$$

Where $TNA_{i,c,t}$ is the total net asset value in local currency for fund *i* in country *c* at the end of year *t*. $R_{i,c,t}$ is the raw return of fund *i* in country *c* in year *t*. We winsorize annual flows at the 1% level.

As performance measures, we use the funds' net raw return and Jensen's alpha, which is risk adjusted for the market risk factor. This risk factor has been shown to be the most relevant factor for mutual fund investors (see, e.g., Barber, Huang and Odean (2016), Berk and van Binsbergen (2016)). Lipper also provides information on funds' geographic focus. We use the market risk factor return of this geographic region to calculate risk adjusted returns. Market factor returns are provided on a global level by Frazzini and Pedersen (2014).

To measure the convexity in the relation between fund flows and past performance, we employ piecewise regressions as in Sirri and Tufano (1998) and many others. This approach allows for different performance-flow sensitivities depending on the level of performance. For each year and country, funds' fractional performance rank, ranging from 0 (worst relative performance) to 1 (best relative performance), is calculated. Performance is defined as funds' net raw return or Jensen's alpha. For each fund, we define three performance measures as:

$$Low_{i,c,t} = \min\left(0.2, Rank_{i,c,t}\right)$$
$$Mid_{i,c,t} = \min\left(0.6, Rank_{i,c,t} - Low_{i,c,t}\right) \quad (2.4)$$
$$Top_{i,c,t} = Rank_{i,c,t} - \left(Low_{i,c,t} + Mid_{i,c,t}\right)$$

For our baseline analysis, we pool the data and run the following OLS panel regression model (see equation (2.5)) with benchmark as well as country and year or country times year fixed effects depending on the specification:

$$\begin{aligned} Flow_{i,c,t} = \alpha &+ \beta_1 Low_{i,c,t-1} + \beta_2 Mid_{i,c,t-1} + \beta_3 Top_{i,c,t-1} + \beta_4 MS_{c,bm,t-1} \\ &+ \beta_5 Low_{i,c,t-1} \times MS_{c,bm,t-1} + \beta_6 Mid_{i,c,t-1} \times MS_{c,bm,t-1} \\ &+ \beta_7 Top_{i,c,t-1} \times MS_{c,bm,t-1} + Controls_{i,t-1} \end{aligned} \quad (2.5)$$

with variables as defined above. The coefficients β_1 to β_3 indicate the marginal change in flow with respect to past performance. This approach allows for different responses depending on the fund's performance quantile in the past year. Coefficient β_4 measures the marginal effect of the market share of passive funds. Most important, coefficients β_5 to β_7 measure the change in performance sensitivity due to the presence of passive investment opportunities in a market. The model includes the following control variables lagged by one period: expenses (*Expenses*), past flows (*Flow*), fund age (*Fund Age)* and fund size (*Fund size)*, an indicator for institutional investor clientele (*Institutional Fund*), the volatility of monthly returns over a period of twelve months (*Risk)*, an indicator for team-managed funds (*Team*), and the volatility of monthly fund flows over a period of twelve months (*Volatility Flow*). All regressions also include fixed effects for a fund's benchmark in conjunction with either i) country and year fixed effects, or ii) country×year fixed effects, or iii) country and year×rank fixed effects. These fixed effects control for (un)observed heterogeneity at the benchmark, country, and year level. Importantly, the use of country×year fixed effects allows us to control for virtually any (time-invariant and time-variant) heterogeneity at the country level, which addresses the issue that our results might be driven by some underlying factor at the annual country level. Lastly, year×rank fixed effects account for time-varying heterogeneity across performance ranks.

We retrieve from Lipper the binary variable, *Liquidation*, indicating whether a fund is liquidated. We use *Liquidation* as another dependent variable and estimate a linear probability model in this case. In later analyses, we use heterogeneity at the country level for subsample regressions. Data on GDP per Capita and country-level governance are from the World Bank. We construct a country-level governance index based on the World Governance Indicators

(WGI) provided by the World Bank, which include the following yearly indicators: Voice and Accountability, Rule of Law, Regulatory Quality, Political Stability and Absence of Violence, Government Effectiveness, and Control of Corruption. Based on the median of each variable we classify each country as well governed (1) or poorly governed (0). We sum up all indicator variables and create an index ranging from 0 (worst governance) to 6 (best governance). The percentage of population owning shares is from Grout, Megginson and Zalewska (2009).

2.2.3. Summary Statistics

Table 2.1 reports summary statistics for the market share of passive investments in a benchmark by country (Panel A) and for active fund characteristics such as fund size, expense ratio, return, and Jensen's alpha (Panel B). The market share of passive investment funds varies significantly across countries. In our sample, India and Egypt have the lowest market share of passive funds with 1% in each country while Japan represents the maximum with 41% of the market consisting of passive funds. While we find significant variation across countries, we also find considerable variation within countries, depending on the fund's benchmark within the country (e.g., S&P500, DAX30).

The average annual flow into our active fund sample is about 17%. The funds offer a mean yearly return of 5.23% while the average Jensen alpha is slightly negative with -1.08 % p.a.. Overall, fund performance measures are consistent with other studies reporting similar risk-adjusted returns (see, e.g., Barber, Huang and Odean (2016), Ferreira et al. (2012)). The average fund has a TNA of US$ 955 million with a minimum of US$5 million and a maximum of US$188 billion. In our sample, 27.7 % of funds offer institutional investor share classes. The annual expense ratio is 1.47% on average.

Table 2.1: Descriptive Statistics

Panel A shows country-level summary statistics for the variable *MS Passive* for those countries with available fund-level data. *MS Passive* is defined as the sum of total net assets of index funds divided by the sum of total net assets of actively managed funds and index funds by country, year and benchmark. Frequency indicates the number of actively managed mutual funds per country. Panel B shows summary statistics for fund-level characteristics. The sample period comprises funds from 1995 to 2018.

Panel A: Market share of passive funds by country

	MS passive				
Country	Mean	Freq.	Country	Mean	Freq.
ARE	0.05	25	KOR	0.05	1,203
AUS	0.20	2,797	KWT	0.11	106
AUT	0.11	679	MEX	0.24	405
BEL	0.12	760	MYS	0.03	2,082
BRA	0.04	4,853	NLD	0.08	652
CAN	0.05	7,750	NOR	0.09	1,128
CHE	0.08	2,403	NZL	0.07	155
CHL	0.36	39	PAK	0.04	14
DEU	0.16	1,918	PER	0.28	7
DNK	0.08	1,674	PHL	0.22	170
EGY	0.01	50	RUS	0.01	154
ESP	0.08	2,678	SAU	0.00	549
FIN	0.08	1,560	SGP	0.05	1,352
FRA	0.11	9,483	SWE	0.10	2,101
GBR	0.07	6,964	THA	0.03	1,869
HKG	0.10	572	TUR	0.11	31
IDN	0.02	492	TWN	0.02	1,067
IND	0.01	2,136	USA	0.13	46,550
ITA	0.04	218	ZAF	0.06	1,034
JPN	0.41	5,065			
			Total	0.11	114,208

Panel B: Fund-level characteristics

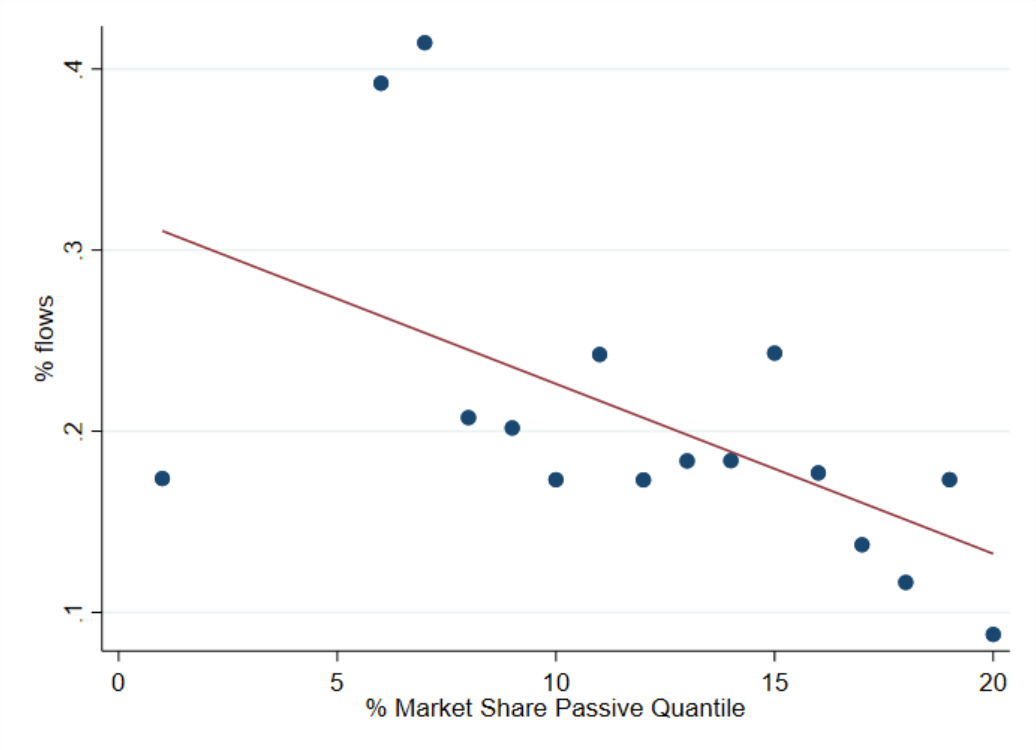
	N	mean	sd	min	max	p50
Fund size	96,817	954.8	4,310	5.000	188,834	146.7
Std. dev. mret	96,817	0.0436	0.0173	0	0.135	0.0410
Std. dev. flow	94,884	0.0403	0.0448	0	0.429	0.0251
Total expense ratio	96,383	0.0147	0.00671	-0.00510	0.174	0.0140
Log(fund age)	96,817	2.453	0.665	1.099	4.554	2.485
Flow	96,817	0.169	0.855	-0.751	9.123	-0.00713
Return	96,817	0.0523	0.206	-0.524	0.770	0.0606
Jensen alpha	83,777	-0.0108	0.113	-0.324	0.359	-0.0159
Institutional fund	96,817	0.277	0.447	0	1	0

2.3. Empirical Results

Figure 2.1 depicts the relation between flows to actively managed mutual funds and our main independent variable, the market share of passive funds (*MS Passive*). In line with Cremers et al. (2016) as well as with our expectations, the market share of passive funds is negatively related to flows of actively managed mutual funds. This result indicates that fund investors regard active and passive funds as substitutes. Accordingly, active funds increasingly compete for flows with passive funds. Figure 2.2a illustrates the relation between past performance and flows for equity funds. As documented by the extensive literature on mutual fund flows (see, e.g., Chevalier and Ellison (1997), Ferreira et al. (2012)), this relation is clearly convex - good past performers experience disproportionately high inflows of capital, while poor past performers do not experience large outflows.

Figure 2.1: Flows to active funds and market share of passive funds

This figure illustrates the relation between *% flows* and *MS Passive*. *MS passive* is the sum of total net assets of index funds divided by the sum of total net assets of actively managed funds and index funds by country and benchmark for a given year. *MS Passive* is divided in 20 groups depending on the size of the market share. *Flow* is the average yearly growth rate of actively managed mutual fund's total net assets due to inflows of new capital.



We next sort the active funds into quintiles depending on the market share of passive funds. Figure 2.2b shows the performance flow relation for two separate groups of funds. *High Passive* are active funds that belong to the quintile with the highest competition from passive funds and *Low Passive* are active funds in the lowest quintile of passive competition. Figure

2.2b documents a significantly different relation between flows and past performance depending on the level of passive competition. First, we find a difference in the overall sensitivity of flows to past performance depending on the level of competition from passive funds. Among funds with high competition from indexers, the relation between flows and performance is significantly less pronounced suggesting flows are less sensitive to past performance. Turning to the functional form of the relation, we find that funds in the lowest passive quintile (i.e., those with the lowest passive competition) display a similar convex relation, consistent with the prior literature. In contrast, actively managed funds with a high level of competition show a linear relation between past performance and flows. Investors are less sensitive to high past performance and more sensitive to low past performance.

Figure 2.2: Performance-Flow Relation

This figure illustrates the relation between *% flows* and past *Performance*. Figure 2a depicts the performance-flow relation. Figure 2b depicts the performance-flow relation separately for low *MS passive* and high *MS passive*. *Performance* is measured as raw return and divided in 20 groups depending on the level of past performance. % *flows* is the average yearly growth rate of actively managed mutual fund's total net assets due to inflows of new capital. *MS passive* is the sum of total net assets of index funds divided by the sum of total net assets of actively managed funds and index funds by country and benchmark for a given year. Low *MS passive* corresponds to the bottom quintile of *MS passive* and *high MS passive* corresponds to the top quintile of *MS passive.*

Figure 2.2a: Performance-flow relation

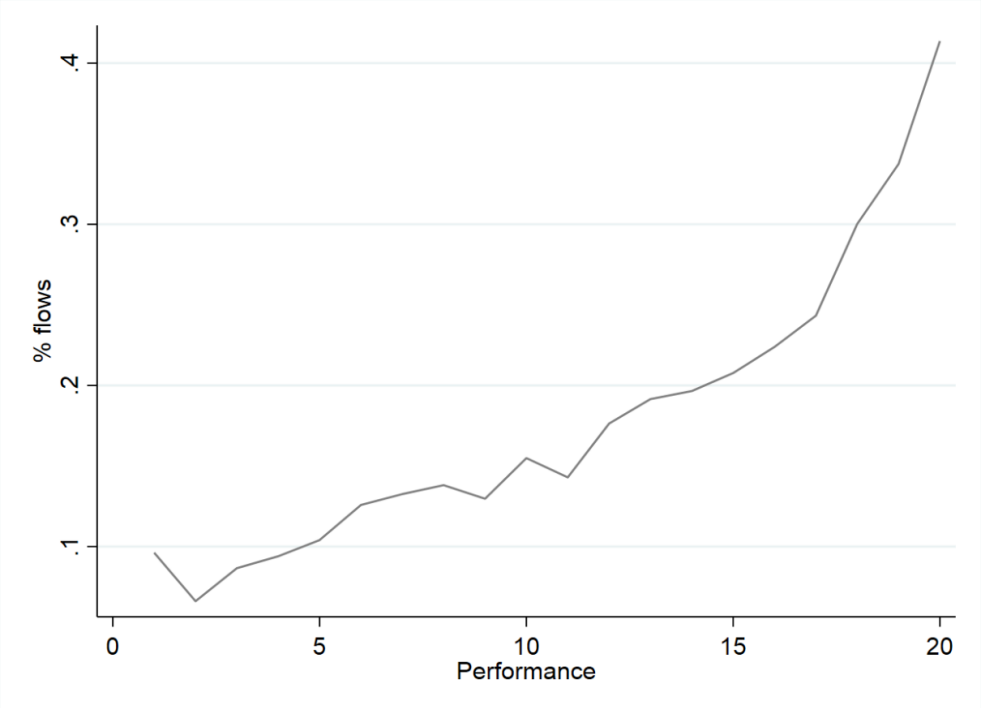
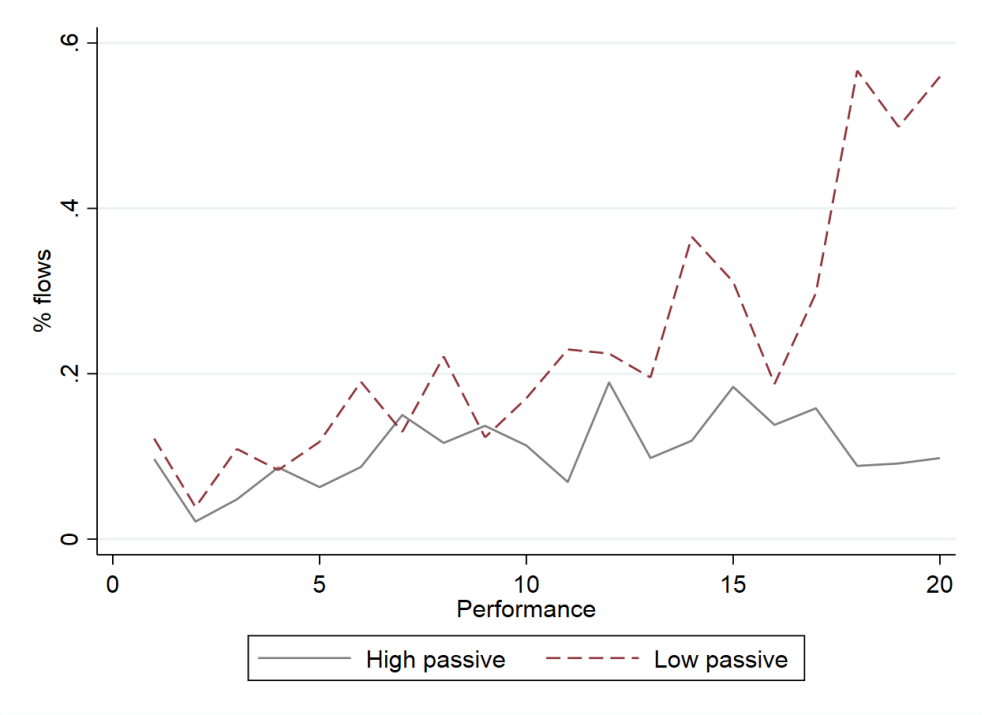


Figure 2.2b: Performance-flow relation by low and high market share passive funds



2.3.1. Baseline regression results

Our results are similar in a multivariate regression framework. We first conduct fund-level regressions of flows on past performance and our variable of interest, *MS Passive*, including the control variables described in Section 2.2.2. Table 2.2 reports the coefficients for OLS regressions of flow on past performance (*Ranked Performance*$_{t-1}$) conditional on the market share of passive funds, as captured by the interaction term *Ranked Perf*$_{t-1}$ × *MS Passive*$_{t-1}$. The performance indicator in columns (1) to (3) is the fund's raw return, while in columns (4) to (6) it is the Jensen's alpha. Across all six regressions, the coefficient on the interaction term of past performance and the market share of passive funds is negative and significant at the 1% level. Flow appears to be consistently less sensitive to past performance if the market share of passive funds is high.

With respect to the control variables, we find that flows are lower for larger and more expensive funds. We also find a negative relation for older and riskier funds. The coefficients for control variables are documented in prior literature (Ferreira et al. (2012), Sirri and Tufano (1998)).

Table 2.2: Sensitivity to Past Performance

This table reports the results from OLS regressions of *Flow* on *MS Passive* (which is the market share of passive funds in the country and benchmark where the actively managed fund is available for sale), *Ranked Return* (which is the fractional performance rank, measured as raw performance and Jensen's alpha defined from 0 (worst) to 1 (best) by country and year), the interaction between *Ranked Return* and *MS Passive* (which measures the change in sensitivity of performance on flows due to the market share of passive funds), and fund characteristics as control variables. *Flow* is the yearly growth rate of an actively managed mutual fund's total net assets due to inflows of new capital. *MS Passive* is the sum of total net assets of index funds divided by the sum of total net assets of actively managed funds and index funds by country and benchmark for a given year. All variables are defined in Appendix 2.A. Robust t-statistics (in parentheses) are based on standard errors clustered by fund. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Dependent variables	$Flow_t$					
Performance Measure	Raw return			Jensen alpha		
	(1)	(2)	(3)	(4)	(5)	(6)
$Ranked\ Performance_{t-1}$	0.269***	0.269***	0.250***	0.291***	0.290***	0.237***
	(22.53)	(22.51)	(13.63)	(23.27)	(23.10)	(15.05)
$MS\ Passive_{t-1}$	0.208***	0.223***	0.170***	0.210***	0.219***	0.177***
	(4.30)	(4.56)	(3.52)	(4.00)	(4.15)	(3.37)
$Ranked\ Perf_{t-1} \times MS\ Passive_{t-1}$	**-0.353*** **	**-0.350*** **	**-0.280*** **	**-0.320*** **	**-0.322*** **	**-0.251*** **
	(-5.43)	**(-5.35)**	**(-4.28)**	**(-4.68)**	**(-4.69)**	**(-3.65)**
$Fund\ size_{t-1}$	-0.057***	-0.055***	-0.057***	-0.054***	-0.052***	-0.054***
	(-21.37)	(-20.96)	(-21.58)	(-19.38)	(-18.99)	(-19.67)
$Flow_{t-1}$	0.067***	0.066***	0.063***	0.072***	0.072***	0.067***
	(13.75)	(13.53)	(13.06)	(12.60)	(12.46)	(11.83)
$Expenses_{t-1}$	-2.310***	-2.510***	-2.389***	-2.778***	-2.933***	-2.893***
	(-3.40)	(-3.63)	(-3.53)	(-3.69)	(-3.84)	(-3.87)
$Risk_{t-1}$	-3.142***	-3.626***	-2.925***	-3.340***	-3.715***	-3.069***
	(-9.11)	(-9.53)	(-8.29)	(-8.94)	(-9.22)	(-8.01)
$Volatility\ Flow_{t-1}$	7.581***	7.617***	7.563***	7.328***	7.360***	7.301***
	(33.76)	(33.63)	(33.74)	(30.46)	(30.35)	(30.44)
$Log\ Fund\ Age_{t-1}$	-0.038***	-0.041***	-0.038***	-0.042***	-0.044***	-0.042***
	(-7.44)	(-7.96)	(-7.37)	(-7.72)	(-8.15)	(-7.71)
$Institutional\ Fund\ Dummy_{t-1}$	-0.005	-0.004	-0.005	-0.003	-0.002	-0.002
	(-0.66)	(-0.44)	(-0.60)	(-0.34)	(-0.19)	(-0.25)
Team Dummy	-0.004	-0.005	-0.003	-0.011	-0.012	-0.010
	(-0.50)	(-0.63)	(-0.40)	(-1.38)	(-1.42)	(-1.27)
Observations	87,215	87,186	87,215	75,840	75,823	75,840
Adjusted R-squared	0.238	0.241	0.244	0.228	0.231	0.235
Fixed Effects	Country, Year, Benchmark	Country × Year, Benchmark	Country, Benchmark, Year × Rank	Country, Year, Benchmark	Country × Year, Benchmark	Country, Benchmark, Year × Rank

Table 2.3 reports coefficients for regressions testing the functional form of the relation between flows and past performance in the presence of passive competition. Here, the performance ranks are calculated using the piecewise linear regression framework described above. The control variables and fixed effects are the same as in Table 2.2. The coefficients for the performance ranks are consistent with the well-documented convex relation between flows

and past performance. While the coefficient on the bottom quintile of performance is positive, the magnitude of the coefficient is relatively small. In contrast the coefficients for the top quintile of past performance are much larger in terms of economic (and, in part, statistical) significance for all specifications. Investors are more sensitive to good past performance than to bad past performance, consistent with the convexity displayed in Figure 2.2a. The difference between the coefficients of bottom and top performance is statistically significant at the 1% level (p-value = 0.003; column (2)).

Most importantly, the interaction terms of the different performance ranks and the market share of passive funds are statistically significant in all specifications. In line with Huang, Wei and Yan (2007), we find that when passive funds reduce fund investors' participation costs, the relation of past performance and flows becomes less convex. The coefficient on $Low\ Ranked\ Perf_{t-1} \times MS\ Passive_{t-1}$ is positive and statistically significant, which suggests that the relation between flows and poor performance is more sensitive for low-performance funds. In contrast, the coefficient on $Top\ Ranked\ Perf_{t-1} \times MS\ Passive_{t-1}$ is negative and statistically significant, indicating a lower sensitivity of flows to past performance for high-performance funds. Overall, when passive fund competition is high, investors appear more willing to sell active funds that with poor past performance, while not chasing past active funds with high prior performance.

In economic terms, a one standard deviation increase in *MS Passive* increases the sensitivity of flows to low performance by 0.233 and decreases the sensitivity of flows to good performance by 0.279 (column (2)). Adding the baseline coefficients, we find that an increase by one standard deviation of *MS Passive* indicates a coefficient of 0.379 for low performance and 0.237 for high performance. The difference in coefficients for low and high past performance is no longer significant (p-value = 0.2209). This result suggests that investors are as sensitive to low performance as to high past performance in the presence of high passive fund competition. The function between past performance and flows is no longer convex but linear. The coefficients on the control variables are similar to those in Table 2.2 and the prior literature.

Table 2.3: Convexity of Performance-Flow Relation

This table reports the results from OLS regressions of *Flow* on *MS Passive* (which is the market share of passive funds in the country and benchmark where the actively managed fund is available for sale), the fractional performance rank (measured as raw performance and Jensen's alpha defined from 0 (worst) to 1 (best) by country, and year), the interaction between the fractional performance rank and *MS Passive* (which measures the change in sensitivity of performance on flows due to the market share of passive funds), and fund characteristics as control variables. The coefficients on fractional performance ranks are estimated using a piecewise linear regression framework over five quintiles. These performance quintiles are grouped in *Low Ranked Return* (bottom quintile), *Mid Ranked Return* (2nd to 4th quintile) and *Top Ranked Return* (top quintile). *Flow* is the yearly growth rate of an actively managed mutual fund's total net assets due to inflows of new capital. *MS Passive* is the sum of total net assets of index funds divided by the sum of total net assets of actively managed funds and index funds by country and benchmark for a given year. All variables are defined in Appendix 2.A. Robust t-statistics (in parentheses) are based on standard errors clustered by fund. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Dependent variables	$Flow_t$					
Performance measure	Raw return			Jensen alpha		
	(1)	(2)	(3)	(4)	(5)	(6)
Low Ranked Performance$_{t-1}$	0.147*	0.146*	0.284**	0.350***	0.333***	0.281***
	(1.75)	(1.74)	(2.51)	(3.91)	(3.71)	(2.91)
Mid Ranked Performance$_{t-1}$	0.255***	0.250***	0.251***	0.247***	0.246***	0.210***
	(14.02)	(13.80)	(12.43)	(11.90)	(11.85)	(9.65)
Top Ranked Performance$_{t-1}$	0.485***	0.516***	0.349***	0.564***	0.575***	0.437***
	(4.96)	(5.27)	(2.59)	(5.53)	(5.64)	(3.97)
MS Passive$_{t-1}$	-0.080	-0.046	-0.100	-0.007	0.003	-0.038
	(-1.16)	(-0.66)	(-1.44)	(-0.09)	(0.03)	(-0.45)
Low Ranked Perf$_{t-1}$ × MS Passive$_{t-1}$	**1.538*** **	**1.389*** **	**1.506*** **	**1.013***	**1.015***	**1.074** **
	(3.46)	**(3.13)**	**(3.38)**	**(1.95)**	**(1.95)**	**(2.05)**
Mid Ranked Perf$_{t-1}$ × MS Passive$_{t-1}$	**-0.418*** **	**-0.384*** **	**-0.358*** **	**-0.311** **	**-0.318*** **	**-0.252** **
	(-4.16)	**(-3.77)**	**(-3.57)**	**(-2.56)**	**(-2.60)**	**(-2.06)**
Top Ranked Perf$_{t-1}$ × MS Passive$_{t-1}$	**-1.587*** **	**-1.662*** **	**-1.330*** **	**-1.581*** **	**-1.548*** **	**-1.449*** **
	(-3.38)	**(-3.52)**	**(-2.83)**	**(-3.15)**	**(-3.09)**	**(-2.89)**
Fund size$_{t-1}$	-0.057***	-0.055***	-0.057***	-0.054***	-0.052***	-0.054***
	(-21.39)	(-20.98)	(-21.60)	(-19.40)	(-19.00)	(-19.67)
Flow$_{t-1}$	0.067***	0.066***	0.063***	0.072***	0.072***	0.067***
	(13.70)	(13.47)	(13.05)	(12.57)	(12.43)	(11.84)
Expenses$_{t-1}$	-2.261***	-2.472***	-2.307***	-2.734***	-2.896***	-2.831***
	(-3.32)	(-3.56)	(-3.41)	(-3.62)	(-3.77)	(-3.77)
Risk$_{t-1}$	-3.115***	-3.616***	-2.823***	-3.252***	-3.636***	-2.973***
	(-9.12)	(-9.58)	(-8.10)	(-8.71)	(-9.01)	(-7.77)
Volatility Flow$_{t-1}$	7.585***	7.619***	7.572***	7.331***	7.362***	7.305***
	(33.85)	(33.71)	(33.86)	(30.46)	(30.34)	(30.46)
Log Fund Age$_{t-1}$	-0.038***	-0.041***	-0.038***	-0.042***	-0.044***	-0.041***
	(-7.40)	(-7.93)	(-7.34)	(-7.71)	(-8.14)	(-7.69)
Institutional Fund Dummy$_{t-1}$	-0.006	-0.004	-0.005	-0.003	-0.001	-0.002
	(-0.67)	(-0.43)	(-0.61)	(-0.33)	(-0.18)	(-0.25)
Team Dummy	-0.004	-0.005	-0.003	-0.011	-0.012	-0.011
	(-0.49)	(-0.61)	(-0.40)	(-1.40)	(-1.44)	(-1.30)
Observations	87,215	87,186	87,215	75,840	75,823	75,840
Adjusted R-squared	0.238	0.242	0.244	0.228	0.231	0.235
Fixed Effects	Country, Year, Benchmark	Country × Year, Benchmark	Country, Benchmark, Year × Rank	Country, Year, Benchmark	Country × Year, Benchmark	Country, Benchmark, Year ×Rank

Because the U.S. accounts for 40% of the observations in our sample, we restrict the fund universe to the U.S. alone and re-estimate the regressions presented in Table 2.3. We find qualitatively similar results, as shown in Table 2.4. To mitigate concerns that our results might be driven exclusively by the U.S., we re-estimate our baseline regressions shown in Tables 2.2 and 2.3 using weighted least squares (WLS). The results, which we present in Panels A and B of Appendix 2.B, are qualitatively similar.

Table 2.4: Convexity of Performance-Flow Relation – U.S. only

This table reports the results from OLS regressions of *Flow* on *MS Passive* (which is the market share of passive funds in the country and benchmark where the actively managed fund is available for sale), the fractional performance rank (measured as raw performance and Jensen's alpha) defined from 0 (worst) to 1 (best) by country, and year), the interaction between the fractional performance rank and *MS Passive* (which measures the change in sensitivity of performance on flows due to the market share of passive funds), and fund characteristics as control variables. The coefficients on fractional performance ranks are estimated using a piecewise linear regression framework over five quintiles. These performance quintiles are grouped in *Low Ranked Return* (bottom quintile), *Mid Ranked Return* (2nd to 4th quintile) and *Top Ranked Return* (top quintile). *Flow* is the yearly growth rate of an actively managed mutual fund's total net assets due to inflows of new capital. *MS Passive* is the sum of total net assets of index funds divided by the sum of total net assets of actively managed funds and index funds by country and benchmark for a given year. All variables are defined in Appendix 2.A. Robust t-statistics (in parentheses) are based on standard errors clustered by fund. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Dependent variables	$Flow_t$			
Performance measure	Raw return		Jensen alpha	
	(1)	(2)	(3)	(4)
Low Ranked Performance$_{t-1}$	0.019	0.216	0.402***	0.344**
	(0.13)	(1.08)	(2.73)	(2.20)
Mid Ranked Performance$_{t-1}$	0.387***	0.371***	0.338***	0.279***
	(12.09)	(10.80)	(9.89)	(7.68)
Top Ranked Performance$_{t-1}$	1.053***	0.760***	0.784***	0.497***
	(5.42)	(2.85)	(4.52)	(2.73)
MS Passive$_{t-1}$	0.315**	0.267*	0.356**	0.300**
	(2.25)	(1.92)	(2.46)	(2.06)
Low Ranked Perf$_{t-1}$ × MS Passive$_{t-1}$	**2.117*** **	**2.069*** **	**1.312**	**1.470***
	(2.67)	**(2.60)**	**(1.54)**	**(1.69)**
Mid Ranked Perf$_{t-1}$ × MS Passive$_{t-1}$	**-0.867*** **	**-0.715*** **	**-0.579*** **	**-0.432** **
	(-4.74)	**(-3.89)**	**(-2.78)**	**(-2.04)**
Top Ranked Perf$_{t-1}$ × MS Passive$_{t-1}$	**-3.186*** **	**-2.372*** **	**-2.568*** **	**-2.185*** **
	(-3.77)	**(-2.76)**	**(-3.14)**	**(-2.68)**
Fund size$_{t-1}$	-0.048***	-0.049***	-0.047***	-0.048***
	(-11.72)	(-11.99)	(-11.57)	(-11.85)
Flow$_{t-1}$	0.063***	0.060***	0.073***	0.067***
	(10.29)	(9.89)	(9.48)	(8.85)
Expenses$_{t-1}$	-7.238***	-7.241***	-6.947***	-7.064***
	(-4.50)	(-4.52)	(-4.30)	(-4.41)
Risk$_{t-1}$	-5.000***	-4.480***	-4.503***	-4.021***
	(-8.71)	(-7.35)	(-7.88)	(-6.62)
Volatility Flow$_{t-1}$	8.594***	8.568***	8.356***	8.310***
	(20.83)	(20.79)	(20.25)	(20.22)
Log Fund Age$_{t-1}$	-0.064***	-0.063***	-0.058***	-0.058***
	(-8.34)	(-8.10)	(-7.52)	(-7.46)
Institutional Fund Dummy$_{t-1}$	0.021*	0.022*	0.022*	0.022**
	(1.88)	(1.89)	(1.94)	(2.00)
Team Dummy	-0.038***	-0.037***	-0.038***	-0.037***
	(-2.92)	(-2.82)	(-2.97)	(-2.86)
Observations	46,109	46,109	45,083	45,083
Adjusted R-squared	0.233	0.240	0.227	0.235
Fixed Effects	Year, Benchmark	Year x Rank. Benchmark	Year, Benchmark	Year x Rank. Benchmark

2.3.2. Introduction of Exchange Traded Funds

The emergence of ETFs as an investment product accelerated the growth in capital managed by passive funds tremendously. We use the staggered international introduction of ETFs as an event that increased competition for actively managed mutual funds. Panel A of Table 2.5 lists the launch dates of the first domestic equity ETF per country while Panel B further lists examples of introduction dates by benchmark by country.

Panel C of Table 2.5 reports the results of a difference-in-differences analysis around the introduction of passive funds by country and benchmark. Specifically, the indicator variable *Post* is equal to one for the period after the first introduction of an ETF in a specific country and benchmark. The regressions include the same extensive set of controls as in Table 2.3 and fixed effects on the benchmark, country, and year level. Column (2) additionally includes an indicator variable for the period before the introduction of ETFs, denoted *Pre*, which serves as a test for the parallel trends assumption of staggered difference-in-differences estimations.

In both specifications, our results are similar to those in Table 2.3, where we consider ETFs and other index funds. After the introduction of ETFs as a potential investment product, the convex relation between past performance and flows becomes more linear. Investors are more sensitive to low performance and less sensitive to high performance in the periods after ETFs are introduced to the specific market, as indicated by the positive coefficient on *Low Ranked* $Perf_{t-1}$ × *Post* and the negative coefficient on *Top Ranked* $Perf_{t-1}$ × *Post*.

The parallel trends assumption is not violated. Markets do not differ significantly with respect to the performance-flow relation before the introduction of ETFs as indicated by the insignificant coefficients on the indicator variable *Pre* in column (2). However, one possible concern is that the introduction of ETFs is not plausibly exogenous to fund families that simultaneously offer actively managed mutual funds. We address this issue by restricting the treatment to only those ETFs that are introduced by fund families that do not offer actively managed mutual funds. As shown in column (3) of Table 2.5, the results stay robust to this change. In column (4), we employ a propensity score matching approach. We match all treated funds with a control group of funds consisting of the nearest neighbor with respect to average fund size, fund expenses, and the market share of passive funds in the respective benchmark over the 3 years before treatment. The conclusions remain unchanged.

Overall, Table 2.5 supports the evidence in Table 2.3 that passive investment funds, especially ETFs, act as an investment product that decreases investors' participation costs and,

in line with this reduction in costs, also reduces the convexity of performance and flows for actively managed mutual funds.

Table 2.5: Introduction of first ETF per country

This table reports the launch dates of the first equity ETF per country (Panel A), the first two equity ETF per country-benchmark pair (Panel B) and the results from OLS regressions of *Flow* on *Post* (which is an indicator variable that is equal to one for the time period after the first equity ETF is introduced in a given country-benchmark pair, and else equal to zero), the fractional performance rank (measured as raw performance defined from 0 (worst) to 1 (best) by country and year), the interaction between the fractional performance rank and *Post* (which measures the change in sensitivity of performance on flows due to the introduction of ETFs), and fund characteristics as control variables (Panel C). Column (2) additionally includes *Pre* (which is a dummy variable that is equal to one for the period before the introduction of the first ETF, and else equal to zero) and the interaction of *Pre* and the fractional performance rank. Column (3) excludes ETFs launched by fund families which offer simultaneously actively managed mutual funds. In column (4) we match treated funds based on their propensity scores to their nearest neighbor with respect to the three-year average of fund size, fund expenses and market share of passive funds within the benchmark. The coefficients on fractional performance rank are estimated using a piecewise linear regression framework over five quintiles. These performance quintiles are grouped in *Low Ranked Return* (bottom quintile), *Mid Ranked Return* (2nd to 4th quintile) and *Top Ranked Return* (top quintile). *Flow* is the yearly growth rate of an actively managed mutual fund's total net assets due to inflows of new capital. *MS Passive* is the sum of total net assets of index funds divided by the sum of total net assets of actively managed funds and index funds by country and benchmark for a given year. All variables are defined in Appendix 2.A. Robust t-statistics (in parentheses) are based on standard errors clustered by fund. All regressions include country, year and benchmark fixed effects. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Introduction dates

Country	First launch date	Country	First launch date
AUS	6/5/1998	JPN	4/12/1995
AUT	3/1/2006	KOR	10/11/2002
BRA	7/15/2004	MEX	4/30/2002
CAN	9/28/1999	MYS	6/7/2007
CHE	10/6/1999	NLD	12/14/2009
CHL	8/30/2013	NOR	3/1/2005
CHN	3/27/1998	NZL	6/30/1997
COL	7/6/2011	PHL	12/2/2013
DEU	12/27/2000	QAT	2/12/2018
EGY	1/1/2015	RUS	7/1/2010
ESP	7/14/2006	SAU	3/28/2010
FIN	2/8/2002	SGP	4/11/2002
FRA	12/13/2000	SWE	10/30/2000
GRC	1/24/2008	THA	9/4/2007
HKG	11/12/1999	TUR	12/2/2004
HUN	12/11/2006	TWN	6/25/2003
IDN	12/17/2007	USA	1/22/1993
IND	12/28/2001	VNM	9/18/2014
ISL	12/14/2004	ZAF	11/30/2000
ISR	1/29/2009		

Panel B: Introduction dates by benchmark (incomplete)

Country	Benchmark	First launch date
AUS	S&P/ASX 200 TR AUD	6/5/1998
AUS	S&P/ASX 50 TR	8/24/2001
BRA	Sao Paulo SE IBrX 50 CR	7/15/2004
CAN	S&P/TSX 60 TR	9/28/1999
CAN	S&P/TSX Composite Cap CR	2/16/2001
CHE	Swiss Market Index TR	10/6/1999
CHE	SXI Real Estate Funds Broad TR	11/3/2009
COL	COLCAP CR COP	7/6/2011
DEU	DAX 30 TR	12/27/2000
DEU	STOXX Europe 50 USD CR	12/27/2000
DNK	MSCI AC World NR USD	1/21/2005
EGY	EGX 30	1/1/2015
ESP	IBEX 35 TR	7/14/2006
ESP	IBEX 35 CR	9/7/2006
FIN	MSCI EM (Emerging Markets) NR EUR	9/25/2013
FRA	CAC 40 TR	12/13/2000
FRA	EURO STOXX 50 NR EUR	2/19/2001
HKG	Hang Seng TR	11/12/1999
HKG	MSCI China TR USD	11/23/2001
IDN	Jakarta SE Liquidity 45 CR	12/17/2007
IND	S&P BSE SENSEX TR	1/13/2003
IND	Nifty TRI	7/17/2003
JPN	Nikkei 225 CR	7/9/2001
JPN	Topix CR	7/11/2001
KOR	KOSPI 200 CR	10/11/2002
KOR	KOSPI 100 CR	10/27/2005
MEX	S&P/BMV IPC	4/30/2002
MEX	S&P/BMV FIBRAS TR MXN	10/29/2014
MYS	FTSE Bursa Malaysia KLCI CR	6/7/2007
MYS	FTSE ASEAN 40 CR USD	7/9/2010
NLD	AEX TR	12/14/2009
NOR	OSE Benchmark TR	3/1/2005
NOR	Oslo Bors OBX	4/7/2005
PHL	Philippine PSE Composite CR	12/2/2013
RUS	RTS CR	7/1/2010
RUS	NASDAQ 100 TR	11/26/2018
SGP	Singapore Straits Times CR	4/11/2002
SWE	OMX Stockholm 30 CR	10/30/2000
THA	Thailand SET 50 CR	9/4/2007
THA	Thailand SET High Dividend 30	8/10/2011
TUR	BIST 30 Index	4/13/2007
TUR	MSCI Turkey TR	7/2/2010
TWN	Taiwan SE/Electronic CR	7/4/2007
TWN	TAIEX CR	9/6/2011
USA	S&P 500 TR	1/22/1993
USA	S&P Mid Cap 400 TR	4/28/1995
ZAF	Johannesburg Stock Exchange Top 40 Tradeable ZAR	11/30/2000

Panel C: Difference-in-differences estimation

Dependent variables	$Flow_t$			
			Treatment excl. families offering actively managed funds	PSM
	(1)	(2)	(3)	(4)
Low Ranked $Return_{t-1}$	-0.105	-0.082	0.089	0.060
	(-0.45)	(-0.32)	(0.59)	(0.24)
Mid Ranked $Return_{t-1}$	0.486***	0.430***	0.334***	0.417***
	(8.17)	(7.12)	(9.92)	(6.91)
Top Ranked $Return_{t-1}$	1.496***	1.426***	0.991***	1.232***
	(4.13)	(3.67)	(4.88)	(3.21)
Post	0.050	0.040	-0.060	-0.018
	(1.16)	(0.87)	(-1.62)	(-0.41)
Low Ranked Ret_{t-1} × Post	**0.502****	**0.477***	**0.407****	**0.495***
	(1.98)	**(1.75)**	**(2.06)**	**(1.84)**
Mid Ranked Ret_{t-1} × Post	**-0.268*****	**-0.212*****	**-0.143*****	**-0.213*****
	(-4.22)	**(-3.30)**	**(-3.33)**	**(-3.26)**
Top Ranked Ret_{t-1} × Post	**-1.121*****	**-1.051****	**-0.713*****	**-0.912****
	(-2.90)	**(-2.56)**	**(-2.78)**	**(-2.22)**
Pre_{t-1}		-0.100	0.016	-0.105
		(-1.06)	(0.16)	(-1.12)
Low Ranked Ret_{t-1} x Pre_{t-1}		0.124	-0.291	0.184
		(0.20)	(-0.50)	(0.30)
Mid Ranked Ret_{t-1} x Pre_{t-1}		0.267	0.149	0.250
		(1.57)	(1.09)	(1.46)
Top Ranked Ret_{t-1} x Pre_{t-1}		0.360	-1.045	0.306
		(0.36)	(-1.36)	(0.31)
Fund $size_{t-1}$	-0.050***	-0.050***	-0.050***	-0.028***
	(-15.78)	(-15.79)	(-15.76)	(-8.28)
$Flow_{t-1}$	0.074***	0.074***	0.074***	0.093***
	(12.18)	(12.20)	(12.31)	(10.25)
$Expenses_{t-1}$	-4.055***	-4.066***	-4.064***	-2.010*
	(-4.48)	(-4.49)	(-4.48)	(-1.67)
$Risk_{t-1}$	-4.001***	-4.018***	-3.955***	-2.422***
	(-8.79)	(-8.82)	(-8.67)	(-5.71)
Volatility $Flow_{t-1}$	7.491***	7.489***	7.495***	7.987***
	(24.55)	(24.55)	(24.55)	(24.58)
Log Fund Age_{t-1}	-0.047***	-0.047***	-0.048***	-0.032***
	(-7.29)	(-7.30)	(-7.30)	(-3.45)
Institutional Fund $Dummy_{t-1}$	0.008	0.008	0.009	-0.035***
	(0.84)	(0.84)	(0.91)	(-3.49)
Team Dummy	-0.030***	-0.030***	-0.030***	0.004
	(-2.92)	(-2.92)	(-2.95)	(0.32)
Observations	53,164	53,164	53,164	29,621
Adjusted R-squared	0.238	0.238	0.237	0.259
Fixed Effects	Country, Year, Benchmark	Country, Year, Benchmark	Country, Year, Benchmark	Country, Year, Benchmark

2.3.3. Cross-sectional results

The evidence from Tables 2.3 and 2.5 so far indicate that passive investment funds act as instruments that reduce participation costs and the convexity of active mutual funds. In this section, we show cross-sectional evidence, at both the country- and at the fund-level, that the effect of passive funds on the convexity relationship is most pronounced where ex-ante participation and opportunity costs are high.

First, in Table 2.6, we present results on cross-country variation. In each regression specification, we divide our sample in two groups based on the median number of actively managed funds as a proportion of GDP, % of population owning shares, GDP/capita, and a country-level Governance index, respectively. All specifications include the same extensive set of control variables as column (2) in Table 2.3. Additionally, we use benchmark and country-year fixed effects to control for heterogeneity at the benchmark and country level.

We first examine whether the effect on convexity is related to the level of competition among active mutual funds in the country. We expect that additional competition from index funds is especially important in affecting the convexity relationship when there already is a significant level of competition among active funds. Columns (1) and (2) in Table 2.6 compare countries with a high vs. low number of actively managed funds. The reduced sensitivity of the performance-flow relation appears to be particularly pronounced in countries with a high level of competition among active funds.

Table 2.6: Cross-section of Countries

This table reports the results from OLS regressions of *Flow* on *MS Passive* (which is the market share of passive funds in the country and benchmark where the actively managed fund is available for sale), the fractional performance rank (measured as raw performance defined from 0 (worst) to 1 (best) by country and year), the interaction between the fractional performance rank and *MS Passive* (which measures the change in sensitivity of performance on flows due to the market share of passive funds), and fund characteristics as control variables for country-level sub samples based on the median of *# actively managed funds/GDP*, *% Population owning shares*, *GDP/capita*, and a *Governance index*. The coefficients on fractional performance rank are estimated using a piecewise linear regression framework over five quintiles. These performance quintiles are grouped in *Low Ranked Return* (bottom quintile), *Mid Ranked Return* (2nd to 4th quintile) and *Top Ranked Return* (top quintile). *Flow* is the yearly growth rate of an actively managed mutual fund's total net assets due to inflows of new capital. *MS Passive* is the sum of total net assets of index funds divided by the sum of total net assets of actively managed funds and index funds by country and benchmark for a given year. All variables are defined in Appendix 2.A. Robust t-statistics (in parentheses) are based on standard errors clustered by fund. All specifications include country times year and benchmark fixed effects. Control variables as in specification (3) and (4) of Table 2.2. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Dependent variables	$Flow_t$							
	# Actively managed funds/GDP		% Population owning shares		GDP/capita		Governance index	
	High	Low	High	Low	High	Low	High	Low
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Low Ranked $Return_{t-1}$	0.096	0.154	0.078	0.158	0.143	0.125	0.128	0.216*
	(0.71)	(1.41)	(0.48)	(1.50)	(1.15)	(1.09)	(1.14)	(1.73)
Mid Ranked $Return_{t-1}$	0.351***	0.181***	0.125***	0.293***	0.186***	0.301***	0.220***	0.216***
	(11.99)	(7.54)	(3.38)	(13.05)	(7.02)	(11.91)	(9.07)	(7.66)
Top Ranked $Return_{t-1}$	0.857***	0.302**	0.239	0.593***	0.364***	0.634***	0.441***	0.273*
	(5.01)	(2.57)	(1.44)	(4.72)	(2.77)	(4.59)	(3.55)	(1.89)
MS $Passive_{t-1}$	0.352***	-0.119	-0.080	0.049	-0.007	-0.109	-0.111	0.067
	(2.69)	(-1.54)	(-0.54)	(0.57)	(-0.07)	(-1.09)	(-1.12)	(0.64)
Low Ranked Ret_{t-1} × MS $Passive_{t-1}$	**1.740****	**1.020****	**0.462**	**1.483*****	**0.874**	**1.910*****	**1.037**	**1.502****
	(2.37)	**(2.02)**	**(0.49)**	**(2.78)**	**(1.47)**	**(2.79)**	**(1.63)**	**(2.38)**
Mid Ranked Ret_{t-1} × MS $Passive_{t-1}$	**-0.762*****	**-0.232***	**-0.165**	**-0.486*****	**-0.316****	**-0.356****	**-0.260****	**-0.370****
	(-4.39)	**(-1.94)**	**(-0.92)**	**(-3.84)**	**(-2.35)**	**(-2.13)**	**(-1.98)**	**(-2.22)**
Top Ranked Ret_{t-1} × MS $Passive_{t-1}$	**-2.916*****	**-0.383**	**0.161**	**-2.262*****	**-1.341****	**-1.516****	**-0.791**	**-1.847*****
	(-3.87)	**(-0.80)**	**(0.28)**	**(-3.95)**	**(-2.39)**	**(-2.15)**	**(-1.48)**	**(-2.74)**
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	43,984	42,117	16,408	62,188	41,353	44,729	43,191	39,866
Adjusted R-squared	0.249	0.242	0.215	0.256	0.217	0.265	0.230	0.254
Fixed Effects	Country × Year, Benchmark	Country × Year, Benchmark	Country x Year, Benchmark	Country × Year, Benchmark	Country × Year, Benchmark	Country × Year, Benchmark	Country × Year, Benchmark	Country × Year, Benchmark

It is plausible that less sophisticated investors face higher financial market participation costs because they have higher search costs and high information asymmetries. Khorana, Servaes and Tufano (2009) and Ferreira et al. (2012) argue that GDP/capita and the proportion of population owning shares are proxies for investor sophistication. In columns (3)-(6), we compare countries on these two proxies. The effect of *MS Passive* on the flow-performance sensitivity relation is stronger for countries with lower financial market sophistication, i.e., in countries with lower GDP and a lower percentage of people owning shares, exactly where ex-ante participation costs are high and the convexity is most pronounced. Competition from passive funds reduce this ex-ante high level of participation costs substantially. In consequence, investors are more sensitive to low performance and less sensitive to high performance, making the relation between past performance and flows for active funds less convex. This finding is in line with Huang, Wei and Yan (2007) who argue that lower participation costs result in a reduction in the convexity of the relation between past performance and flows and with empirical findings by Ferreira et al. (2012).

Columns (7) and (8) divide the samples of countries on the basis of country-level proxies for governance (e.g., rule of law, regulatory quality, and control of corruption). The performance-flow relation is likely to be an important governance mechanism for mutual funds, more so than other governance mechanisms, such as the board of directors. Fama and French (1983, p.318) argue that "the strong form of diffuse decision control [is] inherent in the redeemable residual claims of financial mutuals […] their boards are less important in the control process than the boards of open nonfinancial corporations". However, this mechanism can only act as an effective tool if investors reduce investment in poorly performing funds but do not disproportionately award flows to high past performers. The potential gains from this external governance mechanism are likely to be high where other governance mechanisms are missing. Column (8) shows that competition from passive funds reduces convexity, and thus strengthens governance for active funds, where countrywide governance is low. In countries where investors are not well protected via country-wide governance mechanisms, such as for example by the rule of law, passive competition strengthens the external governance mechanism of mutual funds by decreasing convexity.

Second, in Table 2.7, we present results on cross-fund variation. We divide the sample on the basis of institutional investor presence, the level of fees, and fund size. As in Table 2.5, we find that passive competition is most effective in reducing convexity where participation and opportunity costs are ex ante higher. Consistent with Huang, Wei and Yan (2007), we find that the relation between flows and past performance is more convex for retail, smaller and

more expensive funds. Columns (1) and (2) show that passive competition has a strong effect on fund flows from retail funds, and basically no effect on institutional funds. This is consistent with Evans and Fahlenbrach (2012) who document that institutional investors are more sensitive to poor past performance. As participation costs are higher for less sophisticated investors, the emergence of passive funds as an investment alternative has a stronger effect on this sub-group of funds.

Columns (3) and (4) separate funds into high and low fee funds by median. Opportunity costs are higher for more expensive active funds. Investors gain more from switching to a low-cost index fund than when they are investing in comparatively less expensive active mutual funds. In line with this argument, we find a stronger reduction in convexity for high-cost mutual funds.

Using fund size as a proxy for search and information costs, Columns (5) and (6) divide the sample on the basis of size. Information asymmetries, and therefore information costs, are higher for smaller funds where only limited information is available. Consistent with our prior results, we again find that competition from passive funds reduces the convexity of the fund flow-performance relationship, especially for smaller funds.

Overall, the evidence from both our cross-sectional country- and fund-level indicate that competition from passive funds affects the performance-flow relation of active funds most if ex ante participation costs are higher.

Table 2.7: Cross-section of Funds

This table reports the results from OLS regressions of *Flow* on *MS Passive* (which is the market share of passive funds in the country and benchmark where the actively managed fund is available for sale), the fractional performance rank (measured as raw performance defined from 0 (worst) to 1 (best) by country and year), the interaction between the fractional performance rank and *MS Passive* (which measures the change in sensitivity of performance on flows due to the market share of passive funds), and fund characteristics as control variables for fund-level sub samples based on Institutional / Retail fund, the median of *total expense ratio*, and the median of *fund size*. The coefficients on fractional performance ranks are estimated using a piecewise linear regression framework over five quintiles. These performance quintiles are grouped in *Low Ranked Return* (bottom quintile), *Mid Ranked Return* (2nd to 4th quintile) and *Top Ranked Return* (top quintile). *Flow* is the yearly growth rate of an actively managed mutual fund's total net assets due to inflows of new capital. *MS Passive* is the sum of total net assets of index funds divided by the sum of total net assets of actively managed funds and index funds by country and benchmark for a given year. All variables are defined in Appendix 2.A. Robust t-statistics (in parentheses) are based on standard errors clustered by fund. All specifications include country times year and benchmark fixed effects. Control variables as in specification (3) and (4) of Table 2.2. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Dependent variables	$Flow_t$					
	Institutional	Retail	High Fee	Low Fee	Large	Small
	(1)	(2)	(3)	(4)	(5)	(6)
Low Ranked $Return_{t-1}$	0.319**	0.105	0.004	0.424***	0.245***	0.042
	(2.03)	(1.06)	(0.04)	(3.54)	(4.25)	(0.31)
Mid Ranked $Return_{t-1}$	0.225***	0.256***	0.255***	0.245***	0.218***	0.279***
	(6.51)	(12.02)	(9.74)	(10.06)	(15.87)	(9.02)
Top Ranked $Return_{t-1}$	0.776***	0.419***	0.477***	0.618***	0.418***	0.653***
	(4.28)	(3.62)	(3.56)	(4.40)	(5.60)	(3.98)
MS $Passive_{t-1}$	0.093	-0.079	-0.176*	0.173*	0.208***	-0.224**
	(0.73)	(-0.99)	(-1.82)	(1.77)	(3.27)	(-2.18)
Low Ranked Ret_{t-1} × MS $Passive_{t-1}$	**0.792**	**1.594*** **	**1.939*** **	**-0.055**	**-0.399**	**2.437*** **
	(1.09)	**(3.00)**	**(2.99)**	**(-0.09)**	**(-1.20)**	**(3.65)**
Mid Ranked Ret_{t-1} × MS $Passive_{t-1}$	**-0.076**	**-0.501*** **	**-0.566*** **	**-0.229***	**-0.275*** **	**-0.549*** **
	(-0.39)	**(-4.29)**	**(-3.50)**	**(-1.88)**	**(-4.00)**	**(-3.53)**
Top Ranked Ret_{t-1} × MS $Passive_{t-1}$	**-0.794**	**-1.828*** **	**-1.961*** **	**-0.413**	**-0.519**	**-1.874*** **
	(-1.01)	**(-3.29)**	**(-2.92)**	**(-0.74)**	**(-1.55)**	**(-2.68)**
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24,594	62,534	44,623	42,430	42,417	44,633
Adjusted R-squared	0.271	0.237	0.247	0.252	0.184	0.280
Fixed Effects	Country × Year, Benchmark	Country × Year, Benchmark	Country × Year, Benchmark	Country × Year, Benchmark	Country × Year, Benchmark	Country × Year, Benchmark

2.3.4. Fund liquidation

In this final sub-section, we show that the advent of competition from passive funds has real economic consequences for the active mutual fund industry. Specifically, we examine the performance-liquidation sensitivity of active funds in the presence of competition from passive funds. We test whether the larger sensitivity to past performance for poorly performing funds is associated with a higher likelihood of fund liquidation, which constitutes an important market governance mechanism. In Table 2.8, we estimate OLS regressions similar to those in Table 2.2 with the indicator variable *Liquidation* as the dependent variable. This variable equals one if a fund is liquidated in year *t*.

We document that active funds are more likely to be liquidated for low performance in the presence of higher passive fund competition. Across all four columns, we find a negative relation between past performance and the likelihood for liquidation. Funds with higher performance are significantly less likely to be terminated. However, high competition from passive funds, measured by the indicator variable *High MS Passive*$_{t-1}$, which equals one if *MS Passive* takes values above its sample median, increases the likelihood of fund termination. Most important, we find that the probability that a fund is liquidated becomes more sensitive to past performance in the presence of higher competition from passive funds. The interaction term between past performance and the market share of passive funds, i.e., *Ranked Perf*$_{t-1}$ × *High MS Passive*$_{t-1}$, is negative and statistically significant at the 1% level across all columns. This finding suggests that the increased sensitivity of flows to past performance for poor performers results in real consequences for fund managers and fund management companies.

Table 2.8: Fund Performance-Liquidation Sensitivity

This table reports the results of regressions estimating a linear probability model (LPM) of *Liquidation* on *MS Passive* (which is the market share of passive funds in the country and benchmark where the actively managed fund is available for sale), *Ranked Return* (which is the fractional performance rank, measured as raw performance (Panel A) and Jensen's alpha (Panel B) defined from 0 (worst) to 1 (best) by country and year), the interaction between *Ranked Return* and *MS Passive* (which measures the change in sensitivity of performance on liquidation due to the market share of passive funds), and fund characteristics as control variables. *Liquidation* is an indicator variable that is equal to one if the fund is liquidated in period t. *MS Passive* is the sum of total net assets of index funds divided by the sum of total net assets of actively managed funds and index funds by country and benchmark for a given year. All variables are defined in Appendix 2.A. Robust t-statistics (in parantheses) are based on standard errors clustered by fund. Specification (1) – (3) include country, year and benchmark fixed effects. Specification (4) includes country times year and benchmark fixed effects. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Raw return

Dependent variables	Liquidation			
	(1)	(2)	(3)	(4)
Ranked return$_{t-1}$	-0.004***	-0.003**	-0.004**	-0.003**
	(-2.87)	(-2.43)	(-2.53)	(-2.23)
High MS Passive$_{t-1}$	0.003*	0.003*	0.004**	0.003*
	(1.75)	(1.96)	(2.23)	(1.86)
Ranked return$_{t-1}$ × High MS Passive$_{t-1}$	**-0.007*** **	**-0.008*** **	**-0.007*** **	**-0.007*** **
	(-3.23)	**(-3.58)**	**(-3.14)**	**(-2.95)**
Fund size$_{t-1}$	-0.005***	-0.005***	-0.005***	-0.005***
	(-21.15)	(-19.20)	(-17.96)	(-17.73)
Flow$_{t-1}$	-0.001***	-0.001***	-0.001***	-0.001***
	(-7.30)	(-6.91)	(-6.45)	(-6.12)
Expenses$_{t-1}$	-0.273***	-0.287***	-0.326***	-0.326***
	(-4.48)	(-4.68)	(-5.09)	(-4.94)
Risk$_{t-1}$		0.020	0.011	0.053*
		(0.74)	(0.40)	(1.84)
Volatility Flow$_{t-1}$		-0.020***	-0.021***	-0.024***
		(-2.88)	(-2.89)	(-3.29)
Log Fund Age$_{t-1}$		-0.001**	-0.002***	-0.002***
		(-2.15)	(-2.72)	(-2.83)
Institutional Fund Dummy$_{t-1}$		0.001*	0.001	0.001
		(1.66)	(1.19)	(1.26)
Team Dummy			0.000	0.001
			(0.56)	(0.75)
Observations	97,162	95,176	87,504	87,475
Adjusted R-squared	0.042	0.048	0.051	0.056
Fixed Effects	Country, Year, Benchmark	Country, Year, Benchmark	Country, Year, Benchmark	Country × Year, Benchmark

Panel B: Jensen alpha

Dependent variables	Liquidation			
	(1)	(2)	(3)	(4)
Ranked alpha$_{t-1}$	-0.003**	-0.003*	-0.003*	-0.002
	(-2.01)	(-1.72)	(-1.88)	(-1.58)
High MS Passive$_{t-1}$	0.002	0.002	0.003*	0.003*
	(1.29)	(1.36)	(1.81)	(1.79)
Ranked alpha$_{t-1}$ × High MS Passive$_{t-1}$	**-0.006*** **	**-0.007*** **	**-0.007*** **	**-0.007*** **
	(-2.82)	**(-3.11)**	**(-2.97)**	**(-3.05)**
Controls	Yes	Yes	Yes	Yes
Observations	83,499	82,714	76,100	76,081
Adjusted R-squared	0.037	0.038	0.039	0.044
Fixed Effects	Country, Year, Benchmark	Country, Year, Benchmark	Country, Year, Benchmark	Country × Year, Benchmark

2.4. Conclusion

In this paper, we exploit the staggered introduction of ETFs in different segments and countries to study how increased competition from indexing affects the performance-flow relation and incentives of actively managed equity mutual funds. We find that the introductions of ETFs and, more generally, an increase in the market shares of available country-level index funds in active fund benchmarks are associated with a significantly lower sensitivity of flows to past performance and with a shift from a convex performance-flow relation towards a more linear relation. We also find that increased competition from index funds is associated with a significantly higher sensitivity of fund performance to fund liquidation, suggesting real economic consequences for active fund managers and fund management companies in the presence of competition from passive funds.

Chapter 3

Trust and Shareholder Voting

A growing literature in economics and finance studies the impact of culture on human and organizational behavior (for reviews, see Guiso, Sapienza and Zingales (2006), Karolyi (2016)). A significant part of this literature examines how societal trust, i.e., general trust in anonymous others, affects economic outcomes such as economic growth and organizational productivity (e.g., Bloom, Sadun and Van Reenen (2012), Knack and Keefer (1997), La Porta et al. (1997)). These studies typically assume that when trust is high principals spend less time on monitoring agents, as predicted by economic theory.[22] In this study, we test the validity of the prediction that societal trust substitutes for costly monitoring within the context of shareholder voting.[23]

We show that societal trust relates negatively to shareholder voting participation and positively to votes in support of management proposals, across both countries and U.S. counties. Thereby, our study contributes to the sparse literature on voting participation by shareholders and, more generally, the literature on the impact of culture on corporate governance. Understanding how societal trust relates to shareholder voting – independent of whether the relation is causal or merely has predictive power – can help investors optimize their allocation of costly voting. It is also important for regulators intent on increasing minority shareholder involvement in publicly listed firms to ensure representative voting results and effective monitoring.

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[22] For example, Knack and Keefer (1997, p.1252) argue that *"individuals in higher-trust societies spend less to protect themselves from being exploited in economic transactions"*. See also Allen (2005) who argues that societal trust, by acting as a substitute for good corporate governance and strong law, has enabled China to experience strong economic growth despite weak law and institutions.

[23] In this regard, a wealth of evidence suggests that shareholder voting is an effective monitoring mechanism.

La Porta et al. (1997, p.333) define societal trust as "*a propensity of people in a society to cooperate to produce socially efficient outcomes and to avoid inefficient noncooperative traps*". Consequently, societal trust can be expected to matter for principal-agent relations, where principals (e.g., shareholders) rely on opportunistic agents (e.g., firm management or controlling shareholders) not to exploit uncontracted contingencies. In this context, societal trust and other forms of social capital mitigate principals' concerns about being expropriated as they discourage opportunistic behavior (Guiso, Sapienza and Zingales (2011)), including moral hazard in firms.

Importantly, trust in (anonymous) others is not normally exploited because norm-deviant cheating behavior entails psychological and social costs such as guilt and shame, a lack of reciprocation as well as ostracism and more direct punishment by others. Anderlini and Terlizzese (2017) model predicts that these costs increase with the level of trust that prevails in a country and hence sustain societal trust as an equilibrium phenomenon.[24] That is, the higher the level of trust in an agent's country, the less likely is the agent to expropriate the principal and the more is the principal able to reduce monitoring. Hence, societal trust may effectively substitute for costly monitoring.

This study performs a direct and novel test of the theoretical prediction that societal trust reduces the amount of monitoring agents expend. Specifically, we examine the relation between the level of trust in (anonymous) others that prevails in a society and voting as a measure of shareholder monitoring. Voting is the most direct manifestation of shareholders' residual rights vis-à-vis the company and the primary mechanism via which shareholders voice dissatisfaction and monitor firm management. Their votes enable the shareholders to vote for or against the (re-)appointment of directors, and to approve mergers and acquisitions as well as other voted proposals at the annual general shareholders' meeting (AGM) or a special meeting. Empirical evidence suggests that voting is an effective governance mechanism across the world (Iliev et al. (2015)) and that voting rights are valuable (Kalay, Karakas and Pant (2014)). Nevertheless, voting is costly. That is, shareholders have to incur costs of gathering information and monitoring management that are needed to vote in an informed fashion. Consistent with voting

[24] For related equilibrium analyses of trust, see, e.g., Huang and Wu (1994) and Dufwenberg (2002). Regarding the question as to why people trust complete strangers in the first place and, importantly, why this general trust is not exploited, Berg, Dickhaut and McCabe (1995) provide evidence that reciprocity is a basic element of human behavior, which people account for when they extend and fulfil trust to others they do not know. Normative expectations (Sugden (1998)) and trust responsiveness (e.g., Bacharach, Guerra and Zizzo (2007)) are other theories explaining why people fulfil trust. Furthermore, some studies derive the emergence of trust and other economically relevant behavior as an evolutionary strategy (e.g., Hirshleifer (1977), Selten (1991)).

being costly, we document an average voting participation of only 59% across countries, and 79% in the U.S.A.

When deciding whether to exercise their votes, shareholders trade off the costs and benefits of voting. Ceteris paribus, a higher level of societal trust should reduce voting as it lowers opportunistic behavior and hence shareholder concerns about being expropriated, which results in lower expected (net) monitoring benefits.[25] Thus, for some shareholders, particularly retail investors and professional investors holding small equity stakes, the costs of voting might exceed the benefits, inducing them to rely on other shareholders to monitor management. This free-riding may result in insufficient monitoring of management, which can reduce firm value (Grossman and Hart (1980)). However, theory suggests that the potentially negative effects of low monitoring will be mitigated or cancelled out in high-trust countries where managers are less likely to act against shareholder interests given the higher costs of cheating.

To sum up, we expect a negative relation between societal trust, i.e., the level of trust in anonymous others that prevails in a country, and the level of shareholder monitoring. We measure the latter by shareholder participation (i.e., the percentage of votes cast) and dissent (i.e., the percentage of votes in support of management proposals). We also expect the potentially negative effects of low monitoring on future firm performance to be weaker (or even cancelled out) if societal trust is high. We formulate the following hypotheses:

H1: Shareholder voting participation is lower in high-trust countries.

H2: The percentage of votes in favor of management is greater in high-trust countries.

H3: The negative effects of low shareholder monitoring are weaker in high-trust countries.

Using the World Values Survey (WVS) to measure the level of trust in (anonymous) others that prevails in the firm's country of headquarters, this paper provides evidence in support of the above three hypotheses. Specifically, as per H1 and H2, regressions of measures of shareholder voting on societal trust and extensive sets of controls for country, firm, and ownership characteristics as well as sub-continent fixed effects suggest that shareholder monitoring is significantly lower where the level of societal trust is higher. An increase in societal trust by one standard deviation is associated with a decrease in votes cast of at least 6.2

[25] Shareholder expropriation and voting also depend on shareholder protection and corporate ownership (see, e.g., Iliev et al. (2015)). In this regard, we find a strong, negative correlation between trust and government regulation in line with Aghion et al. (2010), indicating that trust is unlikely to reflect better shareholder protection. Nevertheless, besides corporate ownership, our empirical tests account for the quality of law enforcement, legal systems, and Djankov et al. (2008) *revised* ADRI and ASDI indices, which accurately measure shareholder protection (Spamann (2010)).

percentage points and an increase in votes for management proposals that corresponds to a reduction in the likelihood of a proposal being rejected (i.e., the percentage of votes for management being less than 50%) of five percentage points. We find the relation between societal trust and shareholder voting to be stronger (weaker) for firms with a higher free float (stake held by foreign investors), consistent with differences in net monitoring benefits across shareholders (e.g., Shleifer and Vishny (1986)) and with shareholders being less aware of the levels of societal trust in foreign countries. The cross-sectional differences are robust to controlling for country fixed effects.

Importantly, we find a negative relation between low monitoring, i.e., a low percentage of votes cast and less dissent voting, and future firm performance and value, which is weaker (and partially cancelled out) in high-trust countries, even when controlling for country fixed effects. This result indicates that, on average, managers do not exploit lower levels of monitoring in high-trust settings, consistent with H3 and with societal trust being an equilibrium phenomenon. Hence, it can be rational for shareholders to reduce their voting efforts in high-trust countries.

While the correlations between societal trust and shareholder voting are informative, we attempt to establish a causal link between the two using several tests. First, following Ahern (2018) who provides causal evidence that terrorist attacks reduce trust in anonymous others, we use such attacks prior to shareholder meetings as transitory negative shocks to societal trust. To mitigate concerns that institutional or economic responses to terrorism drive our results, we consider shareholder meetings as treated if they take place within two (or, alternatively, four) weeks after a terrorist attack while excluding attacks associated with negative average stock market responses. We find that such shareholder meetings are associated with more votes cast and fewer votes in support of management proposals. Second, our results are confirmed by instrumental variables regressions, which instrument societal trust by the share of people in a country who belonged to a hierarchical religion in the year 1900. This approach is in line with Putnam (1993) and La Porta et al. (1997) who argue that these religions have undermined the development of trust among people because the vertical bond with the church has weakened the horizontal bond with fellow citizens. Our results are upheld when we use an alternative instrument for societal trust, namely the concentration of the top 5 surnames in a country. A lack of such concentration indicates societal fragmentation (e.g., in terms of ethnicity) that undermines societal trust (e.g., Alesina and La Ferrara (2002)). Third, our results are robust to the inclusion of additional variables such as the level of trust in the home countries of the firm's largest foreign investors, and the levels of confidence in companies, the government, and the

press as well as firm- and country-level governance controls (e.g., ESG ratings, ISS voting recommendations, and regulatory quality).

To further rule out that our results reflect unobserved country characteristics and to ensure that voting is comparable across countries and firms, we conduct three more tests. First, we repeat our main analysis for European countries only, i.e., comparable economies with a joint history and comparable laws pertaining to corporations and shareholder voting. Our results are upheld. Second, we repeat our main analysis for a single country, the U.S.A. Specifically, following Algan and Cahuc (2010) we use an ancestry-based measure of inherited societal trust at the U.S.-county level in conjunction with U.S.-state fixed effects, which ensures that voting is comparable across firms and that time-invariant country and state characteristics cannot explain our results. We still find that societal trust reduces shareholder monitoring via voting. Finally, we use the N-PX filing data to examine the voting behavior of U.S. institutional investors in their U.S. investee firms. This approach allows us to rule out that cultural differences between firms and investors or differences in investor types explain our results. It also allows us to address the question of whether societal trust helps explain the voting behavior of institutional investors. We find that institutional investor votes are more supportive of management proposals at shareholder meetings of investee firms headquartered in U.S. counties with higher levels of inherited trust.

This paper contributes to two strands of the literature. First, it contributes to the emerging literature on shareholder voting behavior across countries and firms. Iliev et al. (2015) study the legal and firm-specific determinants of votes cast by U.S. institutional investors. For a sample of non-U.S. firms from 43 countries, they find that weaker investor protection and law enforcement as well as greater insider ownership are associated with a lower percentage of votes in support of management. Van der Elst (2011) examines the determinants of shareholder voting participation in Europe, particularly the concentration of control rights and the presence of shareholder groups.[26] In contrast to these studies, our paper is neither limited to institutional investors nor to shareholder voting in Europe. Our paper adds to the literature by providing evidence that an important aspect of culture, societal trust, has a significant relation with both shareholder participation and dissent with management above and beyond the voting determinants the existing studies have identified. Given that strong shareholder protection can

[26] Adding to this literature, Zachariadis, Cvijanovic and Groen-Xu (2020) formulate a model on voting participation by shareholders. The model predicts that greater homogeneity in the ex-ante preferences of shareholders leads to lower voting participation, and vice versa. They find their model's predictions to be consistent with U.S. voting data.

generate other (competing) agency costs related to the insider-outsider relationship (LaRiviere, McMahon and Neilson (2018)), it is important to understand country-specific factors other than legal protection that may affect shareholder voting.[27]

Second, our paper contributes to the literature that studies how culture relates to governance and economic outcomes, particularly the relation between societal trust to economic performance.[28] While much of this literature assumes that societal trust facilitates cooperation and thus allows economic actors to spend more time on producing rather than monitoring , it does not directly test the validity of this key assumption. Studying the association between societal trust and shareholder monitoring via voting, our paper provides the first such direct test. The evidence we provide suggests that it can be rational for investors to conduct less costly monitoring if societal trust is high, which supports theory according to which trust is an equilibrium phenomenon (e.g., Anderlini and Terlizzese (2017)). Thereby, our study extends the predominantly theoretical literature on the trade-off between control and trust as well as the literature on the impact of culture on corporate governance.

The paper proceeds as follows. Section 3.1 presents the data, methodology, and summary statistics. Section 3.2 proceeds with the empirical analysis while Section 3.3 contains a battery of robustness tests. Section 3.4 confirms that our cross-country evidence also holds at the U.S.-county level and for U.S. institutional investors. Conclusions follow.

3.1. Data, Methodology, and Summary Statistics

3.1.1. Data Sources and Sample Selection

We use a cross-country panel of firms that comprises data on shareholder voting as well as firm, ownership, and country characteristics. We obtain voting data from ISS Voting Analytics Global, which covers voting results of shareholder meetings across the world, excluding the U.S.A., starting with the year 2013. We use information from shareholder meetings taking place between 2013 and 2015.[29] We obtain the CUSIP, company name,

[27] Furthermore, our study is the first to systematically document average shareholder voting participation across more than 40 countries, which is only about 60%. This evidence has important implications for corporate governance research and practice (e.g., the definition of de-facto controlling shareholders and thresholds for the disclosure of major holdings of voting rights), which typically assume that voter turnout is 100%.

[28] There is some literature on the link between societal trust and economic performance. Furthermore, an emerging literature studies how culture affects the composition of the board of directors and monitoring of the CEO (see, e.g., McLean, Pirinsky and Zhao (2020), Urban (2019)).

[29] Absent significant shocks, societal trust is persistent over time, as its formation is tied to historical developments often dating back hundreds of years and as beliefs and values are transmitted fairly unchanged

meeting date, meeting type, agenda item description, ISS proposal category, the percentage of total votes exercised, and the percentages of votes cast in favor of and against each proposal. We merge the voting data with firm-level data from Thomson Reuters Eikon, including accounting, ownership, and stock price data.

ISS Voting Analytics covers management-initiated and shareholder-initiated proposals. In what follows, unless otherwise specified, we focus on the former for three reasons. First, we are interested in the support, or absence thereof, managers receive from their shareholders. Second, virtually all of the proposals are management-initiated proposals (see Panel C of Table 3.1). Overall, our sample consists of 194,548 management-initiated proposals with information on votes exercised in favor of these management-initiated proposals, i.e., management "for" votes. We aggregate proposal-level data for each meeting, resulting in data for 27,645 meetings with information on average management "for" votes and firm-level characteristics for 9,087 individual firms from 44 different countries. Data on the percentage of votes cast (*% Votes cast*) is available for 14,085 shareholder meetings held by 4,377 unique firms from 43 different countries.

We use country-level control variables based on Djankov et al. (2008), the World Bank, and the World Values Survey (WVS). Adding the country-level characteristics leaves us with an unbalanced panel of 25,838 shareholder meetings with data on votes in support of management for 8,373 unique firms from 32 different countries. The sample for the regressions including *% Votes cast* is smaller with 13,383 meetings for 4,022 firms from 31 different countries.

3.1.2. Key Variables and Methodology

Our main regression model is as follows:

$$\begin{aligned} y_{i,t} = \alpha + \beta_1 \times Trust_i + \beta_2 \times firm\ characteristics_{i,t} + \beta_3 \\ \times ownership\ characteristics_{i,t} + \beta_4 \\ \times country\ characteristics_{i,t} + year\ dummies \\ + industry\ dummies + \varepsilon_{i,t} \end{aligned} \tag{3.1}$$

from one generation to the next one. Hence, studying many years of data, which is not feasible for cross-country voting data, does not add much value. Nevertheless, we study three years of data because we rely on transitory shocks to societal trust for identification and because more observations are associated with more variation in shareholder voting and potential covariates of societal trust. Our results remain qualitatively similar when we conduct our baseline regressions reported in Table 3.2 and Table 3.3 for each sample year (see Appendix 3.D).

Our two main dependent variables are *% Votes cast* and *% Mgmt. "for" votes*. The variable *% Votes cast* is the average percentage of votes cast at a shareholder meeting. *% Mgmt. "for" votes* is the percentage of votes cast in favor of management-initiated proposals. We calculate the average percentage of votes in favor of all management-initiated proposals for each meeting. Additionally, we classify management proposals by their type (director, capitalization, M&A, and compensation related proposals), as per Iliev et al. (2015). For robustness, we use alternative measures of shareholder dissent. Specifically, we use the indicator variables *Dissent* and *Mgmt. proposal rejected*. The former equals one if the variable *% Mgmt. "for" votes* takes a value in the first quartile of its sample distribution, and zero otherwise. The latter equals one if *% Mgmt. "for" votes* is below 50%, and zero otherwise. We also use the variable *# Shareholder proposals*, which is the number of proposals that shareholders submitted to the shareholder meeting.

Our main explanatory variable is *Trust*. In line with the economics literature, we obtain this measure of societal trust from WVS.[30] It is the proportion of survey respondents for each country agreeing that "most people can be trusted", against the alternative that "you can't be too careful in dealing with people". This measure captures general trust, i.e., "the trust that people have toward a random member of an identifiable group" (Guiso, Sapienza and Zingales (2009), p.1101), which is different from interpersonal trust, i.e., mutual trust individuals develop via repeated interactions (e.g., Greif (1993)). The WVS trust measure we use has been shown to be a valid predictor for actual general trusting behavior.

The regressions include the following sets of control variables: firm characteristics, ownership characteristics, and country characteristics. Firm characteristics include the three-year average ROE; firm age since foundation; leverage; the natural logarithm of market capitalization; the market-to-book ratio; the stock market return; and an indicator variable, which equals one if the shareholder meeting is a special meeting, and zero otherwise. Firm-level controls are consistent with Iliev et al. (2015). The ownership variables we control for are the percentage of free float; the percentage of shares held by foreign investors and the percentage of shares held by institutional investors (both with respect to the firm's 50 largest investors); the percentage of shares held by the largest investor; the Herfindahl-Hirschman index based on the largest ten investors; and indicator variables, which capture different types of largest investor (i.e., a bank, a corporation, a family, the government, the management, and

[30] The WVS measure of societal trust is the most frequently used measure of trust (and social capital).

an institutional shareholder).[31] We use these firm and ownership controls as countries with different levels of societal trust may have differences in firm and ownership characteristics that affect shareholder voting. The country controls include Djankov et al. (2008) anti-self-dealing index (ASDI), which focuses on private enforcement mechanisms that govern self-dealing transactions, and the *revised* anti-director-rights index (ADRI), which is an accurate measure of minority shareholder protection across countries (Spamann (2010)). Furthermore, we use Djankov et al. (2008) categorization of legal families to classify the countries where the sample firms have their headquarters by their legal origin (English, French, and German). We also use GDP per capita, market capitalization as a percentage of the country's GDP, and the rule of law index. We use these country-level controls as both the level of societal trust and shareholder voting behavior in a country may be affected by the quality of a country's institutions and its general economic situation. All variables are defined in Appendix 3.A.

Finally, given that the variable *Trust* is time-invariant over our sample period (and persistent over time), we mainly use industry-fixed effects regressions to estimate the relation between societal trust and shareholder voting behavior. To account for regional economic factors and cultural covariates of societal trust that have developed historically and might impact shareholder voting, we also estimate regressions, which control for sub-continent-fixed effects.[32] However, whenever we use interaction terms of societal trust and other variables, we also conduct regressions with country-fixed effects. Following Iliev et al. (2015), we estimate all regressions at the firm level.[33] We use a linear probability model (LPM) if the dependent variable is either *Dissent* or *Mgmt. proposal rejected*. Furthermore, we conduct several identification tests, which include i) terrorist attacks prior to the shareholder meeting as exogenous, transitory shocks to societal trust; ii) two-stage least squares (2SLS) regressions where we instrument societal trust either by the religious denominations or by the concentration of the top 5 surnames that prevail in a country; iii) regressions based on a sample limited to Europe or to U.S. counties, i.e., one geographic region with similar laws and a joint history; and iv) U.S. institutional investor voting based on N-PX filing data. We describe the data and

[31] We note that the ownership information in common databases may not accurately measure corporate control (see, e.g., Aminadav and Papaioannou (2020)). It is not clear whether this potential inaccuracy with regard to our ownership controls may affect our estimates.

[32] Given the countries in our sample, we use the twelve sub-continents: Europe, North Africa, Sub-Saharan Africa, East Asia, West and Central Asia, North Asia, South and South-East Asia, Oceania, North America, South America, Mesoamerica, and the Caribbean Islands. Our results remain qualitatively similar when we use more or less granular regional clusters (e.g., smaller sub-continents or entire continents) in untabulated regressions.

[33] When we estimate regressions where the dependent variable is *% Mgmt. "for" votes* at the proposal level rather than the firm level, the results (not tabulated) are qualitatively similar, independent of whether we use standard errors clustered at the firm level or the meeting level.

methodology used for these identification tests in Sections 3.3 and 3.4. We estimate all regressions with standard errors clustered at the firm level. For robustness, we re-estimate all regressions using standard errors clustered at the country level and find qualitatively similar results (see Appendix 3.M – 3.T).

3.1.3. Summary Statistics

Table 3.1 shows summary statistics for societal trust and firm-level voting by country (Panel A), for the control variables (Panel B), and for the average percentage of votes cast in favor of the various types of voted proposals (Panel C). Panel A shows that trust, which has a cross-country mean of 45% and a standard deviation of 20%, ranges from a minimum of 4% (Colombia) to a maximum of 74% (Norway). The average percentage of votes cast ranges from 40.8% (New Zealand) to 100% (Cyprus). The mean percentage of votes cast across the sample is 59%, which is identical to the average reported in Van der Elst (2011), and the standard deviation is 20%. Finally, the average percentage of votes in support of management, which has a sample mean of 96% and a standard deviation of 6.5%, ranges from a low of 83.8% (Bulgaria) to 100% (e.g., Jordan, Morocco, Qatar). The figures we obtain for the average percentage of votes in support of management are comparable to those from Iliev et al. (2015) and Cai, Garner and Walkling (2009) who find a similar, limited range of values for 43 non-U.S. countries and for the U.S.A., respectively.[34]

Panel B shows that the average (median) firm has an ROE of 5.6% (8.8%), is 31 (20) years old, has leverage of 0.20 (0.18), a market capitalization of about US$ 550 (639) million, and a market-to-book ratio of 4.7 (1.6). Special meetings account for 35.5% of all shareholder meetings. Concerning corporate ownership, average free float is 43%, while the largest investor holds 28% of the shares on average and large foreign investors hold 13%. Other corporations are the most frequent type of largest shareholder and they are present in the majority of firms (56%). The second most frequent type of largest investor is both families and institutional shareholders: They are each present in about 18% of the firms. Banks (4%), the government (2%), and the management (1%) are only rarely the largest investor. Firms from countries with English, French, and German law amount to 35%, 36%, and 29% of the observations, respectively. The average sample firm has an ADRI and ASDI index value of 3.4 and 0.66,

[34] As reported in Panel A of Table 3.1, the number of observations for some of the countries is very small. When the observations for countries with less than 30 observations are dropped from the sample, our results are upheld.

respectively. Finally, the average ratio of a country's market capitalization to its GDP is 170% and the average GDP per capita amounts to $28,323.

Panel C of Table 3.1 shows the average percentage of votes in favor of the various types of proposals. Following Iliev et al. (2015), the panel also distinguishes between four main types of management-initiated proposals: *Directors* (e.g., election of directors), *Capitalization* (e.g., authorizing a stock repurchase program), *M&A* (e.g., approving a transaction with a related party), and *Compensation* (e.g., approving a remuneration report). Almost half of the management-initiated proposals are director-related proposals. Across all four categories, the country average percentage of votes in favor ranges from a low of 61.57% to a high of 100%.

Finally, we briefly discuss the pairwise correlations between *Trust* and the control variables (described in Section 3.1.2). The correlations are shown in Appendix 3.C. While the correlations are generally moderate, *Trust* correlates significantly with *Firm age* (0.23), the Djankov et al. (2008) indicator variables for English (-0.24) and French (0.23) legal origin, and the ASDI index (0.26). The only very strong pairwise correlation, i.e., -0.64, is between *Trust* and the ADRI index, which is consistent with Aghion et al. (2010) who find a strong, negative correlation between societal trust and government regulation for a cross-section of countries comparable to ours. This negative correlation makes it unlikely that any negative relation between societal trust and shareholder monitoring via voting reflects better legal shareholder protection or other aspects of regulation relevant to shareholders. Furthermore, we find very low correlations between *Trust* and foreign as well as institutional investor ownership (0.02 and -0.09), especially hedge fund ownership (-0.02), as well as ISS "for" vote recommendations (-0.02). Hence, the negative relation between societal trust and shareholder monitoring via voting is unlikely to reflect cross-country differences in engagement by activist or foreign shareholders or proxy advisors.

Table 3.1: Summary statistics

Panel A shows country-level summary statistics for the variables *% Votes cast*, *% Mgmt. "for" votes*, and *Trust* for those countries with available firm-level voting data, data on firm characteristics, and ownership data. *% Votes cast* is the average percentage of votes cast across the various decisions up for voting at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. Panel B shows summary statistics for accounting- and market-based characteristics, ownership characteristics, other firm characteristics and country characteristics at the firm level. Panel C reports summary statistics for different types of proposals, i.e., management- and shareholder-initiated proposals as well as the following four types of management-initiated proposals: *Directors*, *Capitalization*, *M&A*, and *Compensation*. The panel reports the average percentage of votes in support of each type of proposal as well as it number per country. The sample period comprises shareholder meetings from 2013 to 2015, which corresponds to firms' fiscal years 2012 to 2015. *Avg* stands for average.

Panel A: Firm-level voting and trust by country

	Trust	% Votes cast		% Mgmt. "for" votes		Observations	
Country		**Mean**	**Std. Dev**	**Mean**	**Std. Dev**	**Votes cast**	**Mgmt. "for" votes**
Argentina	0.23	85.70	15.30	87.77	10.85	26	24
Australia	0.54	59.78	17.37	93.78	9.67	12	1439
Bahrain	0.34	76.02	19.10	-	-	12	-
Brazil	0.07	68.50	16.96	94.40	10.92	288	30
Bulgaria	0.22	78.67	14.52	83.79	30.94	25	14
Canada	0.42	56.15	20.75	94.57	7.56	497	1923
Chile	0.13	87.98	8.00	94.94	5.71	129	23
China	0.64	50.87	17.46	98.48	6.17	7358	7732
Colombia	0.04	86.73	-	89.81	16.15	1	4
Cyprus	0.09	100.00	-	98.06	2.15	2	3
Estonia	0.40	71.13	6.79	98.70	2.34	21	20
Finland	0.59	54.47	15.72	99.96	0.06	30	3
France	0.19	71.11	18.13	93.00	7.45	610	891
Germany	0.42	70.90	26.70	95.70	9.11	10	36
Hong Kong	0.48	53.76	22.29	96.89	6.83	694	2348
Hungary	0.28	77.79	15.58	92.46	20.17	9	19
India	0.22	70.19	18.44	97.97	5.77	1656	1956
Indonesia	0.43	79.20	10.92	95.92	8.73	555	182
Italy	0.29	63.18	20.35	96.17	8.46	79	108
Japan	0.39	77.24	11.36	95.14	4.36	68	6830
Jordan	0.13	76.31	-	100.00	-	1	7
Kazakhstan	0.39	91.27	4.93	100.00	-	5	1
Kuwait	0.30	80.19	9.66	100.00	-	10	1
Malaysia	0.09	71.05	40.94	95.53	11.01	2	123
Mexico	0.12	87.77	9.00	90.74	11.28	131	8
Morocco	0.13	87.87	-	100.00	-	1	1
Netherlands	0.67	63.39	23.35	95.74	9.07	71	111
New Zealand	0.57	40.77	3.07	98.12	4.09	3	64
Nigeria	0.15	-	-	93.66	4.29	-	3
Norway	0.74	53.79	18.17	96.80	5.27	257	159
Peru	0.08	81.92	0.89	99.16	1.57	2	4
Philippines	0.03	81.61	8.68	96.59	6.80	6	7
Poland	0.23	64.78	18.08	95.72	7.31	79	81
Qatar	0.21	-	-	100.00	-	-	1
Romania	0.07	72.12	17.75	86.53	16.85	69	57
Singapore	0.39	45.59	8.47	96.18	7.35	2	332
Slovenia	0.20	63.37	11.90	96.59	6.92	20	24
South Africa	0.24	74.21	12.70	95.43	4.82	240	329
Spain	0.20	67.62	14.80	95.66	5.15	87	95
Sweden	0.65	64.18	4.15	99.81	0.16	5	4
Switzerland	0.51	68.17	14.99	93.92	8.34	196	246
Thailand	0.33	67.87	14.79	98.78	3.60	102	515
Turkey	0.12	76.50	15.07	98.28	3.40	211	208
United Kingdom	0.30	69.83	15.28	96.83	4.01	327	1512
Vietnam	0.52	78.96	10.30	96.42	6.73	176	167
Avg / Total	**0.45**	**59.34**	**20.45**	**96.45**	**6.52**	**14,085**	**27,645**

Panel B: Firm-level summary statistics for control variables

	p50	p25	p75	Mean	Std. Dev.	N
Firm characteristics:						
3-year avg ROE	0.088	0.029	0.153	0.056	0.333	27,645
Firm age	20.000	13.000	43.000	31.032	26.069	27,645
Leverage	0.177	0.038	0.297	0.202	0.232	27,645
Ln(market cap ($))	20.280	18.907	21.385	20.144	1.651	27,645
MTB	1.601	0.851	2.778	4.732	57.799	27,645
Special meeting				0.355	0.479	27,645
Stock return	0.152	-0.070	0.480	0.260	0.512	27,645
Ownership characteristics:						
% Free float	40.129	25.313	58.719	43.368	24.009	27,645
% Shares domestic investors	45.581	21.355	65.209	43.908	26.786	27,645
% Shares foreign investors	4.068	0.359	17.055	12.991	19.410	27,645
% Shares institutional investors	8.948	2.657	20.088	14.714	17.025	27,645
% Shares largest investor	22.649	9.958	42.561	27.987	21.460	27,645
Herfindahl Top 10 investors	767.990	220.133	2,108.062	1,438.584	1,764.147	27,645
Largest investor = bank				0.038	0.192	27,645
Largest investor = corporation				0.562	0.496	27,645
Largest investor = family				0.183	0.386	27,645
Largest investor = government				0.023	0.150	27,645
Largest investor = management				0.012	0.109	27,645
Largest investor = inst. investor				0.182	0.385	27,645
Country characteristics:						
Djankov ADRI	4.000	1.000	4.500	3.372	1.626	25,838
Djankov ASDI	0.653	0.499	0.762	0.661	0.173	25,838
Djankov English				0.350	0.477	25,838
Djankov French				0.364	0.481	25,838
Djankov German				0.285	0.452	25,838
GDP per capita	34,960	5,721	46,466	28,323	21,135	25,838
Market cap/GDP	76.560	56.081	90.292	170.369	298.261	25,838
Rule of law	1.333	-0.334	1.599	0.771	0.958	25,838

Panel C: Average percentage of votes cast in favor of individual proposals by country

	Management-initiated		Shareholder-initiated		Management-initiated proposals by category							
					Directors		Capitalization		M&A		Compensation	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
Argentina	88.67	236	-	-	88.68	97	89.43	15	89.78	6	61.57	3
Australia	93.53	7016	40.93	87	94.97	2593	94.91	928	95.63	239	91.28	2956
Brazil	94.37	129	99.90	1	94.94	29	93.48	9	94.66	11	90.10	17
Bulgaria	93.43	96	-	-	93.93	21	-	-	76.83	7	93.00	7
Canada	94.96	14016	13.86	198	95.47	10866	92.49	173	95.61	195	87.33	964
Chile	95.35	131	-	-	95.10	32	92.55	10	92.39	1	-	-
China	98.35	35200	96.89	1702	98.35	6056	96.99	6158	97.45	8212	96.59	678
Colombia	95.53	17	-	-	91.52	4	-	-	66.00	1	-	-
Cyprus	97.81	16	-	-	97.89	3	94.79	1	-	-	88.24	2
Estonia	98.74	80	-	-	98.20	15	99.72	13	-	-	97.43	4
Finland	100.00	24	-	-	99.99	9	100.00	2	-	-	-	-
France	94.21	14487	24.99	50	95.58	2763	94.13	4040	95.52	290	83.12	2082
Germany	96.07	268	99.18	1	96.33	130	92.54	42	98.19	16	95.75	10
Hong Kong	96.87	16608	39.65	13	97.54	5801	94.13	5150	96.78	607	91.75	375
Hungary	96.26	168	57.20	12	96.23	54	91.00	18	100.00	1	96.44	8
India	97.91	11064	99.62	1	97.16	3357	98.55	1341	96.29	1054	96.62	1052
Indonesia	97.06	869	88.74	2	94.84	240	98.68	35	95.43	29	93.29	16
Italy	96.10	452	77.64	75	95.47	127	95.39	68	98.97	5	93.17	102
Japan	94.74	49805	13.45	314	94.63	38164	95.96	128	96.88	2818	92.98	3106
Jordan	100.00	34	-	-	100.00	8	100.00	1	-	-	-	-
Kazakhstan	100.00	2	-	-	-	-	-	-	-	-	-	-
Kuwait	100.00	10	-	-	100.00	3	100.00	1	100.00	1	-	-
Malaysia	96.67	598	98.55	3	95.53	215	96.95	120	98.36	99	93.01	50
Mexico	93.85	92	-	-	98.10	39	96.84	11	99.99	1	99.90	4
Morocco	100.00	8	-	-	100.00	1	100.00	1	99.98	1	-	-
Netherlands	96.22	1026	92.06	2	96.59	436	93.99	290	89.69	5	92.09	41
New Zealand	98.24	254	16.53	9	98.19	144	98.96	4	98.40	2	96.35	39
Nigeria	92.30	21	-	-	94.08	6	81.85	2	86.17	3	-	-
Norway	97.43	1515	44.25	9	96.56	358	96.60	182	99.17	8	94.01	211
Peru	99.72	14	-	-	-	-	98.40	2	-	-	-	-
Philippines	97.61	36	-	-	99.15	14	90.33	2	-	-	-	-
Poland	96.53	567	90.96	10	94.32	173	91.30	19	97.28	13	83.60	4
Qatar	100.00	7	-	-	100.00	1	100.00	2	100.00	1	-	-
Romania	88.66	576	51.89	55	78.53	115	85.26	16	91.42	50	86.45	26
Singapore	97.77	2891	77.01	14	98.37	1083	96.06	535	95.26	180	93.76	191
Slovenia	96.34	118	78.19	15	96.22	60	82.19	5	-	-	-	-
South Africa	96.40	3834	-	-	97.81	1174	93.30	631	97.02	370	88.57	332
Spain	95.57	1240	54.05	11	95.10	426	94.35	169	98.68	23	92.18	167
Sweden	99.73	21	0.66	2	-	-	99.73	8	-	-	99.70	12
Switzerland	95.48	3554	64.21	22	95.13	1696	94.06	106	99.91	5	90.02	316
Thailand	98.80	4247	-	-	97.91	1703	99.07	456	93.68	62	98.79	46
Turkey	98.21	2108	-	-	98.08	631	96.58	23	95.80	16	98.78	184
UK	97.58	20050	32.05	24	98.14	7047	97.49	4084	95.42	256	94.71	2311
Vietnam	97.29	1043	-	-	96.47	244	94.44	69	95.22	31	97.17	18
Avg/Total	**96.26**	**194,548**	**73.71**	**2,632**	**95.82**	**85,938**	**95.80**	**24,870**	**97.01**	**14,619**	**91.55**	**15,334**

3.2. Cross-country Evidence: Societal Trust and Shareholder Voting

In the following, we present the results of analyses that test H1 to H3. According to the first two hypotheses, shareholder participation (i.e., *% Votes cast*) is lower in high-trust countries (as per H1), while the percentage of votes in favor of management-initiated proposals (i.e., *% Mgmt. "for" votes*) is greater (as per H2). According to H3, the negative effects of low shareholder monitoring are weaker in high-trust countries. Section 3.2.1 provides country-level evidence on the relation between societal trust and shareholder voting behavior. Section 3.2.2 presents the results from our baseline firm-level regressions of the measures of shareholder voting behavior on country trust and extensive sets of control variables (as described in Section 3.1.2). Section 3.2.3 provides additional evidence on how the relation between trust and shareholder voting varies with corporate ownership. Testing the validity of H3, Section 3.2.4 presents empirical evidence on the firm performance and firm value implications of the trust-shareholder voting relation.

3.2.1. Country-level Evidence

The first step in our empirical analysis is to conduct a simple test of the validity of our first two hypotheses, by considering the country-level relation between societal trust and the country averages for the two measures of shareholder voting behavior. Figure 3.1 depicts the relation between societal trust and shareholder voting across all countries with available data. Specifically, Figure 3.1a plots the average *% Votes cast* per country against *Trust*. The figure suggests a negative relation between the two variables, with fewer votes cast at shareholder meetings in high-trust countries. Figure 3.1b plots the average *% Mgmt. "for" votes* per country against *Trust*. The relation between the two is positive with the percentage of votes in support of management increasing with country trust. Untabulated country-level regressions (with controls similar to those in Section 3.2.2) provide further empirical support for the aforementioned relations and hence for H1 and H2.

Figure 3.1: Trust and shareholder voting behavior per country

This figure illustrates the relation between trust and shareholders' voting behavior. Figure 3.1a depicts the relation between average *% Votes cast* and *Trust* per country. Figure 3.1b depicts the relation between average *% of Mgmt "for" votes* and *Trust*. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision for a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'.

Figure 3.1a: Average percentage of votes cast and trust per country

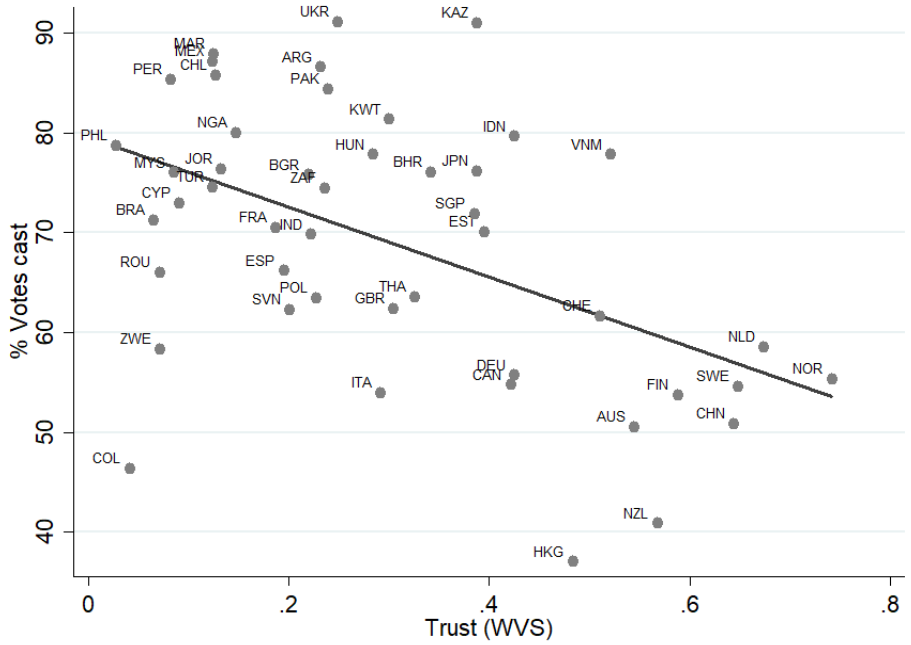
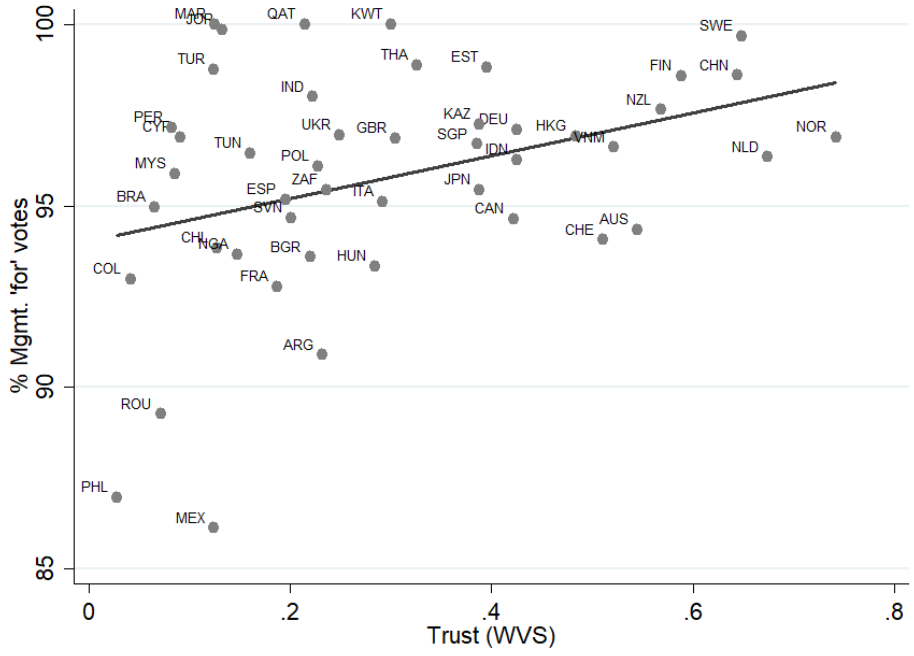


Figure 3.1a: Average percentage of votes "for" management and trust per country



3.2.2. Baseline Regression Results

The second step in our empirical analysis consists of estimating firm-level regressions of voting measures on our variable of interest, *Trust*, and control variables. Table 2 contains the results for the regressions explaining the variable *% Votes cast*. The regression in column (1) includes *Trust* as well as year- and industry-fixed effects. The regressions in columns (2) and (3) are augmented by the firm and ownership characteristics, and the firm, ownership, and country characteristics, respectively. The regression in column (4) additionally includes sub-continent fixed effects. We re-estimate this regression adding *Avg trust foreign investors* as another control variable, which is defined as the ownership-weighted average level of societal trust that prevails in the countries where the firm's largest foreign investors are headquartered. We add this variable to address the concern that shareholder voting may be primarily determined by the level of trust in the countries where the firm's investors are located rather than the level of trust in the (investee) firm's country of headquarters. The results are shown in column (5). In all five regressions, the coefficient on *Trust* is negative and significant at the 1% level (with p-values < 0.000). This result provides support for H1 that the percentage of votes cast is lower in high-trust countries. In terms of the economic significance, an increase in *Trust* by one standard deviation is associated with a decrease in *% Votes cast* of 6.2 to 8.5 percentage points (or at least 30 percent of one standard deviation).

With regard to the control variables, we find that the percentage of votes cast is greater for older and larger firms, and for firms with a lower stock return. It is also greater for firms with a higher percentage of shares held by large foreign investors and those with more concentrated ownership (i.e., Herfindahl Top 10 investors). Conversely, the percentage of votes cast is lower for firms with greater free float. While overall institutional-investor ownership relates negatively to the percentage of votes cast, this percentage is higher if the largest investor is an institutional investor. In contrast, the percentage of votes cast is lower at special shareholder meetings. The results for firm size and concentrated ownership are in line with Van der Elst (2011). Interestingly, most of the country characteristics are significant. Particularly, the Djankov et al. (2008) ADRI and ASDI indices have a significantly positive relation with the percentage of votes cast.

Table 3.2: Trust and votes cast

This table reports the results from OLS regressions of *% Votes cast* on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). All variables are defined in Appendix 3.A. Robust t-statistics (in parentheses) are based on standard errors clustered by firm. Results remain significant when we cluster standard errors by country (see Appendix 3.M). All specifications include year and industry fixed effects as well as largest investor type and legal origin fixed effects. Investor type classifications are: bank, corporation, family, government, institutional and management. Legal origins are: English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Dep. variables:	**% Votes cast**				
	(1)	(2)	(3)	(4)	(5)
Trust	**-41.765*** (-32.14)**	**-35.605*** (-23.44)**	**-31.091*** (-6.25)**	**-41.747*** (-6.15)**	**-41.372*** (-6.04)**
3-year avg ROE		3.510*** (4.37)	3.261*** (3.94)	3.183*** (3.93)	3.319*** (4.00)
Firm age		0.039*** (2.98)	0.026* (1.80)	0.027** (1.99)	0.031** (2.26)
Leverage		-1.885 (-1.60)	-2.251* (-1.87)	-0.792 (-0.67)	-0.498 (-0.40)
Ln(market cap)		1.517*** (8.61)	2.189*** (10.60)	2.286*** (11.01)	2.217*** (10.48)
MTB		0.001 (0.66)	0.002 (0.43)	0.001 (0.18)	0.000 (0.08)
Special meeting		-4.731*** (-15.09)	-3.774*** (-12.25)	-3.317*** (-11.09)	-3.307*** (-10.55)
Stock return		-1.147*** (-3.29)	-0.785** (-2.23)	-0.692** (-1.98)	-0.897** (-2.46)
% Free float		-0.256*** (-13.40)	-0.244*** (-12.12)	-0.261*** (-12.94)	-0.253*** (-12.19)
% Shares foreign investors		0.109*** (8.46)	0.108*** (7.72)	0.107*** (7.64)	0.108*** (7.76)
% Shares institutional investors		-0.243*** (-10.88)	-0.285*** (-11.80)	-0.279*** (-11.50)	-0.260*** (-10.61)
% Shares largest investor		0.004 (0.09)	0.036 (0.92)	0.031 (0.76)	0.028 (0.69)
Herfindahl Top 10 investors		0.001*** (3.52)	0.001*** (3.10)	0.001*** (2.75)	0.001*** (2.99)
Djankov ADRI			3.319*** (7.57)	-3.268*** (-3.75)	-3.122*** (-3.55)
Djankov ASDI			11.228** (2.37)	-5.467 (-0.83)	-4.393 (-0.66)
GDP per capita			0.000** (2.18)	0.000*** (2.65)	0.000** (2.49)
Market cap/GDP			-0.011*** (-5.61)	0.007** (2.31)	0.006** (2.04)
Rule of law			-1.839 (-1.49)	5.566*** (3.73)	5.645*** (3.73)
Avg trust foreign investors					-3.816 (-1.62)
Sub-continent FE	No	No	No	Yes	Yes
Djankov legal origin FE	No	No	Yes	Yes	Yes
Largest investor type FE	No	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	20,716	14,085	13,383	13,383	12,202
Adjusted R-squared	0.219	0.406	0.431	0.455	0.452

Panel A of Table 3.3 reports the results for the regressions explaining *% Mgmt. "for" votes*. In terms of the control variables, the five columns in Table 3.3 are equivalent to the five columns in Table 3.2. As per H2, throughout columns (1) to (5) the coefficient on *Trust* is positive and significant at the 1% level (with p-values < 0.000), consistent with more shareholder support for management proposals in countries with higher levels of societal trust. This result is supported by the evidence presented in Appendix 3.B, which shows the results of regressions similar to those in column (4) of Table 3.3, but with the different alternative measures of shareholder dissent as the dependent variable. We find the coefficient on *Trust* to be significantly negative when we use the percentage of votes against management (*% Mgmt. "against" votes*), the indicator variables *Dissent* and *Mgmt. proposal rejected*, and the count variable *# Shareholder proposals* as the dependent variable. That is, societal trust is associated with significantly lower shareholder dissent and engagement. In terms of economic significance, an increase in *Trust* by one standard deviation relates to an increase in *% Mgmt. "for" votes* of up to 30 percent of a standard deviation and a decrease in the likelihood of at least one management proposal being rejected (*Mgmt. proposal rejected*) of 5%.

As to the control variables, the percentage of votes in support of management increases with the stock return and ROE but decreases with the percentages of ownership by large foreign investors and institutional shareholders, as well as the free float. Support for management is also lower at special shareholder meetings.

The analysis in Panel B of Table 3.3 focuses on explaining the support management obtains for the four main types of management-initiated proposals. The regressions, which are estimated for each proposal type separately, are similar to those in column (4) of Panel A, except for the dependent variable. The results suggest that societal trust matters for director-related (column (1)), capitalization-related (column (2)), and compensation-related proposals (column (4)). For the three types of proposals, the coefficient on *Trust* is significant at the 1% level (with p-values < 0.000). In contrast, we find no evidence that trust matters for M&A-related proposals (column (3)). These proposals tend to be easier for (small) shareholders to assess due to the high press coverage of M&As, which makes trust less likely to be a determinant of the percentage of votes in support of such proposals. Further, Panel C of Table 3.1 suggests that many M&A-related proposals originate from China, India, and Japan, which have relatively high average percentages of votes in support, but very different levels of trust ranging from 0.22 for India to 0.64 for China.

Table 3.3: Trust and management "for" votes

This table reports the results from OLS regressions of *% Mgmt. "for" votes* on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting (Panel A). *Directors*, *Capitalization*, *M&A* and *Compensation* is the average percentage of votes cast in support of the respective management proposal types (Panel B). *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). All variables are defined in Appendix 3.A. Robust t-statistics (in parentheses) are based on standard errors clustered by firm. Results remain significant when we cluster standard errors by country (see Appendix 3.N). All specifications include year and industry fixed effects as well as largest investor type and legal origin fixed effects. Investor type classifications are: bank, corporation, family, government, institutional and management. Legal origins are: English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: % Mgmt. "for" votes

Dep. variables:	% Mgmt. "for" votes				
	(1)	(2)	(3)	(4)	(5)
Trust	**5.723*** (18.50)**	**4.332*** (10.07)**	**4.929*** (4.19)**	**12.809*** (9.02)**	**12.718*** (9.00)**
3-year avg ROE		0.399*** (2.75)	-0.004 (-0.02)	-0.025 (-0.18)	-0.015 (-0.10)
Firm age		-0.009*** (-4.21)	-0.000 (-0.03)	0.003 (1.15)	0.003 (1.39)
Leverage		0.057 (0.11)	-0.361 (-0.75)	-0.481 (-1.01)	-0.537 (-1.07)
Ln(market cap)		0.135*** (3.78)	-0.023 (-0.60)	-0.048 (-1.28)	-0.040 (-1.03)
MTB		0.000 (0.59)	-0.000 (-0.13)	-0.000 (-0.10)	-0.000 (-0.10)
Special meeting		-0.300*** (-2.73)	-0.725*** (-6.41)	-0.718*** (-6.25)	-0.732*** (-6.04)
Stock return		0.406*** (4.76)	0.377*** (4.47)	0.403*** (4.82)	0.404*** (4.77)
% Free float		-0.034*** (-8.90)	-0.022*** (-5.61)	-0.022*** (-5.76)	-0.025*** (-6.41)
% Shares foreign investors		-0.022*** (-7.34)	-0.016*** (-5.02)	-0.017*** (-5.38)	-0.018*** (-5.44)
% Shares institutional investors		-0.035*** (-7.32)	-0.041*** (-7.06)	-0.039*** (-6.56)	-0.040*** (-6.81)
% Shares largest investor		0.005 (0.75)	0.003 (0.38)	0.002 (0.26)	0.002 (0.29)
Herfindahl Top 10 investors		0.000 (1.01)	0.000* (1.79)	0.000* (1.91)	0.000 (1.62)
Djankov ADRI			-0.050 (-0.27)	0.897*** (3.78)	0.819*** (3.54)
Djankov ASDI			-1.104 (-1.32)	3.300*** (2.61)	2.883** (2.32)
GDP per capita			-0.000*** (-2.92)	-0.000*** (-4.75)	-0.000*** (-4.82)
Market cap/GDP			0.001** (2.13)	-0.004*** (-4.24)	-0.004*** (-4.37)
Rule of law			-0.522 (-1.37)	0.241 (0.53)	0.301 (0.66)
Avg trust foreign investors					0.601 (1.11)
Sub-continent FE	No	No	No	Yes	Yes
Djankov legal origin FE	No	No	Yes	Yes	Yes
Largest investor type FE	No	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	39,436	27,645	25,838	25,838	24,295
Adjusted R-squared	0.024	0.051	0.083	0.091	0.091

Panel B: % Mgmt. "for" votes by proposal type

Dep. variables:	**Directors**	**Capitalization**	**M&A**	**Compensation**
	(1)	(2)	(3)	(4)
Trust	**6.561*** **	**10.361*** **	**6.102**	**29.946*** **
	(4.40)	**(4.61)**	**(1.15)**	**(7.15)**
Country controls	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	18,027	8,470	9,512	7,495
Adjusted R-squared	0.084	0.125	0.013	0.146

Finally, we re-estimate the regressions shown in Table 3.2 and Table 3.3 with the dependent variables *% Votes cast* and *% Mgmt. "for" votes* adjusted by the percentage of votes held by the 50 largest investors. We make this adjustment because, in contrast to small shareholders, large investors are much more likely to exercise their votes and may also be directly involved in the management of the firm (as this is often the case in family firms). As shown in Appendix 3.E, we find the coefficient on *Trust* to remain significant at the 5% level or better and to have the expected sign when used to explain adjusted *% Votes cast* and adjusted *% Mgmt. "for" votes*.

3.2.3. Societal Trust, Shareholder Voting, and Differences Across Corporate Ownership

If societal trust indeed lowers shareholders' expected (net) monitoring benefits by mitigating their concerns of being expropriated, we expect the relation between societal trust and shareholder voting to vary with corporate ownership. In particular, this relation should be more pronounced for firms with a greater share of small (retail) shareholders who typically have lower monitoring benefits and are less capable of bearing the costs of monitoring (Grossman and Hart (1980), Shleifer and Vishny (1986)). Consequently, if societal trust reduces the expected monitoring benefits, the costs of monitoring will more likely exceed the relatively low benefits for small shareholders inducing them not to vote. Furthermore, we expect the relation between societal trust and shareholder voting to be less pronounced for (large) foreign shareholders for the following two reasons. First, such shareholders are likely to be less aware of the levels of societal trust that prevail in foreign countries. Second, they tend to be institutional investors, which are better capable of bearing the costs of monitoring.

Table 3.4 presents the results of regressions that test the aforementioned cross-sectional predictions. We re-estimate the regressions shown in column (4) of Table 3.2 and Table 3.3, which we augment by the variable *High free float* (set to one for firm-years where *% Free float* is above the sample median, and zero otherwise) and its interaction with *Trust*. Alternatively, we use the variable *High foreign ownership* (set to one for firm-years where *% Shares foreign investors* is above the sample median, and zero otherwise) and its interaction with *Trust*. Columns (1) to (4) show the results of regressions with the dependent variable being *% Votes cast* while in columns (5) to (8) we use *% Mgmt. "for" votes*. To account for unobserved time-invariant heterogeneity across countries, columns with even numbers include country (instead of sub-continent) fixed effects, which can be used as we are primarily interested in the interaction of *Trust* with the two measures of corporate ownership. The results in Table 3.4 provide empirical support for our cross-sectional predictions and are robust to the inclusion of

country fixed effects. Specifically, we find the relation between societal trust and shareholder voting to be significantly more (less) pronounced for firms with a higher free float (stake held by foreign investors), consistent with differences in net monitoring benefits across shareholders and with shareholders being less aware of the levels of trust in foreign countries.

Table 3.4: Trust, shareholder voting, and differences across corporate ownership (with country fixed effects)

This table reports the results from OLS regressions of *% Mgmt. "for" votes* and *% Votes cast* on *Trust* (which is the trust level of the country where the firm has its headquarters), the interaction of *Trust* and *High free float* (which is a binary variable equal to one if the firm's free float is above the sample median) or the interaction of *Trust* and *High foreign ownership* (which is a binary variable equal to one if the share of foreign investors among the firm's top 50 largest investors is above the sample median), firm characteristics, ownership characteristics and country characteristics. Firm, ownership, and country controls (not displayed) are similar to those used in Table 3.2 and 3.3. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). All variables are defined in Appendix 3.A. Robust t-statistics (in parentheses) are based on standard errors clustered by firm. Results for *Trust*High foreign ownership* remain significant when we cluster standard errors by country (see Appendix 3.O.). All specifications include year and industry fixed effects as well as fixed effects for the type of largest investor. Investor type classifications are: bank, corporation, family, government, institutional and management. Specifications with even (odd) numbers also include country fixed effects (legal origin and sub-continent fixed effects). Legal origins are: English, French and German. Below each sub-sample analysis, hypothesis tests for equality of coefficients are reported. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

	% Votes cast				**% Mgmt. "for" votes**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trust	-38.364***		-55.972***		12.068***		14.296***	
	(-5.72)		(-7.77)		(8.32)		(9.46)	
High free float	-2.736*	-3.615**			-0.829**	-0.758**		
	(-1.85)	(-2.49)			(-2.35)	(-2.16)		
Trust * High free float	**-6.538****	**-5.057****			**1.573****	**1.436***		
	(-2.56)	**(-2.01)**			**(2.14)**	**(1.95)**		
High foreign ownership			-7.987***	-7.272***			0.686*	0.665*
			(-6.31)	(-5.78)			(1.86)	(1.86)
Trust * High foreign ownership			**25.400*****	**23.728*****			**-2.898*****	**-2.878*****
			(8.50)	**(7.91)**			**(-3.52)**	**(-3.57)**
Country FE	No	**Yes**	No	**Yes**	No	**Yes**	No	**Yes**
Subcontinent FE	Yes	No	Yes	No	Yes	No	Yes	No
Country controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	No	Yes	No	Yes	No	Yes	No
Largest investor FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,383	13,380	13,383	13,380	25,838	25,837	25,838	25,837
Adj. R-squared	0.462	0.471	0.465	0.473	0.091	0.093	0.092	0.095

3.2.4. Trust, Shareholder Voting, and Firm Performance: Implications for Optimal Monitoring

The previous results raise the question of whether firm management exploits reduced shareholder monitoring, i.e., less voting participation and dissent voting, in high-trust countries or whether the costs of cheating discourage managerial misbehavior. More generally, does the optimal (i.e., value-maximizing) level of shareholder monitoring depend on prevailing levels of societal trust?

We expect that low voting participation and too little dissent with firm management reflect a lack of managerial oversight by shareholders and may therefore relate negatively to firm stock performance and value. However, as per H3, we expect this negative relation to be weaker in high-trust countries where managers, due to the higher costs of cheating, are more likely to act in the interests of the shareholders, independent of the degree of shareholder monitoring.

Table 3.5 reports the regressions explaining the stock return, and alternatively Tobin's Q, in year t+1. The explanatory variables are *Trust*; an indicator variable that equals one if *% Votes cast* is below (*% Mgmt. "for" votes* is above) the sample median, and zero otherwise; and the interaction between the two previous variables, i.e., *Trust*Low votes cast* (*Trust*High mgmt. "for" votes*). As in Section 3.2.3, a benefit from this analysis is that the aforementioned interactions allow us to include country fixed effects to control for unobserved heterogeneity across countries. As above, we present the results of regressions estimated with and without country fixed effects.

Columns (1) to (4) of Table 3.5 focus on the *Low votes cast* indicator variable whereas columns (5) to (8) focus on the *High mgmt. "for" votes* indicator variable. In line with La Porta et al. (1997) and Bloom, Sadun and Van Reenen (2012), who report that societal trust improves the performance and productivity of large organizations, we find *Trust* to be positively associated with firm performance and value while being significant at the 1% level. As expected, the percentage of votes cast being low and the percentage of votes in support of management being high (i.e., below-median participation and dissent) show a significantly negative relation with stock return and Tobin's Q in t+1. That is, a (potential) lack of shareholder monitoring has a negative association with future firm performance and value. Importantly, the coefficient on *Trust*Low votes cast* is significant (at the 1% level) and positive. This result suggests that the negative association of low shareholder monitoring with firm performance and value is weaker in high-trust countries where managers are less likely to act against the interests of their shareholders. In a similar vein, the negative relation of (too) little

dissent voting with firm performance and value is also weaker in high-trust countries as indicated by the positive and significant (at the 1% level) coefficient on *Trust*High mgmt. "for" votes*. All results remain qualitatively similar when we control for country fixed effects in columns (2), (4), (6) and (8), which suggests that our results for societal trust do not depend on time-invariant country-specific heterogeneity.[35]

The results in Table 3.5 indicate that the potentially negative effects of low monitoring are mitigated or even cancelled out in high-trust countries. Specifically, the negative coefficient on *Low votes cast* is cancelled out by the positive coefficient on *Trust*Low votes cast* for values of *Trust* equal to 0.51 (*Stock return*$_{t+1}$) and 0.46 (*Tobin's* Q_{t+1}). The negative impact of *High mgmt. "for" votes* is cancelled out for values of *Trust* of 0.31 (*Stock return*$_{t+1}$) and 0.13 (*Tobin's* Q_{t+1}). These numbers are based on the estimations without country fixed effects and relate to the median (mean) value for *Trust* of 0.28 (0.45).

Overall, our results suggest that in high-trust countries managers do not exploit the greater discretion associated with low levels of shareholder monitoring, consistent with the high costs of cheating sustaining a trust equilibrium as theorized in the literature (e.g., Anderlini and Terlizzese (2017)). For some high-trust countries, lower levels of shareholder monitoring via voting are even associated with higher future stock performance and firm value. This finding is in line with theory according to which less control, which signals trust, may be beneficial as well as with the positive effects of managerial discretion (e.g., Adams, Almeida and Ferreira (2005)). We conclude that the optimal level of shareholder monitoring depends on the level of general trust in others (including management) that prevails in a country, which indicates that it can be rational for shareholders to reduce their voting efforts in high-trust countries.

[35] As a robustness test (not tabulated), we regress *% Votes cast* on *Trust*. We then use the residuals from this regression instead of *% Votes cast* in the regressions in Table 3.5. We do likewise for *% Mgmt. "for" votes*. We find qualitatively similar results to those reported in Table 3.5. This finding suggests that the results in Table 3.5 are not driven by a correlation between *Trust* and the two indicator variables for low monitoring intensity.

Table 3.5: Trust, shareholder voting, and future firm performance (with country fixed effects)

This table reports the OLS regression results of *Stock return* and *Tobin's Q* on *Trust*, *Low votes cast*, and the interaction term *Trust * Low votes cast* (columns (1) to (4)). This table also reports the OLS regression results of *Stock return* and *Tobin's Q* on *Trust*, *High mgmt. "for" votes*, and the interaction term *Trust * High mgmt. "for" votes* (columns (5) to (8)). All regressions include firm characteristics, ownership characteristics, and country characteristics as control variables. Firm, ownership, and country controls (not displayed) are similar to those used in table 3.2 and 3.3. The regressions shown in columns (2), (4), (6) and (8) additionally include country fixed effects. *High mgmt. "for" votes* is an indicator variable, which is equal to one if *% Mgmt. "for" votes* is larger than its sample median value. *Low votes cast* is an indicator variable, which is equal to one if *% Votes cast* is smaller than its sample median value. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). All variables are defined in Appendix 3.A. Robust t-statistics (in parentheses) are based on standard errors clustered by firm. Results remain significant when we cluster standard errors by country (see Appendix 3.P). All specifications include year and industry fixed effects as well as fixed effects for the type of largest investor. Investor type classifications are: bank, corporation, family, government, institutional and management. Specifications with even (odd) numbers also include country fixed effects (legal origin fixed effects). Legal origins are: English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

	% Votes cast				**% Mgmt. "for" votes**			
Dep. variables:	**Stock return$_{t+1}$**		**Tobin's Q$_{t+1}$**		**Stock return$_{t+1}$**		**Tobin's Q$_{t+1}$**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trust	0.445***		1.131***		0.357***		0.643***	
	(4.09)		(4.10)		(4.46)		(3.60)	
Low votes cast	-0.115***	-0.118***	-0.353***	-0.386***				
	(-3.05)	(-3.20)	(-4.43)	(-4.85)				
Trust * Low votes cast	**0.226*** **	**0.211*** **	**0.862*** **	**0.864*** **				
	(3.16)	**(2.98)**	**(5.10)**	**(5.07)**				
High mgmt. "for" votes					-0.105***	-0.083***	-0.125**	-0.187***
					(-4.39)	(-3.39)	(-2.38)	(-3.41)
Trust * High mgmt. "for"					**0.338*** **	**0.296*** **	**0.775*** **	**0.881*** **
					(6.56)	**(5.65)**	**(6.76)**	**(7.43)**
Country FE	No	**Yes**	No	**Yes**	No	**Yes**	No	**Yes**
Country controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	No	Yes	No	Yes	No	Yes	No
Largest investor FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,376	13,376	13,537	13,537	25,826	25,826	25,777	25,777
Adj. R-squared	0.138	0.165	0.297	0.314	0.112	0.137	0.251	0.253

3.3. Cross-country Robustness Tests

In this (and the next) section, we conduct a number of empirical tests to confirm the robustness of our results and to attempt to establish a causal link between societal trust and shareholder voting. When we re-estimate the regressions from our main analyses and all robustness tests using standard errors clustered at the country (or U.S.-county) level instead of the firm level, our results remain qualitatively unchanged as shown in Appendix 3.M to 3.T. The other tests are presented in more detail in Sections 3.3.1 to 3.3.3 below.

3.3.1. Terrorist Attacks as Transitory Negative Shocks to Societal Trust

As a first robustness test, we use terrorist attacks as transitory negative shocks to societal trust to identify the link between the latter and shareholder voting. In this regard, Ahern (2018) argues that terrorism has an impact on people's behavior primarily via a psychological channel. He uses the WVS trust measure to provide causal evidence that terrorist attacks lead to a decline in societal trust. Given that such attacks are surprise events, which are unrelated to individual firm characteristics and typically cause no severe economic damage, they likely cause exogenous reductions in societal trust levels in the affected countries, while they arguably do not affect any relations between firm management (or controlling shareholders) and (minority) shareholders. Hence, we can mitigate concerns that societal trust is related to interpersonal specific trust, which may drive our results.

To mitigate concerns that institutional or economic responses to terrorism affect shareholder voting behavior, i.e., that terrorist attacks do not affect voting directly by reducing societal trust, we focus on shareholder meetings taking place just shortly after terrorist attacks. To further mitigate concerns of economic responses to terrorism, we exclude terrorist attacks with negative average stock market responses, which may indicate that investors expect such terrorist attacks to have economic consequences that could directly affect voting decisions.

We obtain information on terrorist attacks (i.e., the country and date of the attack, as well as the number of fatalities) for all countries in our sample from the Global Terrorism Database provided by the University of Maryland. We only consider terrorist attacks with at least one fatality. We define a firm's shareholder meeting (both AGM and special meeting) as treated if it is held within two weeks or, alternatively, one month of a terrorist attack in the country where the firm is headquartered. The respective treatment indicator variables are denoted *Terror (2 weeks)* and *Terror (1 month)*. We find that between 20% and 42% of the

firm-year observations in our sample are treated. For both terror indicator variables, we also use the interaction with the natural logarithm of the number of fatalities, i.e., *Terror*ln(fatalities)*, as an explanatory variable.

As we cannot exploit short-term changes in societal trust, we estimate the reduced form regressions where we regress the variables *% Votes cast* and *% Mgmt. "for" votes* one by one on the aforementioned treatment variables as well as country-fixed effects, industry-fixed effects, and year-fixed effects. If terrorist attacks indeed reduce societal trust, we expect to find a positive (negative) regression coefficient on *Terror (2 weeks)*, *Terror (1 month)*, and *Terror*ln(fatalities)* when used to explain *% Votes cast* (*% Mgmt. "for" votes*). Table 3.6 presents the regression results. Panel A shows the results for all terrorist attacks. Panel B shows the results from regressions where we only define shareholder meetings as treated if the stock market reaction to a terrorist attack was not negative (as denoted by the subscript AR>0).

The results in Panel A and Panel B, which are qualitatively similar, support our expectations. Except for column (3) of Panel A, the coefficients on *Terror (2 weeks)* and *Terror (1 month)* as well as *Terror (2 weeks)*ln(fatalities)* and *Terror (1 month)*ln(fatalities)* are all statistically significant (at the 5% level or better) and all have the expected sign. The evidence implies that shareholder meetings taking place shortly after terrorist attacks are associated with more votes cast and fewer votes in support of management compared to the shareholder meetings of firms in the same country, industry, and year that are not treated.[36] That is, an exogenous reduction in societal trust is associated with increased shareholder monitoring via voting. Importantly, we find that the treatment effect, as reflected by the magnitude of the regression coefficients on *Terror*ln(fatalities)*, increases with the number of fatalities caused by the terrorist attacks. The treatment effect is also stronger for shareholder meetings if less time has passed since the terrorist attack. This evidence suggests that our results are unlikely to be spurious but are driven by the exposure to a terrorist attack. Overall, the results confirm our previous findings and support the notion that societal trust affects shareholder voting.

[36] We note that people might fear repeat terrorist attacks in their country and therefore avoid any kind of public meeting, which would have a negative effect on voter turnout at shareholder meetings after such attacks. More generally, terrorist attacks might distract people from their tasks (e.g., due to high media coverage). These effects run against us finding a significant coefficient on *Terror* when explaining *% Votes cast* and *% Mgmt. "for" votes*. We also note that a potential strategic manipulation of the AGM agenda by the management or board in reaction to terrorist attacks cannot explain our results because the agenda must be set and announced in advance of the meeting.

Table 3.6: Terrorist attacks as transitory negative shocks to trust

This table reports the results from OLS regressions of *% Votes cast* and *% Mgmt. "for" votes* on different measures of terrorist attacks. Following Ahern (2018), we use terrorist attacks as exogenous shocks that cause a temporary reduction in trust in others. We define shareholder meetings as treated if a terrorist attack took place within two weeks / one month before the meeting date, which mitigates concerns that institutional or economic responses to terrorism cause our results. *Terror* is an indicator variable that equals one if there was a terrorist attack with at least one fatality within two weeks (i.e., *Terror (2 weeks)*) or one month (i.e., *Terror (1 month)*) of the shareholder meeting (i.e., both AGM and special meeting) in the respective company's country of headquarters. *Terror*ln(# fatalities)* is an interaction term of the variable *Terror* with the number of people that died in the respective terrorist attack (fatalities). Panel B shows results for the same variables based on a sample that excludes terrorist attacks with a negative stock market reaction to further mitigate concerns that economic responses to terrorism cause our results. *% Votes cast* is the average percentage of votes cast irrespective the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. All regressions include a constant (not reported). All variables are defined in Appendix 3.A. Robust t-statistics (in parentheses) are based on standard errors clustered by firm. Results remain significant when we cluster standard errors by country (see Appendix 3.Q). All specifications include year, industry and country fixed effects. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: All terrorist attacks

	% Votes cast				**% Mgmt. "for" votes**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Terror (2 weeks)	**0.835*** (2.70)**				**-0.330*** (-3.29)**			
Terror (2 weeks)*ln(# fatalities)		**0.471*** (3.51)**				**-0.114*** (-2.63)**		
Terror (1 month)			**0.417 (1.40)**				**-0.232** (-2.31)**	
Terror (1 month)*ln(# fatalities)				**0.284** (2.45)**				**-0.123*** (-3.08)**
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20,712	20,712	20,712	20,712	39,433	39,433	39,433	39,433
Adjusted R-squared	0.287	0.288	0.287	0.287	0.075	0.075	0.075	0.075

Panel B: Excluding terrorist attacks with negative average stock market reaction

	% Votes cast				% Mgmt. "for" votes			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Terror (2 weeks)$_{AR>0}$	**1.088*** (3.30)**				**-0.310*** (-3.27)**			
Terror (2 weeks)$_{AR>0}$*ln(# fatalities)		**0.490*** (3.50)**				**-0.109*** (-2.65)**		
Terror (1 month)$_{AR>0}$			**0.689** (2.22)**				**-0.199** (-2.19)**	
Terror (1 month)$_{AR>0}$*ln(# fatalities)				**0.292** (2.51)**				**-0.114*** (-3.12)**
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20,712	20,712	20,712	20,712	39,433	39,433	39,433	39,433
Adjusted R-squared	0.287	0.288	0.287	0.287	0.075	0.075	0.075	0.075

3.3.2. Instrumental Variables Regressions

To further strengthen the causal link between societal trust and shareholder voting behavior, we conduct two 2SLS instrumental variables (IV) approaches following the extant literature. First, consistent with Putnam (1993), La Porta et al. (1997), and Zak and Knack (2001), we instrument *Trust* by the percentage of the population of each country in the year 1900 that followed a hierarchical religion, i.e., Roman Catholicism or Islam. Data on religious denominations in 1900 is provided by Enke (2019). We denote the instrumental variable *% Hierarchical religion in 1900*.[37] We use this instrument because hierarchical religions, as pointed out by Putnam (1993) and La Porta et al. (1997), have discouraged the formation of societal trust as the vertical bond with the church has undermined the horizontal bond with fellow citizens. That is, in countries shaped by hierarchical religions, people have spent more time with the church and less with other people (especially those of other religious denominations), which has hampered the development of societal trust. Hence, we expect the variable *% Hierarchical religion in 1900* to have a negative relation with *Trust*.

According to the literature , religion can be considered exogenous to societal trust as it is more elemental than culture. Arguably, this reasoning should hold for the relation between religions in 1900 and today's trust levels. Importantly, Smets and van Ham (2013) find in their meta-analysis that having a religious denomination does not significantly affect voter turnout in elections. Hence, in the context of our study, religious denomination from a century ago appears to be a valid instrument for societal trust.

Table 3.7 reports the results of the first- and second-stage regressions from the 2SLS approach. Panel A shows the results based on using *% Hierarchical religion in 1900* as the instrument. As expected and confirming the results from the extant literature, *% Hierarchical religion in 1900* is statistically significant at the 1% level and negatively related to *Trust* in the first-stage regressions (see columns (1) and (3)). The results of the second-stage regressions, which include the instrumented country trust, i.e., *Trust (IV)*, on the right-hand side, confirm our previous results (see columns (2) and (4)). The coefficient on *Trust (IV)* is significant at the 1% level in both second-stage regressions and has the expected sign. Hence, societal trust is still associated with significantly lower shareholder monitoring via voting, i.e., a significantly lower percentage of votes cast and a significantly higher percentage of votes in favor of

[37] In untabulated regressions, we find similar results using current levels of religious denomination as used in the extant literature. Current data on religious denomination is retrieved from WVS (question: "Do you belong to a religion or religious denomination? If yes, which one?").

management. Besides the empirical support for the relevance condition, the Kleibergen-Paap F-statistic and the ratio of the IV to OLS estimates Jiang (2017), i.e., *Trust (IV)/Trust*, support the quality of our IV estimation. The latter ratio suggests that the economic significance of instrumented societal trust, *Trust (IV)*, is comparable to that for *Trust* in the baseline regressions from Section 3.2.2.

Our results are upheld when we use an alternative instrument for societal trust. Specifically, we use the concentration of the five most frequent surnames in a country, denoted *Herfindahl index top 5 surnames*. A lack of surname concentration is a general measure of societal fragmentation, particularly in terms of ethnicity, race, and religion, which undermines societal trust (see Alesina and La Ferrara (2002), Guiso, Sapienza and Zingales (2011)). Accordingly, we expect a positive relation between this instrument and the variable *Trust* as less societal fragmentation, i.e., a greater concentration of surnames in a country, is expected to foster societal trust. We present the results of the alternative IV regression approach in Panel B of Table 3.7. We find indeed a significantly positive relation between the instrument *Herfindahl index top 5 surnames* and *Trust*. Supporting our previous results, we also find a significantly negative relation between instrumented societal trust, i.e., *Trust (IV)*, and shareholder monitoring via voting. Again, the Kleibergen-Paap F-statistic and the ratio of the IV to OLS estimates (*Trust (IV)/Trust*) support the quality of our IV estimation.

Table 3.7: Instrumental variable (IV) regressions

This table reports the coefficients from instrumental variable regressions. Specifications (1) and (3) show the results from the first-stage regressions. Following Putnam (1993), La Porta et al. (1997), and Zak and Knack (2001), we instrument *Trust* with *% Hierarchical religion in 1900* (Panel A). Additionally, we instrument *Trust* with the *Herfindahl index of top 5 surnames* in a given country (Panel B). *% Hierarchical religion in 1900* is the proportion of people in a country in the year 1900 who belonged to the religious groups of Roman Catholics or Muslims. Specifications (2) and (4) in both panels report the second-stage results, with *Trust* being instrumented by *% Hierarchical religion in 1900* (Panel A) or by the *Herfindahl index of top 5 surnames* in a given country. The instrumented *Trust* variable is denoted *Trust (IV)*. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). All variables are defined in Appendix 3.A. Robust t-statistics (in parentheses) are based on standard errors clustered by firm. Results remain significant when we cluster standard errors by country (see Appendix 3.R). All specifications include sub-continent, year and industry fixed effects as well as fixed effects for the type of largest investor and for legal origins. Investor type classifications are: bank, corporation, family, government, institutional and management. Legal origins are: English, French and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: % Hierarchical religions in 1900

Dep. variables:	First Stage **Trust**	Second Stage **% Votes cast**	First Stage **Trust**	Second Stage **% Mgmt. "for" votes**
	(1)	(2)	(3)	(4)
% Hierarchical religion in 1900	**-0.563*** **		**-0.523*** **	
	(-22.33)		**(-35.14)**	
Trust (IV)		**-65.516*** **		**14.992*** **
		(-7.66)		**(6.40)**
3-year avg ROE	-0.000	3.254***	-0.000	0.042
	(-0.41)	(3.96)	(-0.39)	(0.26)
Firm Age	0.000***	0.030**	-0.000	0.004
	(2.80)	(2.15)	(-1.33)	(1.48)
Leverage	-0.001	-0.773	0.001	-0.587
	(-0.69)	(-0.63)	(1.64)	(-1.16)
Ln(market cap)	0.000	2.286***	0.000	-0.017
	(0.51)	(10.47)	(0.09)	(-0.44)
MTB	0.000	0.000	-0.000	-0.000
	(0.84)	(0.11)	(-0.90)	(-0.12)
Special meeting	-0.002***	-2.957***	-0.001**	-0.731***
	(-4.82)	(-9.82)	(-2.03)	(-6.13)
Stock return	0.001***	-0.507	0.000	0.324***
	(3.02)	(-1.42)	(1.11)	(3.72)
% Free float	0.000	-0.269***	0.000	-0.021***
	(0.59)	(-13.10)	(1.24)	(-5.12)
% Shares foreign investors	0.000***	0.118***	0.000***	-0.019***
	(2.61)	(7.97)	(2.92)	(-4.98)
% Shares institutional investors	-0.000**	-0.296***	0.000***	-0.029***
	(-2.31)	(-12.11)	(3.29)	(-4.69)
% Shares largest investor	-0.000	0.040	0.000	0.006
	(-0.03)	(0.97)	(1.16)	(0.79)
Herfindahl Index Top 10 Investors	-0.000	0.001**	-0.000	0.000
	(-0.10)	(2.57)	(-0.30)	(1.20)
Djankov ADRI	-0.061***	-6.691***	-0.067***	1.372***
	(-9.00)	(-5.18)	(-12.54)	(3.19)
Djankov ASDI	0.025	-10.321	0.042**	3.867***
	(0.86)	(-1.35)	(2.27)	(2.95)
GDP per capita	0.000***	0.000***	0.000***	-0.000***
	(6.81)	(4.49)	(14.27)	(-4.13)
Market cap/GDP	-0.000	-0.037***	0.000**	0.000
	(-0.63)	(-3.09)	(2.26)	(0.03)
Rule of Law	-0.036***	6.788***	-0.009	-0.018
	(-6.94)	(4.18)	(-1.53)	(-0.04)
Sub-continent FE	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Kleibergen-Paap F-statistic	498.43		1,234.86	
Ratio Trust (IV) / Trust		1.57		1.17
Observations	12,689		23,490	
Adj. R-squared		0.477		0.100

Panel B: Herfindahl index of top 5 surnames by country

Dep. variables:	First Stage **Trust**	Second Stage **% Votes cast**	First Stage **Trust**	Second Stage **% Mgmt. "for" votes**
	(1)	(2)	(3)	(4)
Herfindahl index top 5 surnames	**20.115***** **(43.54)**		**20.220***** **(66.81)**	
Trust (IV)		**-32.499***** **(-3.53)**		**11.739***** **(5.23)**
3-year avg ROE	-0.000	3.198***	-0.000	0.050
	(-0.80)	(3.10)	(-1.14)	(0.29)
Firm Age	0.000**	-0.008	0.000**	0.003
	(2.06)	(-0.41)	(2.37)	(1.10)
Leverage	0.001	-1.921	0.001	-0.632
	(0.93)	(-1.29)	(1.45)	(-1.12)
Ln(market cap)	-0.000	2.328***	0.000***	-0.006
	(-0.47)	(7.83)	(2.77)	(-0.13)
MTB	0.000	-0.009	0.000	-0.000
	(1.64)	(-1.59)	(0.37)	(-0.18)
Special meeting	-0.001***	-2.731***	-0.002***	-0.846***
	(-3.58)	(-8.46)	(-7.35)	(-6.06)
Stock return	-0.001***	-0.787*	0.002***	0.331***
	(-3.07)	(-1.75)	(8.77)	(3.33)
% Free float	-0.000	-0.277***	0.000	-0.019***
	(-0.07)	(-10.47)	(0.14)	(-4.14)
% Shares foreign investors	0.000	0.174***	-0.000	-0.019***
	(0.49)	(9.15)	(-0.63)	(-4.70)
% Shares institutional investors	0.000*	-0.331***	-0.000	-0.027***
	(1.86)	(-10.17)	(-0.42)	(-3.79)
% Shares largest investor	0.000	0.062	0.000	0.007
	(1.10)	(1.11)	(1.27)	(0.80)
Herfindahl Index Top 10 Investors	-0.000	0.001**	-0.000	0.000
	(-1.59)	(2.29)	(-1.22)	(1.25)
Djankov ADRI	-0.150***	-0.414	-0.153***	0.779**
	(-66.30)	(-0.38)	(-80.77)	(2.13)
Djankov ASDI	-0.473***	-22.259*	-0.305***	7.498***
	(-11.82)	(-1.83)	(-15.19)	(2.91)
GDP per capita	0.000***	0.000***	0.000***	-0.000**
	(24.05)	(4.34)	(27.78)	(-2.25)
Market cap/GDP	-0.000***	-0.064**	-0.001***	-0.007
	(-6.82)	(-2.50)	(-20.73)	(-1.38)
Rule of Law	0.186***	2.891	0.206***	-0.057
	(17.49)	(1.25)	(29.50)	(-0.09)
Sub-continent FE	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Kleibergen-Paap F-statistic	1,895.54		4,464.21	
Ratio Trust (IV) / Trust		0.78		0.92
Observations	9,380		20,111	
Adj. R-squared		0.482		0.103

3.3.3. Type of Trust and Governance Quality

It could be the case that our variable of interest, *Trust*, correlates with people's confidence (or trust) in specific institutions, which might be the true driver of shareholder voting behavior. Hence, we re-estimate the regressions in column (4) of Table 3.2 and Table 3.3 by including measures of the confidence that respondents to WVS have in (1) companies, (2) the government, and (3) the press. Confidence in companies captures the average reputation of firms in a country, which might reduce the need for monitoring by shareholders. Confidence in the government captures the quality of a country's laws and regulations, above and beyond the country controls already included in our regressions (i.e., ADRI, ASDI, legal origin, and rule of law). Confidence in the press accounts for the governance-enabling role of the media. Respondents were asked to state their level of confidence on a Likert scale where 1 stands for 'none at all', 2 for 'not very much', 3 for 'quite a lot', and 4 for 'a great deal'. To facilitate the interpretation of the results, we reversed the original Likert scale from WVS (which assigned a value of 1 for 'a great deal'). For each of the three levels of confidence, we use the average score for each country.

We present our regression results in Appendix 3.F. Columns (1) to (5) show the results of the regressions explaining *% Votes cast* whereas columns (6) to (10) show the results of the regressions explaining *% Mgmt. "for" votes*. The regressions confirm our previous results as we still find a negative (positive) coefficient on *Trust*, significant at the 1% level, when used to explain *% Votes cast* (*% Mgmt. "for" votes*). When all three additional controls are added to the regressions, both confidence in companies and confidence in the government are statistically significant in the regression explaining *% Votes cast* (see column (4)) whereas only confidence in companies is significant when explaining *% Mgmt. "for" votes* (see column (9)). These results are intuitive as good corporate reputations, i.e., high confidence in companies, is expected to reduce shareholder monitoring. Finally, the effect of societal trust is also upheld when we use the variable *Residual trust* to explain votes cast and votes in support of management in columns (5) and (10), respectively. *Residual trust* is the residual from the regression of *Trust* on the three measures for confidence in companies, the government, and the press.[38]

[38] In additional robustness tests (not tabulated), we re-estimate the regressions shown in column (4) of Table 3.2 and Table 3.3 by replacing the variable *Trust* by two alternative measures of social capital: (1) the first principal component of three separate WVS measures, i.e., i) claiming government benefits to which one is not entitled, ii) avoiding fares on public transport, iii) accepting bribes (see Guiso, Sapienza and Zingales (2011)), and (2) the average annual number of parking violations per diplomat in New York City (see Fisman and Miguel

It may also be the case that *Trust* proxies for firm governance quality (beyond the controls used in our baseline regression model). To address this concern, we re-estimate the regression in column (4) of Table 3.2 and Table 3.3 including additional controls for corporate governance, namely the firm's ESG rating, ISS voting recommendations, total CEO compensation, and the ratio of the CEO's cash to total compensation.[39] The results are shown in Appendix 3.G. ESG ratings (columns (1) and (6)) and ISS recommendations (columns (2) and (7)) are used as controls for the firm's overall governance quality, whereas the two controls based on CEO compensation (columns (3) and (8) as well as columns (4) and (9)) are used to address the specific concern that societal trust relates to shareholder voting because it affects CEO compensation and rent extraction. In this regard, provide evidence for the U.S.A. that social capital other than societal trust is associated with lower CEO total and equity pay. Our results for the variable *Trust* are upheld when we include these additional governance controls, as well as when we include the ISS recommendations and the two controls for management compensation at once (columns (5) and (10)). In line with the literature (e.g., Cai, Garner and Walkling (2009)), ISS recommendations relate significantly and positively to votes in support of management, while the other additional controls have no explanatory power for shareholder voting in general.[40]

(2007)). While these measures generally confirm our results for *Trust*, we find that the latter is either the only or the most significant variable when it is included in the regressions together with the two alternative measures for social capital.

[39] ESG ratings are retrieved from Thomson Reuters Eikon, ISS voting recommendations are from ISS Voting Analytics, and CEO compensation data is retrieved from Capital IQ. Data on CEO compensation and, particularly, on ESG ratings is only available for a limited number of companies and countries.

[40] A related concern is that societal trust correlates with country-level governance factors or cultural aspects, which may impact corporate governance. To address this concern, we re-estimate the regressions in column (4) of Table 3.2 and Table 3.3 controlling for the country governance indicators provided by the World Bank (i.e., control of corruption, government effectiveness, political stability, regulatory quality, and voice and accountability) and for the cultural factors proposed by Hofstede (2001). Regarding the latter, we control for power distance to take into account that governance may be less stringent in more hierarchical countries, as suggested by Urban (2019). We also control for Hofstede's individualism measure because individualism might exacerbate the free-rider problem of voting, leading to a lower percentage of votes cast. The results also highlight trust, hierarchy, and individualism as important cultural factors. The results for the additional controls for country governance indicators are presented in Appendix 3.H and those for the Hofstede factors are shown in Appendix 3.I. The coefficient on *Trust* remains significant at the 1% level when we include these controls. As shown Appendix 3.J., our results are also robust to accounting for different levels of stock market participation across countries (using data from Giannetti and Koskinen (2010)). This test addresses the concern that societal trust relates to shareholder voting only because it increases stock market participation (see Guiso, Sapienza and Zingales (2008)) and hence the fraction of less sophisticated (retail) investors who tend to monitor less.

3.4. U.S. Evidence: County-level Inherited Societal Trust and Institutional Investor Voting

To rule out that our results reflect unobserved country characteristics and to make sure that voting is comparable across firms (and countries), we repeat our main analysis for a single country, the U.S.A. We use voting data from ISS Voting Analytics for all Russell 3000 firms for the years 2003 to 2015, which we merge with accounting and stock price data from Compustat and CRSP. We examine the relation between shareholder voting and the level of societal trust that prevails in the U.S. county where the firm is headquartered.[41] To account for differences in shareholder voting (and other unobserved heterogeneity) across U.S. states, we control for U.S.-state fixed effects.

As most U.S. inhabitants are descendants of immigrants to the U.S.A., this enables us to use an ancestry-based measure of societal trust, which is preferable econometrically because such a measure is, at least in part, exogenous to regional factors influencing the formation of societal trust. In this regard, Algan and Cahuc (2010, p.2060) find that *"inherited trust of descendants of US immigrants is significantly influenced by the country of origin […] of their forebears"*. Accordingly, we measure societal trust via the variable *Inherited trust*, which is the weighted average level of inherited societal trust that prevails in a U.S. county. This weighted average is calculated by multiplying the share of each ancestry/nationality in a county (based on the 2000 U.S. Census) with the trust level reported in WVS for the respective nationality/country.

Table 3.8 presents the U.S. county-level evidence. Panel A shows that mean and median *Inherited trust* is 36%, which is almost identical to the WVS (wave six) trust level of 35% for the U.S.A. In terms of voting, mean (median) *% Mgmt. "for" votes* is 93% (96%), consistent with the numbers reported in the extant literature (e.g., Cai, Garner and Walkling (2009)), while mean (median) *% Votes cast* is 79% (83%). This high level of shareholder participation can be attributed to the high institutional ownership (median of 64%) of U.S. firms in conjunction with institutional investors' fiduciary duties towards their clients (see Investment Advisers Act of 1940 and Employee Retirement Security Act (ERISA) of 1974). The high level of participation and the institutional setting run against us finding a relation between *Inherited trust* and *% Votes cast*.

[41] To reduce country-specific heterogeneity, we also re-estimate the regressions shown in Table 3.2 and Table 3.3 only for the European countries in our sample. We find qualitatively similar results (see Appendix 3.K.).

Panel B presents the results from regressions of *% Votes cast* and *% Mgmt. "for" votes* on *Inherited trust* and the same firm and ownership controls as in our baseline regressions from Table 3.2 and Table 3.3, along with county-level controls, i.e., *% College*, *Household income*, *Median age*, *Non-white population*, *Population density*, and *Population growth*, defined in Appendix 3.A. Besides U.S.-state fixed effects, all regressions include (two-digit SIC) industry and year fixed effects. Corroborating our cross-country results, we find that *Inherited trust* is significantly associated with less shareholder voting participation and more votes in support of management proposals.[42] The results for *% Votes cast*, however, lose statistical significance when we account for the ownership structure of U.S. firms (see column (3)), which indicates the importance of the combination of high ownership by U.S. institutional investors and their extensive fiduciary duties.

[42] When we re-estimate the regressions shown in Table 3.2 and Table 3.3 with an extended sample that includes the U.S.A. (by merging the U.S. data with the non-U.S. ISS Voting Analytics Global database), U.S. firms account for up to 36% of all observations. More importantly, our results remain qualitatively similar. See Appendix 3.L.

Table 3.8: Inherited trust and voting – U.S. county-level evidence (with state fixed effects)

This table reports OLS regression results of *% Votes cast* and *% Mgmt. "for" votes* on *Inherited trust*, firm characteristics, county characteristics, and ownership characteristics for a sample of U.S. Russell 3000 companies between 2003 and 2015. *Inherited trust* is the weighted average WVS trust level of a populations' ancestors in the county where the firm is headquartered. *% Votes cast* is the average percentage of votes cast irrespective of the voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by firm. Results remain significant when we cluster standard errors by U.S. county (see Appendix 3.S). All specifications include year, industry, and U.S. state fixed effects as well as fixed effects for the type of largest investor. Investor type classifications are: bank, corporation, family, government, institutional and management. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Summary statistics

	p50	p25	p75	Mean	Std. Dev.	N
Inherited trust	0.362	0.342	0.375	0.362	0.034	36,027
Voting characteristics						
% Votes cast	0.829	0.728	0.892	0.790	0.147	35,551
% Mgmt. "for" votes	0.963	0.923	0.984	0.934	0.108	36,027
Firm characteristics:						
3-year avg ROE	0.081	-0.002	0.144	0.027	0.467	23,551
Firm age	15	7	27	19.407	17.133	23,551
Leverage	0.361	0.178	0.598	0.407	0.270	23,551
Ln(market cap ($))	6.706	5.636	7.907	6.804	1.731	23,551
MTB	1.387	1.056	2.084	1.859	1.328	23,551
Special meeting				0.049	0.216	23,551
Stock return	0.127	-0.120	0.389	0.201	0.573	23,551
Ownership characteristics:						
% Free float	22.878	11.360	37.898	26.130	19.280	23,344
% Shares foreign investors	1.528	0.385	4.211	3.864	7.714	23,344
% Shares institutional investors	64.355	45.826	79.019	61.044	23.669	23,344
% Shares largest investor	10.773	7.946	15.456	14.984	13.097	23,344
Herfindahl Top 10 investors	323.082	199.726	539.396	611.445	999.193	23,344
Largest investor = bank				0.000	0.000	23,344
Largest investor = corporation				0.097	0.296	23,344
Largest investor = family				0.160	0.367	23,344
Largest investor = government				0.001	0.032	23,344
Largest investor = management				0.006	0.076	23,344
Largest investor = inst. investor				0.717	0.451	23,344
County characteristics:						
% College	61.500	53.500	67.500	60.605	9.264	23,551
Household income	42,162.700	36,041.560	52,797.680	57,627.930	18,687.730	23,551
Median age	42.500	42.500	42.500	42.304	0.820	23,551
Non-white population	0.311	0.195	0.434	0.314	0.152	23,551
Population density	1,351.783	647.331	2,173.495	3,958.310	10,223.250	23,551
Population growth	0.007	0.002	0.013	0.008	0.010	23,551

Panel B: Regression results

Dep. variables:	**% Votes cast**			**% Mgmt. "for" votes**		
	(1)	(2)	(3)	(4)	(5)	(6)
Inherited Trust	**-0.265*** (-3.04)**	**-0.181* (-1.87)**	**0.041 (0.55)**	**0.116*** (2.61)**	**0.132** (2.49)**	**0.152*** (2.91)**
3-year avg ROE		0.008*** (2.98)	0.006*** (2.97)		0.001 (1.08)	0.001 (1.05)
Firm age		-0.001*** (-7.07)	0.000 (0.06)		-0.000 (-1.07)	-0.000 (-0.83)
Leverage		-0.043*** (-5.15)	-0.037*** (-5.31)		-0.000 (-0.11)	0.001 (0.18)
Ln(market cap)		0.022*** (20.90)	0.019*** (24.36)		0.004*** (9.77)	0.005*** (11.72)
MTB		-0.009*** (-6.48)	-0.006*** (-6.09)		0.001 (1.17)	0.001 (0.94)
Special meeting		-0.138*** (-21.30)	-0.136*** (-21.11)		-0.147*** (-17.98)	-0.145*** (-17.84)
Stock return		0.001 (0.26)	0.001 (0.40)		0.005*** (4.84)	0.005*** (4.42)
% College		-0.000 (-0.38)	-0.000 (-0.79)		0.000 (0.14)	0.000 (0.36)
Household income		0.000 (0.08)	-0.000 (-0.46)		-0.000 (-0.17)	-0.000 (-0.19)
Median age		0.002 (0.83)	0.001 (0.43)		-0.000 (-0.04)	0.000 (0.22)
Non-white population		0.020 (1.30)	0.004 (0.35)		0.010 (1.30)	0.009 (1.13)
Population density		-0.000 (-1.51)	-0.000 (-0.76)		-0.000 (-0.65)	-0.000 (-1.00)
Population growth		0.348** (2.51)	0.249** (2.03)		0.036 (0.40)	0.046 (0.51)
% Free float			-0.003*** (-19.12)			-0.000*** (-2.85)
% Shares foreign investors			-0.001*** (-5.69)			0.000 (0.93)
% Shares institutional investors			0.000* (1.70)			-0.000*** (-3.53)
% Shares largest investor			0.000 (1.20)			0.000 (1.48)
Herfindahl Top 10 investors			0.000 (1.51)			0.000 (0.92)
Largest investor type FE	No	No	Yes	No	No	Yes
U.S. state FE	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	35,551	23,289	23,086	36,027	23,551	23,344
Adjusted R-squared	0.222	0.324	0.446	0.036	0.160	0.165

As a final test, we examine the voting behavior of U.S. institutional investors in their U.S. investee firms using N-PX filing data. Since 2003, the Securities and Exchange Commission (SEC) has mandated U.S. institutional investors to report their voting decisions, which are filed via form N-PX. This data enables us to address an additional concern about our study. That is, by focusing on the voting behavior of U.S. institutional investors in their U.S. investee firms, we can rule out that differences in investor type or cultural differences between firms and investors, which have been shown to affect investment decisions , explain our results. Thereby, we are able to answer the question of whether the relation between societal trust and shareholder voting holds for professional investors.[43]

To analyze the N-PX filing data, we use the Russell 3000 firm-level data from the previous test (see Table 3.8). We aggregate voting decisions of U.S. investment companies at the investee-firm level. Specifically, for each firm we take all management proposals into account and calculate the percentage of "for" votes (i.e., *% Mgmt. "for" votes (N-PX)*) as the ratio of the number of "for" votes to the number of all votes cast by U.S. institutional investors. For U.S. investee firms, we measure societal trust at the county level as in the previous analysis.

Table 3.9 presents the results for the voting behavior of U.S. institutional investors between 2003 and 2015. The table shows the results of regressions of *% Mgmt. "for" votes (N-PX)* on the variable of interest, *Inherited Trust*, along with the same controls as used before. Accounting for unobserved U.S.-state level heterogeneity, we find the coefficient on *Inherited Trust* to be positive and significant at the 1% level. Thus, U.S. institutional investors vote more in support of management-initiated proposals at shareholder meetings of investee firms headquartered in U.S. counties with higher levels of societal trust.

Overall, the evidence in this section supports our main finding that shareholder monitoring via voting is lower when societal trust is higher. Importantly, the evidence rules out that unobserved heterogeneity across different countries or investors drives our results.

[43] In this context, the results in Table 3.4 show that the negative relation between societal trust and shareholder monitoring via voting is also statistically significant for the sub-sample of firms with below-median free float, suggesting that societal trust also matters to more sophisticated institutional investors. In this regard, Iliev and Lowry (2015) find that only about 25% of U.S. mutual funds rely almost entirely on ISS voting recommendations. Societal trust may matter to institutional investors as they typically hold large portfolios including numerous investee firms, which makes the optimal allocation of monitoring and voting efforts an important task for them, and/or because they may be able to make use of the predictive power of the trust-voting relation enabling them to steer their monitoring efforts to firms where their voting matters more and is more valuable.

Table 3.9: Voting behavior of U.S. institutional investors

This table reports regression results of *% Mgmt. "for" votes (N-PX)* on *Trust*, county characteristics, firm characteristics, and ownership characteristics for a sample of U.S. Russell 3000 firms between 2003 and 2015. *Inherited trust* is the weighted average WVS trust level of a populations' ancestors in the county where the firm is headquartered. *% Mgmt. "for" votes (N-PX)* is the average percentage of votes cast by U.S. institutional investors (extracted from N-PX filings) in support of management-initiated proposals at a given shareholder meeting. All regressions include a constant (not reported) as well as year, U.S. state and industry fixed effects and fixed effects for the type of largest investor. Investor type classifications are: bank, corporation, family, government, institutional and management. Robust t-statistics (in parentheses) are based on standard errors clustered by firm. Results remain significant when we cluster standard errors by U.S. county (see Appendix 3.T). ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Dep. variable:	**% Mgmt. "for" votes (N-PX)**	
	(1)	(2)
Inherited Trust	**0.289*** **	**0.347*** **
	(3.86)	**(4.18)**
3-year avg ROE	0.002	0.002
	(0.83)	(0.95)
Firm Age	0.000**	0.000**
	(2.38)	(2.35)
Leverage	-0.013*	-0.013*
	(-1.73)	(-1.68)
Ln(market cap)	0.012***	0.012***
	(14.19)	(13.91)
MTB	-0.002*	-0.002
	(-1.69)	(-1.60)
Special meeting	-0.003	-0.003
	(-1.53)	(-1.43)
Stock return	-0.049***	-0.049***
	(-8.19)	(-8.24)
% Free float	0.000	0.000*
	(1.47)	(1.65)
% Shares foreign investors	-0.000	-0.000
	(-1.35)	(-1.26)
% Shares institutional investors	0.001***	0.001***
	(5.05)	(5.20)
% Shares largest investor	-0.001***	-0.001***
	(-2.90)	(-2.65)
Herfindahl Index Top 10 Investors	-0.000*	-0.000**
	(-1.88)	(-2.01)
% College		-0.000
		(-0.39)
Household income		-0.000
		(-0.16)
Median age		0.001
		(0.64)
Non-white population		0.012
		(0.89)
Population density		-0.000
		(-0.46)
Population growth		0.023
		(0.17)
Largest investor type FE	Yes	Yes
U.S. state FE	**Yes**	**Yes**
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	22,029	21,732
Adjusted R-squared	0.146	0.146

3.5. Conclusion

To the best of our knowledge, this is the first study to provide empirical evidence on the relation between societal trust in others and shareholder monitoring via voting, i.e., the votes cast at shareholder meetings and the percentage of votes in support of management proposals. In line with the extant literature, we hypothesize that in high-trust countries shareholders are less concerned about being expropriated and therefore spend less time on monitoring their holdings.

We find consistent evidence that societal trust is associated with fewer votes cast at shareholder meetings and more votes in favor of management proposals. Our results are robust to the inclusion of extensive sets of control variables, including country (county) fixed effects. They are also robust to a battery of robustness tests including terrorist attacks as transitory shocks to societal trust, instrumental variables regressions, the use of inherited societal trust at the U.S.-county level, and an analysis of U.S. institutional investor voting in their U.S. investee firms. Importantly, we also find the negative relation between low levels of shareholder monitoring on the one side and future firm performance and value on the other side to be weaker in high-trust countries. Hence, shareholder monitoring tends to create less value in high-trust countries where managers are less likely to exploit the general trust and discretion shareholders grant them, consistent with trust being an equilibrium phenomenon.

Our study generates important information for investors, policy makers, and scholars. In particular, it helps explain the significant differences in voting participation by shareholders across countries and provides information on the conditions in which shareholder participation is greater. It further provides information on when shareholder voting is more likely to create value. This information is important for investors, who benefit from understanding how agency problems and the value of voting vary across countries. In particular, investors may use this information to optimally allocate their voting efforts. Our evidence is also important for regulators intent on increasing minority shareholder involvement in publicly listed firms to ensure representative voting results and effective monitoring. Finally, we provide the first systematic evidence that average shareholder voting participation across countries worldwide equals only about 60%, which has important implications for governance research and practice.

Chapter 4

Trust and Team Productivity

Team diversity has become increasingly important for modern organizations. Team diversity's main advantage is the broadening of perspectives which increases the amount of information available. This increase in information, eventually, increases decision quality. However, team diversity is often described as a double-edged sword, as it does not create only numerous opportunities but also some challenges for the decision-making process.[44] For instance, Lazear (1999) discusses the trade-off between benefits and costs of diversity. In his model, team diversity enhances productivity because heterogeneous agents combine different sets of task-relevant information and skills. An increase in overall skill and information leads to increased team productivity. Contrary, diversity creates costs because communication and coordination become more difficult. Only if the benefits of larger skill and information sets are higher than the costs of increased communication and coordination, team productivity is positively related to team diversity.[45]

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[44] See, e.g., Homberg and Bui (2013) for a review on top management team diversity and a discussion about inconclusive empirical findings with respect to the effect of diversity on performance.

[45] Jehn, Northcraft and Neale (1999) argue to divide diversity into informational, social category and value diversity. Informational diversity increases information sets and may arise through diversity in terms of education and work experience. Social category diversity potentially increases relationship conflicts within groups because group members show favoritism towards members of the same social category. The authors argue that group interaction may be disrupted because of discrimination and self-segregation. Value diversity arises with differences in opinion about task, goal or target of the group. For other empirical studies concerned with costs and benefits of diversity see e.g., Alesina and La Ferrara (2005) for ethnic diversity, Goergen, Limbach and Scholz (2015) for age diversity and Kim and Starks (2016) for gender diversity.

In this paper, I focus on one aspect of diversity that represents the costs-side of diversity, i.e., differences in culturally inherited levels of trust among team members. Trust is one of the most important cultural factors prevailing in a society.[46] Numerous studies show that trust relates positively to economic growth and economic productivity. The reason is that trust can act as a substitute for monitoring. With a decreased need for costly non-productive monitoring, agents face lower coordination costs and can spend more time on production (Zak and Knack (2001)). On the contrary, differences in trust deter economic transactions and inhibit the creation of value (e.g., Ahern, Daminelli and Fracassi (2015)). Overall, there is some evidence that trust has an effect on economic decisions and, consequently, decisions' value for organizations.

Whether a decision is valuable depends on benefits and costs that this decision entails. Coordination costs play a significant role for overall costs. One important decision for organizations is the decision of how to allocate capital. For equity funds, this decision requires managers' ideas on which stocks to buy and sell. Corporate managers e.g., need to generate product ideas, then decide which product to produce and how much to invest accordingly. The process to generate investment ideas is increasingly a function of inputs from multiple team members. Becker and Murphy (1992, p.1141) state that "coordination costs depend on whether workers trust each other". In an environment where coordination costs are high because managers do not trust each other's input, the implementation of valuable ideas becomes more difficult. For example, differences in trust among team members can lead to more frequent and costly exchanges. Furthermore, lacking trust might hinder reaching a consensus on investment ideas altogether which increases the probability that valuable ideas are completely dismissed. In the end, performance will suffer in such an environment due to the lack of decisive actions. Therefore, differences in trust, which decrease cooperation between managers, lead to fewer new investment ideas and less valuable feedback that inhibit synergies in the development of ideas. Coordination costs that arise from differences in trust can be critical in competitive industries where knowledge and information is crucial.

In line with this argumentation, differences in trust, which inevitably arise in ethnically diverse teams, should ultimately hurt an organization's performance. To test this conjecture, I use the mutual fund industry as the ideal real-world laboratory. It offers a useful setting to study the effect of team diversity for three reasons.

[46] Cultural trust is the level of trust one member of society holds against strangers (see, e.g., Sapienza, Toldra-Simats and Zingales (2013), Zak and Knack (2001)).

First, human capital is crucially important for mutual funds (Baks (2003)). In the universe of actively managed mutual funds, managers make investment decisions on behalf of their clients. These decisions are increasingly a product of collaboration among several managers. The institutional structure of mutual funds is convenient because for every fund the responsible managers can be identified. Within the same asset management company I can identify the individuals who manage the same funds. Moreover, additional information such as demographics and educational background is relatively easy to obtain. Second, in recent years funds are predominately managed by investment teams with multiple decision-makers. This structural development is mainly due to several advantages. More managers increase the likelihood of new ideas, act as counterparts for valuable feedback and spur synergies in the generation of investment ideas. The most significant challenge for this kind of management structure is increased coordination costs among group members.[47] At the same time funds' team members have diverse experiences and backgrounds, which influence the way teams work together. Third, productivity of teams is directly observable through the investment returns of the funds managed. This is a clear advantage compared to corporate studies, in which productivity is observed on aggregate for the whole corporation and it is difficult to attribute decisions to individuals. The insights in this setting are also transferable to the corporate universe where diversity of top management teams is also important to consider.

To show that differences in trust among managers are negatively associated with team productivity, I use data on U.S. fund managers' cultural origin. Most studies rely on data from international firms to study the impact of culture on financial outcomes (for a review see e.g., Karolyi (2016)). Using cultural origins and studying the question in an institutionally homogenous setting, i.e., U.S. asset management industry makes the empirical analysis cleaner by removing heterogeneity at the institutional level, e.g., differences in regulation.[48] Data on trust for each cultural origin is from the well-established World Values Survey (WVS) (Inglehart et al. (2014)).

Using an extensive set of fund and team-level control variables, I show that higher distance in trust is associated with lower risk-adjusted investment returns. An increase in the distance in trust by one standard deviation is associated with a decrease in risk-adjusted performance by 2 bps per month (four-factor alpha). This effect is economically meaningful

[47] See, e.g., Harvey et al. (2021) for more advantages and disadvantages of team-managed funds compared to single managed funds.

[48] See, e.g., Nguyen, Hagendorff and Eshraghi (2018) for a recent study that uses cultural origins in an institutional U.S. setting.

and suggests that organizations should take cultural differences of trust into account when allocating managers to teams.

I attempt to establish a causal link between distance in trust and investment returns with a difference-in-differences analysis. In particular, Ahern (2018) shows that terror attacks lead to a reduction in trust. Using this relation, I employ information on terror attacks in the U.S. and limit the analysis to attacks that happen near managers' work location and where I can link at least one fund managers' origin to the origin of the perpetrators. It is important to note that only funds are treated that consist of at least one treated origin and at least of one non-treated origin. In this case, terror attacks have an impact on the distance in trust and do not only shift the level proportionately. It is also important to state that treated managers themselves are in no way related to the attack other than through that shared origin and there is no evidence that other managers in the same team might think of this relation. However, previous research shows that group members often suffer unconsciously from in-group bias and, therefore, group members have favorable opinions towards other members of the same group while being indifferent or having negative opinions of members outside their group (Hewstone, Rubin and Willis (2002), Tajfel (1982)). Consistently, I find that teams suffering from this temporary exogenous change in distance in trust experience 2 bps per month lower returns in the twelve month period after the attack. Moreover, results indicate that this effect vanishes over the following year, suggesting only short-term damages to trust and consequently performance. As trust is stable over time and changes only occur over very long periods, single terror attacks are likely to be only transitory shocks to trust.[49]

The first part of the paper documents the negative relation between team members' differences in trust and team productivity. Theoretically, differences in trust increase coordination costs and thereby reduce cooperation between team members. In case of equity mutual fund managers, the main product of cooperation are investment ideas, i.e., which stocks to buy and which stocks to sell at which point of time and quantity. To establish confidence that the observed underperformance is in line with the derived theoretical argument of increased coordination costs I perform three additional sets of analyses. The following tests study the *cooperation channel*, i.e., that it is lower cooperation between team members which results in the documented reduction of team productivity.

[49] See, e.g., Algan and Cahuc (2010) who show that immigrants level of trust is significantly related to ancestral trust. For more evidence on the transmission of trust see Dohmen et al. (2012), Guiso, Sapienza and Zingales (2006), Tabellini (2008) and Uslaner (2008).

First, I focus on funds' deviations from their benchmark indices. Investment funds' default portfolio consists of the index that these funds are benchmarked to. Managers attempt to outperform their benchmark index and this outperformance is only possible when managers deviate from their benchmark index. Cremers and Petajisto (2009) show that funds with higher active share, i.e., overall greater deviations from their benchmark index, are more likely to outperform. In team-managed funds the decision to implement investment ideas, i.e., deviate from the benchmark index, requires cooperation and coordination between responsible fund managers. Managers who do not cooperate sufficiently are unlikely to find consensus. As trust differences increase coordination costs, I expect that those funds exhibit lower levels of active share because they are less likely to implement investment ideas and consequently do not deviate from their benchmark index. Results confirm this expectation and show that distance in trust is negatively related to Active Share.

Second, I focus on individual team members who simultaneously single-manage a different equity fund. Trades in this fund represent the individual manager's investment ideas. Consistent with the hypothesis of decreased cooperation with respect to exchanging ideas, I show that team funds with a higher distance in trust are less likely to implement individual team members' investment ideas. These funds are less likely to mimic their team-member's trades than funds with a lower distance in trust. In conclusion, these tests suggest that the theoretically predicted loss in cooperation with respect to investment ideas is an important reason behind lower productivity of high-trust-distance team funds.

Third, I make use of the heterogeneity of funds and fund management companies. Berk and Green (2004) show that funds suffer from decreasing returns to scale. The reason is that managers must trade in undervalued securities without moving the price adversely to achieve high returns. Chen et al. (2004) empirically document that fund size negatively impacts fund returns and show that this is mainly due to stocks' liquidity. In conclusion, larger funds need to find more valuable investment ideas than smaller funds. As larger funds require more investment ideas, these funds are more dependent on managers' cooperation and teamwork to develop those ideas. Differences in trust between team members should therefore be more detrimental for larger funds than for smaller funds. At the family level, large management companies can rely on a vast pool of internal and external research analysts who provide investment advice.[50] Contrary, smaller families are more dependent on fund managers' cooperation because they have fewer resources to spend. Therefore, distance in trust between

[50] See, e.g., Bhojraj, Cho and Yehuda (2012) who argue that larger families experience preferential treatment from sell-side research analysts.

managers should have a stronger effect on teams organized within a smaller family. Consistent with this argumentation, I find that the negative effect of distance in trust is stronger for larger funds and smaller families.

With respect to team characteristics, I expect teams consisting of the same members for a longer time to develop personalized trust, which mitigates the effect of any cultural distance in trust. Moreover, larger teams face ex-ante higher coordination costs because more people are involved in the decision-making process and it is harder to find consensus (e.g., Cheng (2008)). I expect that distance in trust to be even more detrimental in an environment with high ex-ante coordination costs. My findings are also consistent with this argumentation and suggest that distance in trust is more detrimental for productivity in teams with shorter common tenure and a larger number of members. Results on the cross-section of funds indicate that funds that require more investment ideas and more cooperation are likely to suffer more from larger differences in trust among team members.

In robustness tests, I address alternative explanations that other cultural (such as individualism or power distance) or diversity measures (gender, age, tenure) drive my results. I also find no evidence of reduced opportunistic behavior (e.g., window dressing), which makes it unlikely that increased peer monitoring intensity (instead of decreased tendency to share ideas) leads to costs that lower fund performance.

This paper contributes to three strands of the literature. First, it contributes to studies concerned with the impact of culture on economic and financial decisions. Studies in business and economics are increasingly concerned with the impact of culture on individual and organizational decisions. However, researchers in finance have been relatively slow in discovering this importance for financial decisions (Karolyi (2016)). Studies concerned with cultural trust show that trust enhances cooperation and thereby is positively related to economic growth and organizational efficiency (e.g., Bloom, Sadun and Van Reenen (2012), Knack and Keefer (1997), La Porta et al. (1997)). In equilibrium trust can work as a substitute for costly monitoring because usually it is not exploited. Furthermore, cultural trust is closely related to, and often used as an approximation for, social capital. Social capital can be defined as “those persistent and shared beliefs and values that help a group overcome the free rider problem in the pursuit of socially valuable activities” (Guiso, Sapienza and Zingales (2011), p.419). This definition implies that communities with more values that foster cooperation have more social capital. In a financial setting, previous studies show that social capital is negatively related to agency problems, e.g., corporate tax evasion or excess management compensation (Hasan et al.

(2017), Hoi, Wu and Zhang (2019)). Importantly, trust is persistent and transmitted from one generation to the next.[51] In the model by Tabellini (2008) parents transmit cooperative values and beliefs to their children. The resources spend on this transmission can be considered investment in social capital. In addition, empirical evidence demonstrates the inter-generational transmission of trust (see e.g., Dohmen et al. (2012), Uslaner (2008)). That is why immigrants might have a different level of trust compared to other people in their new local environment. In this case, the transmitted values and beliefs may deviate from the new local equilibrium, which in turn may be detrimental to the individual. Butler, Giuliano and Guiso (2016) show that people who emigrated from a high-trust country to a low-trust country (i.e., distance in trust is higher) are more likely to be cheated than people who emigrated from a low-trust country (i.e., distance in trust is lower). In the financial literature, Ahern, Daminelli and Fracassi (2015) show that the volume and value of cross-border M&A deals is negatively related to the distance in trust between acquirers' and targets' country of origin. Synergy gains, as the most important value driver in M&As, require coordination among employees of the newly merged firms. Differences in the employees' level of trust are detrimental to coordination and therefore to the realization of potential synergies. While this finding is based on international evidence, other studies show that also cultural heritage has economic consequences, e.g., for performance under competitive pressure (Nguyen, Hagendorff and Eshraghi (2018)), for corporate disclosure attributes (Brochet et al. (2019)), and for managers' risk preferences (Pan, Siegel and Wang (2017)). This study contributes to the literature of cultural influences on financial decisions by showing how differences in the culturally inherited level of trust among team members affect economic decision-making and lowers productivity.

Second, the paper adds to the understanding of diversity in teams. Previous literature studies different types of diversity. Adams and Ferreira (2009) show that more gender-diverse boards spend more effort on monitoring. This increased monitoring leads to a higher sensitivity of chief executive turnover to stock returns. Kim and Starks (2016) add to this literature and show that women bring unique functional skills to the boardroom that have positive implications for corporate board performance and firm value. Giannetti and Zhao (2019) is similar to this paper in that the authors study the impact of ancestral diversity. They show that more ancestral diverse boards are associated with more innovative firms that differentiate strongly from their industry peers. However, they also find that more diverse boards make less predictable decisions, which could result in an inefficient decision-making process. In the

[51] The fact that trust is transmitted from one generation to the next is also important with respect to names-classifying algorithms to infer cultural origin.

literature on mutual funds Bär, Niessen and Ruenzi (2009) analyze different diversity measures and find that management diversity's impact on fund performance depends on the type of diversity. They find that work experience and education diversity result in higher performance. Gender diversity leads to lower fund performance. Other studies build indices that consider various types of diversity to study any general diversity effect on firm performance (see, e.g., Anderson et al. (2011), Bernile, Bhagwat and Yonker (2018)). Evans et al. (2021) find that politically diverse teams outperform politically homogenous teams. They attribute this outperformance to improved decision-making because of increased perspectives and increased peer monitoring. Overall, findings with respect to the relation between diversity and performance are mixed. This paper adds to this strand of the literature by demonstrating how one specific aspect of ancestral diversity (i.e., trust differences) implicates team performance. This paper also shows how differences in trust affect the decision-making process through reduced cooperation in fund managers' most important task of implementing investment ideas.

Third, this study adds insights to the literature on mutual fund team structure and its effects on productivity. There is an extensive literature that compares single- to team-managed funds with respect to various research questions. Foremost, this strand of the literature is concerned with fund performance and how team-managed perform relative to single-managed funds. Bär, Kempf and Ruenzi (2011) show that team-managed funds make fewer extreme decisions in their portfolios leading to less extreme performance outcomes. Prather and Middleton (2002) and Bliss, Potter and Schwarz (2008) do not find significant differences in performance between team and single-managed funds. On the other hand, Patel and Sarkissian (2017) as well as Adams, Nishikawa and Rao (2018) find better performance for team funds. They analyze how mutual funds' board structure relates to team performance and suggest a positive performance effect of teams because increased monitoring reduces the free-rider problem associated with team funds. These results corroborate with findings from Han, Noe and Rebello (2017) who additionally control for self-selection of especially talented fund managers to single managed funds. Dass, Nanda and Wang (2013) show that single managed funds have significant market timing skills compared to team managed funds because team funds face higher coordination costs. However, team-managed funds exhibit higher stock selection skills. This is in line with challenges and benefits of team funds discussed above and highlights the importance of team members' coordination. Teams are superior in stock selection because of better idea generation and discussion but fail to time the market because of higher coordination costs.

Other studies do not focus on performance but study different aspects of management team structure in the mutual fund setting. Harvey et al. (2021) analyze management structures for mutual funds and find that the evolution from single- to team-managed funds originates in idea crowding. They argue that adding new managers contributes to new and fresh investment ideas. Accordingly, those funds experience slower decreasing returns to scale. Importantly, they show that team diversity amplifies this result. Fedyk, Patel and Sarkissian (2020) argue that team structures lead to more rational decision making. They find that team-managed funds exhibit less overconfident behavior in the form of performance-induced trading. This study adds to this literature by exploring the heterogeneity of team funds and highlighting that differences in cultural trust is one aspect of cultural diversity that leads to lower mutual fund team performance.

4.1. Data, Methodology, and Summary Statistics

4.1.1. Data Sources and Sample Selection

I use data from several datasets to construct the sample. From the Center for Research on Security Prices (CRSP) Survivorship Bias Free Mutual Fund Database I get fund specific information such as fund names, family names, investment objectives, monthly net returns, total net assets under management (TNA) and expense ratios. For mutual funds that offer multiple share classes I aggregate information at the fund-level using TNA of the respective share class as weight. I limit my sample to domestic U.S. equity funds only, and exclude index, balanced, bond and money market funds. I also focus on team-managed funds and exclude all funds that are managed by only one manager (except for the analysis in section 4.2.3 where I make use of fund portfolios of single-managed funds). I use mutual fund holdings data, which comes from Thomson Financial Mutual Fund Holdings database and merge holdings data and fund information to CRSP stock data using the MFLINKS database. Fund manager names are provided by Morningstar. Similar to previous literature I use a names-classifying algorithm to assign a nationality to each fund manager.[52] This algorithm assigns probabilities for 38 nationalities to each fund manager name. I use fund managers' last names and the associated most probable country of origin to classify managers' ancestral origins. I obtain data on societal trust by country from the World Values Survey (WVS) (Inglehart et al. (2014)). Cultural trust

[52] See, e.g., Du, Yu and Yu (2017), Jaspersen and Limbach (2020), Pan, Siegel and Wang (2017) who use names-classifying algorithms to infer cultural origin. Sood and Laohaprapanon (2018) provide the algorithm used in this paper.

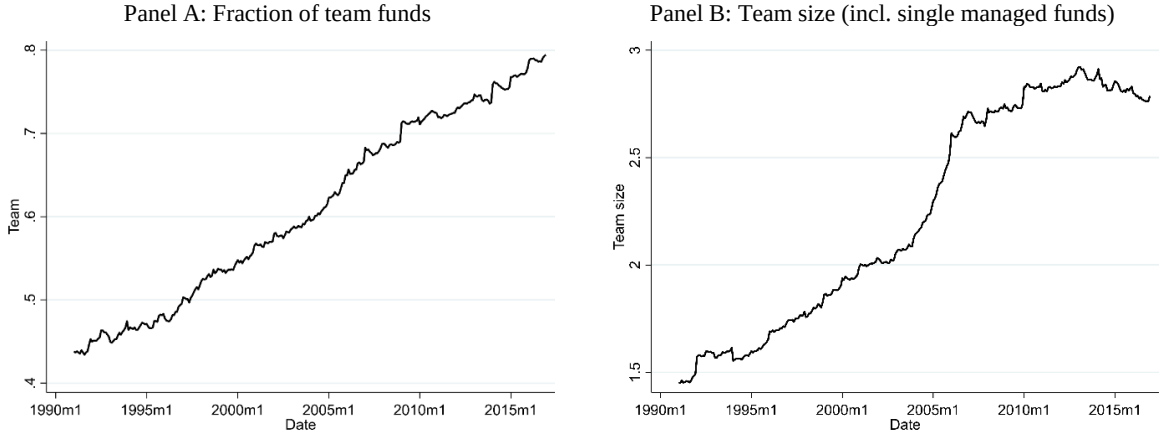
is persistent over time and there is little variation absent significant shocks. The country-level trust measure is defined as the proportion of survey respondents agreeing that "most people can be trusted", against the alternative that "you can't be too careful in dealing with people". Research has shown that this trust measure is a valid predictor for actual general trusting behavior (see e.g., Johnson and Mislin (2012), Knack and Keefer (1997), Sapienza, Toldra-Simats and Zingales (2013)). I assign this culturally rooted measure of trust to each fund managers' most likely country of ancestry. In the next step, I calculate the normalized Euclidean distance between manager *i*'s level of trust and the other managers' level of trust of the fund. Lastly, I define distance in trust as the average of this Euclidean distance by fund, similar to the measure for political distance employed by Evans et al. (2021).

4.1.2. Descriptive statistics

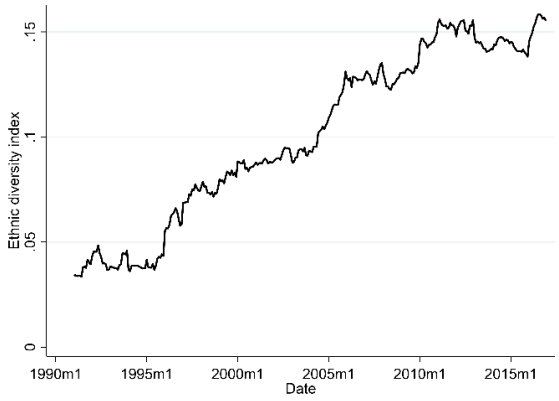
The sample consists of 4,489 team-managed funds from 801 families for the period from 1991 to 2016. In 1991 fewer than half of all equity mutual funds were managed by team. Figure 4.1 illustrates the development of team management in the mutual fund context. The percentage of team-managed equity funds to total equity mutual funds has risen gradually from around 45% to almost 80% in 2016. This comes along an increase in management team size. In 1991 the average mutual fund is managed by 1.5 managers, while in 2016 there are on average between 2.5 and 3 managers per fund. This level of average team size stagnates between 2.5 and 3 managers per fund since 2010. In the same time period I observe a positive trend in ethnic diversity and national diversity of fund managers.

Figure 4.1: Teams over Time

Panel A illustrates the fraction of funds managed by more than one manager over time. Panel B depicts the average fund manager team size over time (including single managed funds). Panel C shows the average Teachman's Entropy index based on fund managers' ethnic groups over time. Finally, Panel D illustrates the average Teachman's Entropy index based on fund managers' ancestral nationalities over time.



Panel C: Ethnic diversity of team funds



Panel D: National diversity of team funds

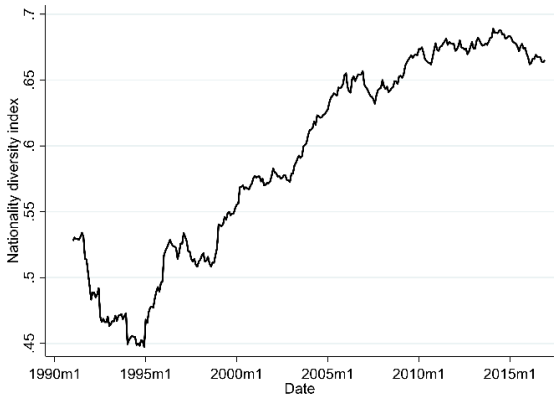


Table 4.1: Descriptive Statistics

This table reports descriptive statistics for team funds from 1991 to 2016. *Trust distance* is the average normalized Euclidean distance between each manager's level of trust to the other managers' level of trust of the fund. *Ethnic diversity* is Teachman's Entropy index based on managers' ethnic groups. National diversity is Teachman's Entropy index based on managers' ancestral nationalities. *Manager age* is the average age of fund managers. *Manager ind. tenure* is the average time since fund managers entered the industry. Fama French 3-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the three risk factors SMB, MKT, and HML. Carhart 4-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the four risk factors SMB, MKT, HML, and MOM. *Return*, fund's past raw return; *Fund size* is given by total net assets under management in $ million; *Expense ratio*, fund's monthly expense ratio in percent; *Turnover ratio*, fund's portfolio turnover ratio; *Log Fund age*, natural logarithm of fund's age and *Flow* is fund's net flow computed as the change in fund assets not attributable to performance; and

	N	Mean	Median	Std. Dev	Min	Max
Trust distance	213,154	0.1420	0.1300	0.1460	0.0000	0.7840
Ethnic diversity	213,154	0.1190	0.0000	0.2480	0.0000	1.0990
National diversity	213,154	0.6260	0.6930	0.4320	0.0000	2.1740
Manager age (mean)	213,154	46.5500	46.0000	6.9540	13.0000	101.0000
Manager ind. tenure (mean) (years)	213,154	8.9950	8.5000	4.6170	0.0000	39.0000
Fama-French alpha	213,154	-0.0008	-0.0090	0.0205	-0.1170	0.1340
Carhart alpha	213,154	-0.0008	-0.0010	0.0204	-0.1140	0.1320
Return	213,154	0.0068	0.0107	0.0508	-0.2390	0.2783
Fund size	213,154	1,182	296.2	3,126	0.1000	73,314
Expense ratio	213,154	0.1030	0.1000	0.0400	-0.0400	0.7500
Turnover ratio	213,154	0.8090	0.6000	0.9570	0.00750	19.7700
Fund age (months)	213,154	181.6000	140.0000	152.9000	13.0000	1,054
Flow	213,154	0.0005	-0.00417	0.0480	-0.206	0.635

Table 4.1 provides descriptive statistics for the sample of team-managed funds. The average distance in trust among all team funds is 14.2 percentage points, ranging from a minimum of 0 percentage points for completely culturally homogenous teams and a maximum of 78 percentage points for a team consisting of fund managers with German and Filipino ancestral origin. The average fund manages almost $1.2 billion, charges an annual fee of 1.2 %

and turns over 80% of its portfolio each year. The average manager is 46 years old and works in the mutual fund industry for 9 years.

4.2. The Impact of Distance in Trust on Team Performance

4.2.1. Main Result

To test my hypotheses, I estimate the following fixed effects model:

$$y_{i,t} = \beta_0 + \beta_1 \times \Delta\, Trust_{i,t-1} + Controls_{i,t-1} + FE + \varepsilon_{i,t} \quad (4.1)$$

where $y_{i,t}$ is the variable of interest for fund i in period t. For the baseline regressions, $y_{i,t}$ is a measure for return. In later analyses this can be a measure for Active Share and window dressing. $\Delta\, Trust_{i,t}$ is the average normalized Euclidean distance in the level of trust of each team member to the remaining team members. $Controls$ is a vector of the following control variables: *Fund size*, defined as the natural logarithm of fund's total net assets under management; *Return*, defined as fund's past raw return; *Log Fund age*, defined as natural logarithm of fund's age; *Expense ratio*, as fund's expense ratio from CRSP; *Flow*, fund's net flow computed as the change in fund assets not attributable to performance; *Inst. dummy*, indicator variable equal to one if the fund has an institutional investors' share class; *Turnover ratio*, fund's portfolio turnover ratio; *Family size*, natural logarithm of fund family's total assets under management; *Manager age*, average age of fund managers managing the fund*; Manager ind. tenure*, average time since fund managers entered the industry; *Ethnic diversity*, Teachman's Entropy index based on managers' ethnic groups. I also include national ancestry dummies to control for potentially omitted variables resulting from time-invariant characteristics at the country of origin level. Objective, time and fund fixed effects are added to control for invariant heterogeneity at the respective level.

I use the model in equation 4.1 to estimate the effect of distance in trust on fund performance. Table 4.2 displays the results.

Table 4.2: Trust distance and Fund Performance

This table reports results from OLS regressions of fund performance on *Trust distance*, fund characteristics and management team characteristics. The analysis is based on the fund-month level. Fund performance measures include Fama French 3-factor alpha (*Fama-French*) and Carhart 4-factor alpha (*Carhart*). Fama French 3-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the three risk factors SMB, MKT, and HML. Carhart 4-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the four risk factors SMB, MKT, HML, and MOM. The main independent variable is *Trust distance* which is the average Euclidean distance of trust between each manager to the other managers of the fund. Control variables include: *Fund size*, natural logarithm of fund's total net assets under management; *Return*, fund's raw return; *Log Fund age*, natural logarithm of fund's age; *Expense ratio*, fund's expense ratio; *Flow*, fund's net flow computed as the change in fund assets not attributable to performance; *Inst. dummy*, indicator variable equal to one if the fund has an institutional investors' share class; *Turnover ratio*, fund's portfolio turnover ratio; *Family size*, natural logarithm of fund family's total assets under management; *Manager age*, average age of fund managers managing the fund; *Manager ind. tenure*, average time since fund managers entered the industry; *Ethnic diversity*, Teachman's Entropy index based on managers' ethnic groups. All independent variables are lagged by one period. Regressions include fund, calendar month and objective fixed effects as indicated below. T-statistics, based on standard errors clustered at the fund level, are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variables	Fama-French	Fama-French	Fama-French	Carhart	Carhart
	(1)	(2)	(3)	(4)	(5)
Trust distance	**-0.001*** **	**-0.001*** **	**-0.002*** **	**-0.002** **	**-0.002** **
	(-3.19)	**(-2.92)**	**(-2.88)**	**(-2.41)**	**(-2.37)**
Fund size		-0.000**	-0.001***	-0.001***	-0.001***
		(-1.99)	(-12.71)	(-17.27)	(-17.16)
Return		0.011***	0.009***	0.002	0.002
		(3.89)	(4.15)	(0.83)	(0.83)
Log Fund age		-0.000	-0.000	0.000	0.000
		(-0.32)	(-0.52)	(0.10)	(0.20)
Expense ratio		-0.533***	0.495	0.674	0.695
		(-2.59)	(0.79)	(1.13)	(1.17)
Flow		0.006***	0.002*	-0.000	-0.000
		(4.64)	(1.81)	(-0.24)	(-0.27)
Inst. dummy		0.000	-0.000	-0.000	-0.000
		(1.64)	(-0.40)	(-0.39)	(-0.53)
Turnover ratio		-0.000**	-0.000	-0.000	-0.000
		(-2.42)	(-0.37)	(-0.09)	(-0.08)
Family size			-0.000	0.000	0.000
			(-0.18)	(1.38)	(1.26)
Manager age			-0.000	-0.000	-0.000
			(-1.29)	(-1.29)	(-1.33)
Manager ind tenure			0.000	-0.000	-0.000
			(0.52)	(-0.68)	(-0.61)
Ethnic diversity			0.001***	0.001**	0.001**
			(2.71)	(2.54)	(2.52)
Observations	238,134	216,497	213,154	213,154	213,154
Adjusted R-squared	0.064	0.065	0.072	0.076	0.076
Origin Dummies	No	No	Yes	Yes	Yes
Fund FE	No	No	Yes	Yes	Yes
Obj. FE	Yes	Yes	Yes	No	Yes
Time FE	Yes	Yes	Yes	Yes	Yes

The dependent variables in columns (1) – (3) are risk-adjusted returns based on the Frame-French 3-factor model (Fama and French (1992)). In column (4) and (5) I use risk-adjusted returns based on the four factor Carhart model (Carhart (1997)). The regression in column (1) includes the average distance in trust as well as investment objective and time fixed effects. In column (2) I add fund-level control variables. In column (3) I add family and team characteristics and fund fixed effects. Column (4) includes the same control variables as column (3) but uses Carhart 4-factor alpha as dependent variable and includes time and fund fixed effects. Column (5) includes fund, objective and time fixed effects. In all specifications, the coefficients of distance in trust is negative and statistically significant at the 1% or 5% level. This result also economically significant. For instance, an increase in the distance in trust by one standard deviation is associated with a decrease in Carhart 4-factor alpha by 2 bps per month. Overall, the results provide evidence that team productivity is lower for teams with a higher distance in trust.

Control variables' coefficients are in line with the literature and exhibit the expected relation with fund performance. Fund size is negatively related to fund performance and highly significant. As shown by Chen et al. (2004), mutual funds suffer from decreasing returns to scale. Past return is significantly positively related to the Fama-French 3-factor alpha and insignificant for the Carhart 4-factor alpha. Expense ratio is negatively related to performance suggesting more expensive funds offer lower returns.

A natural question that arises is how a negative relation of distance in trust and risk-adjusted fund performance can be sustained in equilibrium. After all fund management companies would not opt for a team with high differences in trust because of the discussed negative relation. However, trust is only one component of a cultural diverse team. Differences in trust increase necessarily with a more cultural heterogeneous team. While differences in trust from a theoretical and empirical point of view (as shown above) are negatively related to performance because of an increase in coordination costs, other aspects of cultural diversity are not necessarily negatively associated with performance. In fact, there is reason to believe that some aspects might increase task-relevant skill and information sets that enhance productivity (see, e.g., Alesina and La Ferrara (2005), Lazear (1999)). This becomes evident in the positive relation of the *ethnic diversity* measure and fund performance. Different information sets of team members enhance productivity which is captured by this coefficient. In equilibrium mutual funds are staffed with heterogeneous teams where benefits and costs balance. The empirical models in columns (3) and (4) are consistent with such an equilibrium. The respective

sum of the coefficients of *Trust distance* and *ethnic diversity* are not significantly different from zero.

4.2.2. Terrorist Attacks as Temporary Exogenous Shocks

In an attempt to establish causality of the main result that distance in trust between managers leads to a reduction in fund performance, I use terrorist attacks as exogenous variation in the distance of trust. Studies in the field of psychology show that people exposed to a large degree of violence are less likely to trust others (Carmen, Rieker and Mills (1984), Margolin and Gordis (2000)). Based on these results, Ahern (2018) shows that terror attacks lead to a decline in trust. He studies the two largest terrorist attacks in European history and isolates the effect of terrorism on trust by focusing on countries' population who do not live in that country at the time of the attack and are thus not influenced by the institutional response.

For a terrorist attack to have a significant effect on the distance in trust, the effect on the team has to be asymmetrical, i.e., the terror attack should not reduce each team members' level of trust proportionately. In this case distance in trust would remain constant. Therefore, it is necessary that an attack has a stronger effect on different parts of the team. Research in psychology suggests that group members suffer from in-group bias and have favorable opinions towards other members of the same group while being indifferent or have negative opinions of members outside their group (Hewstone, Rubin and Willis (2002), Tajfel (1982)). Kumar, Niessen-Ruenzi and Spalt (2015) show that funds managed by individuals with foreign-sounding names receive fewer inflows although managers do not have inferior performance. They argue as a result of in-group bias "out-of-group individuals may be trusted less" (Kumar, Niessen-Ruenzi and Spalt (2015), p.2282). Particularly, they find evidence of discrimination against fund managers with foreign sounding names in the aftermath of the 09/11 terrorist attacks, which exacerbated negative stereotypes. In the setting of team-managed funds, trust towards team members with foreign-sounding names is at least in the short-term negatively affected by terrorist attacks. Accordingly, this exogenous event should increases the distance in trust.

Based on these findings and line of argumentation I define fund manager teams as treated if a terror attack occurs in the same state of the advisors' headquarters and at the same time at least one manager is assigned to the same cultural origin as the perpetrator who carried out the attack. In addition, there must be at least one manager in the same team from a non-perpetrator origin. I use data from the Global Terrorism Database established by LaFree and Dugan (2007), which includes all international terror attacks from 1980 with an extensive set

of information on every attack, such as location of the attack, perpetrators' names, and information on victims. I estimate the following reduced-form model:

$$y_{i,s,t} = \beta_0 + \beta_1 \times Treat_{i,s,t} \times Post_t + \beta_2 \times Treat_{i,s,t} \times Pre_t + Controls_{i,t-1} + FE + \varepsilon_{i,t} \quad (4.2)$$

Where $y_{i,s,t}$ is the performance of fund *i* from state *s* at time *t*. I define $Treat_{i,s,t} \times Post_t$ as being equal to one for the period from *t* to *t+12* for all funds that are located in state *s* of the attack and have at least one manager that can be assigned to the perpetrators' origin. For example in the case of 09/11 $Treat_{i,s,t} \times Post_t$ is equal to one for the period from September 2001 to August 2002 for funds that are, first, located in the state of New York, and second, have at least one manager with a Middle-Eastern sounding name and one manager without one. I include fund, objective, time and state fixed effects and the same controls as in Table 4.2 column (4). I also include $Treat_{i,s,t} \times Pre_t$ to test the parallel trends assumption. This interaction is equal to one for treated funds in the period from *t-1* to *t-12*.

Furthermore, I expand the period around a terror attack to 24 months, i.e., I include $Treat \times Post(24m)$ and $Treat \times Pre(24m)$ which are the same as the variables defined above but for the period from *t+13* to *t+24* and *t-13* to *t-24* respectively. By using this approach, I test the effects on performance to a longer time horizon compared to the 12 months window in the baseline regression.

In a last step, columns (3) and (6) are based on a sample constructed with propensity score matching (PSM) I use all control variables in *t-1* of treatment as matching variables. I use the closest nearest neighbor as control group for each treated fund.

Table 4.3: Terror Attacks as Temporary Shock to Trust Distance

This table reports results from OLS regressions of fund performance on *Treat x post*, fund characteristics and management team characteristics. The analysis is based on the fund-month level. Fund performance measures include Fama French 3-factor alpha (*Fama-French*) and Carhart 4-factor alpha (*Carhart*). Fama French 3-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the three risk factors SMB, MKT, and HML. Carhart 4-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the four risk factors SMB, MKT, HML, and MOM. The main independent variable is *Treat x post* which is equal to one for the twelve months after a terror attack for funds that are located in the state of the attack, and have at least one fund manager whose country of ancestry is related to the perpetrators' country. Control variables as in Table 4.2. Regressions include fund, calendar month and objective fixed effects as indicated below. T-statistics, based on standard errors clustered at the fund level, are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

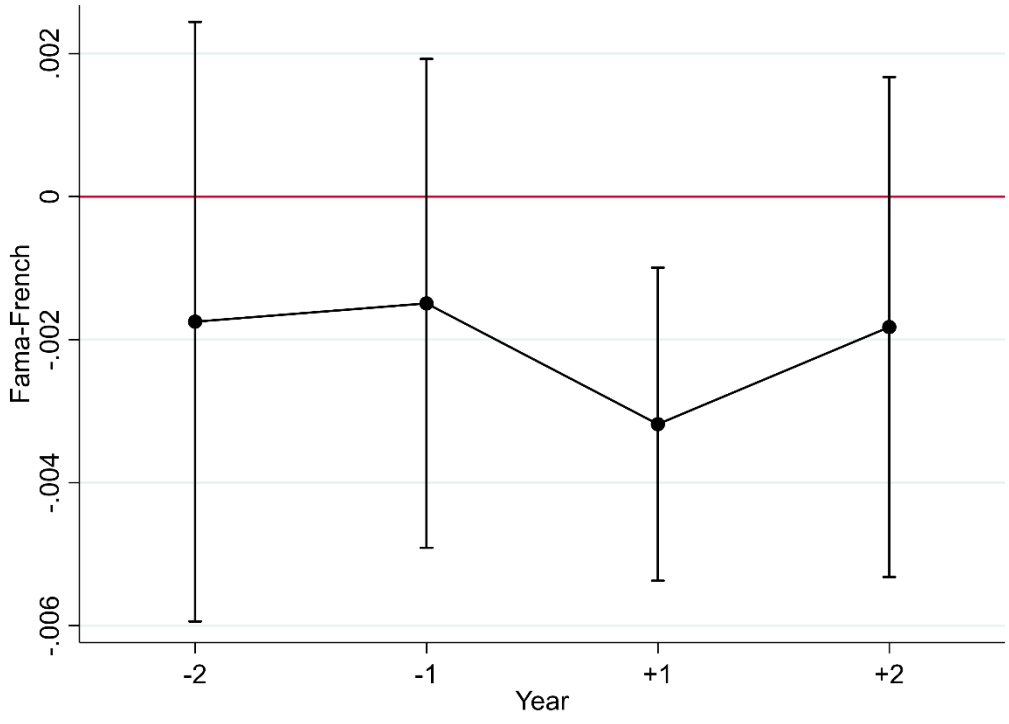
Dependent variables	Fama-French			Carhart		
			PSM			PSM
	(1)	(2)	(3)	(4)	(5)	(6)
Treat x Post (12m)	**-0.004*** **	**-0.003*** **	**-0.003** **	**-0.004*** **	**-0.003*** **	**-0.003** **
	(-2.95)	**(-2.85)**	**(-2.50)**	**(-3.27)**	**(-3.23)**	**(-2.17)**
Treat x Post (24m)		-0.002	-0.000		-0.002	-0.000
		(-1.02)	(-0.16)		(-1.28)	(-0.30)
Treat x Pre (12m)	-0.001	-0.001	0.002	0.001	0.001	0.001
	(-0.70)	(-0.86)	(0.95)	(0.88)	(0.72)	(0.48)
Treat x Pre (24m)		-0.002	-0.002		-0.002	0.002
		(-0.82)	(-0.93)		(-0.88)	(1.21)
Fund size	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
	(-10.43)	(-10.41)	(-4.21)	(-13.42)	(-13.40)	(-4.39)
Return	0.010***	0.010***	0.001	0.001	0.001	-0.010
	(3.47)	(3.46)	(0.04)	(0.13)	(0.13)	(-0.49)
Log Fund age	0.000	0.000	0.002	0.000	0.000	0.002
	(0.52)	(0.51)	(0.71)	(0.61)	(0.59)	(0.95)
Expense ratio	1.119	1.104	-0.553	1.955*	1.935*	-1.168
	(0.96)	(0.95)	(-0.36)	(1.78)	(1.76)	(-0.63)
Flow	0.002	0.002	-0.011	-0.000	-0.000	-0.011
	(1.02)	(1.02)	(-1.26)	(-0.08)	(-0.08)	(-1.21)
Inst. dummy	-0.000	-0.000	-0.002*	-0.000	-0.000	-0.001
	(-0.70)	(-0.71)	(-1.93)	(-0.29)	(-0.30)	(-1.56)
Turnover ratio	0.000	0.000	0.000	0.000	0.000	-0.000
	(0.26)	(0.27)	(0.26)	(0.08)	(0.09)	(-0.45)
Family size	0.000	0.000	-0.000	0.000	0.000	0.000
	(0.39)	(0.39)	(-0.14)	(0.84)	(0.84)	(0.81)
Manager age	-0.000*	-0.000*	-0.000	-0.000	-0.000	-0.000
	(-1.94)	(-1.93)	(-1.59)	(-0.98)	(-0.97)	(-1.38)
Manager ind tenure	0.000	0.000	0.000	0.000	0.000	0.000
	(1.27)	(1.27)	(1.02)	(0.01)	(0.00)	(0.39)
Ethnic diversity	0.000	0.000	-0.003	-0.000	-0.000	-0.003
	(0.03)	(0.06)	(-0.96)	(-0.08)	(-0.05)	(-1.38)
Observations	107,408	107,408	7,249	107,408	107,408	7,249
Adjusted R-squared	0.071	0.071	0.095	0.073	0.073	0.085
Origin Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Fund FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Obj. FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes

Table 4.3 displays the results of this difference-in-differences estimation. The coefficient on $Treat \times Post(12m)$ is in line with expectation negative and statistically significant at the 1% level in all specifications. Columns (2), (3), (5) and (6) include the estimate for the second year after the attack. These coefficients are insignificant and indicate a short-lived shock to the fund. Fund management teams that experience an exogenous shock to the distance in trust perform worse in the post period of 12 months. However, this negative effect vanishes in the period after 12 months. Importantly, the coefficients of $Treat \cdot pre$ are all insignificant. This suggests that the parallel trends assumption, which is necessary for causal inference is not violated. Treated and non-treated funds are not significantly different before the treatment takes place. Figure 4.2 plots the coefficients of columns (2) and (4) illustrating parallel trends and the short-lived effect on team performance. As mentioned earlier, trust is persistent over a long period and single terror attacks are likely to act only as transitory shock. Therefore, managers' trust reverts to the inherited level relatively quickly after the attack.

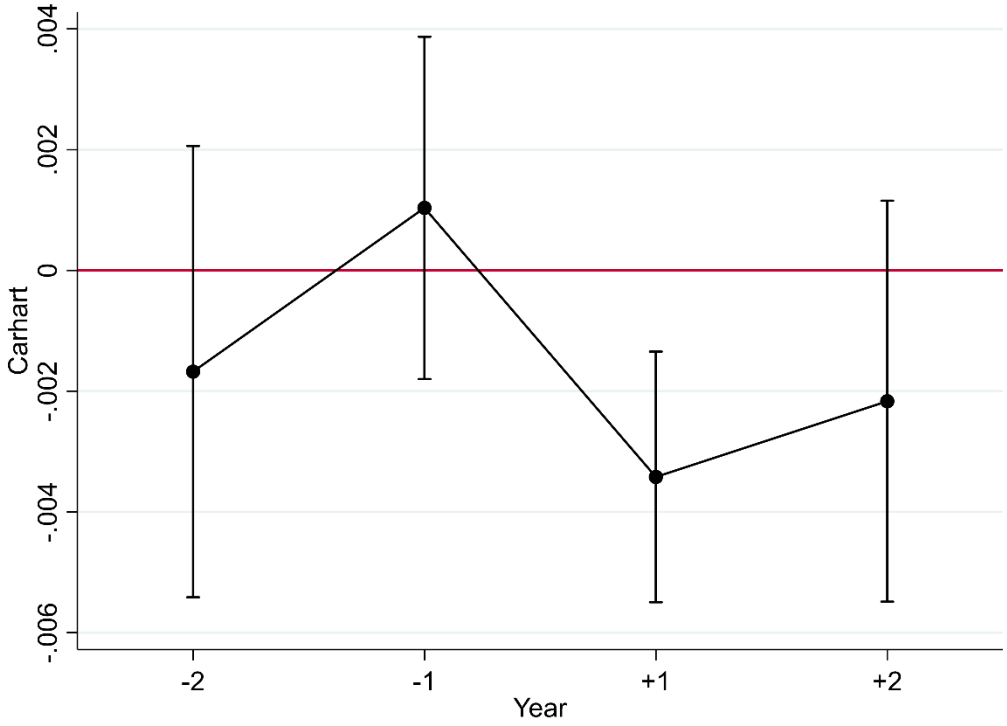
Figure 4.2: Impulse Response Functions

This figure depicts coefficients of difference-in-differences estimators from Table 4.3, columns (2) and (5). The horizontal axis is the time period for treated funds in event time. The vertical axis is the change in alpha. Panel A depicts three factor Fama-French 3-factor alpha and Panel B depicts Carhart 4-factor alpha. Confidence intervals based on a significance level of 5% are included.

Panel A: Fama-French 3-factor alpha



Panel B: Carhart 4-factor alpha



4.2.3. Channel

The previously documented underperformance of teams with high differences in trust leads to the question of its origin. Theory predicts that larger differences in trust lead to a decrease in manager cooperation because of rising coordination costs. For teams managing a mutual fund, cooperation mainly consists of developing and discussing investment ideas and finding consensus on the implementation of such ideas.

In the case of equity funds, this decision concerns stocks to buy and sell. Fund managers generate investment ideas and decide how much capital to invest in which stock. Because distance in trust between the managers of a fund increases coordination costs, it is harder to find consensus and the implementation of ideas becomes more difficult. One manager might not trust the ideas of another manager and the result could be a stagnating situation where capital is invested similarly to the fund's benchmark index. Cremers and Petajisto (2009) define a fund's Active Share as the share of holdings that differ from the fund's benchmark, i.e., a fund's Active Share increases with the fund's number of investment ideas. The authors demonstrate that this measure is positively related to fund performance. Because fewer ideas are implemented with increased coordination costs, I argue that greater distance in trust is associated with a smaller Active Share.

I use annual data provided on Martijn Cremers' website.[53] Table 4.4 shows results from regressions of Active Share on distance in trust. Estimated coefficients indicate that a higher distance in trust is associated with a smaller active share and accordingly fewer implemented ideas. The coefficients of distance in trust are significant at the 1% level. The effect is also economically significant. An increase in trust distance by one standard deviation is related to a decrease in active share by 6 bps per months or 72 bps p.a. With lack of trust among team members, the fund forfeits differentiation to its benchmark index and therefore, decreases the possibility to beat its benchmark.

[53] See https://activeshare.nd.edu/.

Table 4.4: Trust Distance and Active Share

This table reports results from OLS regressions of Active share on Trust distance, fund characteristics and management team characteristics. The analysis is based on the fund-month level. Active share is obtained from Martijn Cremers' website and computed as in Cremers and Petajisto (2009). The main independent variable is Trust distance which is the average Euclidean distance in trust between each manager to the other managers of the fund. Control variables include: Fund size, natural logarithm of fund's total net assets under management; Return, fund's past raw return; Log Fund age, natural logarithm of fund's age; Expense ratio, fund's expense ratio; Flow, fund's net flow computed as the change in fund assets not attributable to performance; Inst. dummy, indicator variable equal to one if the fund has an institutional investors' share class; Turnover ratio, fund's portfolio turnover ratio; Family size, natural logarithm of fund family's total assets under management; Manager age, average age of fund managers managing the fund; Manager ind. tenure, average time since fund managers entered the industry; Ethnic diversity, Teachman's Entropy index based on managers' ethnic groups. Regressions include fund, calendar month and objective fixed effects as indicated below. T-statistics, based on standard errors clustered at the fund level, are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variables	Active share		
	(1)	(2)	(3)
Trust distance	**-0.042*** **	**-0.039*** **	**-0.048*** **
	(-2.93)	**(-2.72)**	**(-3.06)**
Fund size		-0.006***	-0.010***
		(-3.55)	(-6.46)
Return		0.025**	0.002
		(2.08)	(0.94)
Log Fund age		0.007*	0.000
		(1.91)	(0.03)
Expense ratio		84.892***	13.473*
		(10.05)	(1.83)
Flow		0.005***	0.002***
		(3.83)	(2.77)
Inst. dummy		-0.039***	0.002
		(-7.10)	(0.48)
Turnover ratio		-0.005**	0.003*
		(-2.29)	(1.70)
Family size			0.000
			(0.58)
Manager age			-0.000
			(-0.34)
Manager ind tenure			-0.000
			(-0.42)
Ethnic diversity			0.017**
			(2.07)
Observations	17,330	15,445	15,007
Adjusted R-squared	0.292	0.352	0.827
Origin Dummies	No	No	Yes
Fund FE	No	No	Yes
Obj. FE	Yes	Yes	Yes
Time FE	Yes	Yes	Yes

The previous analyses provide evidence that finding consensus and therefore the implementation of investment ideas is more difficult in a setting of high distance in trust. In order to further strengthen the credibility of this result, I analyze the adoption of individual team members' investment ideas. I make use of the fact that some managers simultaneously manage multiple mutual funds. Cici et al. (2018) study the utilization of ideas from industry-experienced

fund managers. These managers gained industry experience before entering the mutual fund industry as portfolio manager. The authors also find that trades in stocks from the experience industry of these managers are more likely to be mimicked by other fund managers within the same fund family. In this way the mutual fund family profits because other funds benefit from information advantages of the industry experienced managers. If distance in trust deters consensus and inhibits the flow and implementation of investment ideas then a single fund manager's ideas (as approximated by the trades in her single-managed fund) are less likely to be followed. I identify fund managers' investment ideas by the purchases of her single-managed fund. In particular, I test the following linear probability model:

$$purchase_t^{j,i,m,k} = \beta_0 + \beta_1 \times \Delta Trust_t^{m,k} + Controls + FE + \varepsilon_t^{j,i,m,k}, \quad (4.3)$$

where $purchase_t^{j,i,m,k}$ is a dummy variable equal to one if a purchase of stock *j* by the single-managed fund *i* of fund manager *k* is followed by team-managed fund *m* with fund manager *k* being part of the team in quarter *t+1* or *t+2*. Furthermore, single-managed fund *i* and team-managed fund *m* have the same investment objective. I include *Book to market ratio,* the ratio of book value of equity and market value of equity of stock *j*, *Firm size*, the natural logarithm of market capitalization at the end of the report date of stock *j*, *Return*, past 12-month compounded stock return of stock *j*, *Volatility*, past 12-month stock return volatility of stock *j*, and *Family size*, natural logarithm of fund family's total assets under management as control variables. I also include fund, calendar month, and objective fixed effects. Furthermore, I differentiate between all purchases, initiating purchases and remaining purchases as in Cici et al. (2018). Initiating purchases are purchases of stocks that are not concurrently held by any of the affiliated funds. Remaining purchases are those purchases excluding the initiating ones. Table 4.6 displays the results.

Table 4.5: Utilizing Ideas

This table reports results from OLS regressions of purchase mimic dummies on Trust distance, fund characteristics and management team characteristics. The analysis is based on the fund-month level. The dependent variable is an indicator variable that equals one if a trade of a single managed fund is followed by a team-managed fund of the same manager at t+1 or t+2 and zero otherwise. The observations for the initiating buys are identified as stocks that are held for the first time by such a manager and not held concurrently by an affiliated fund at t. Remaining buys are identified as increases in shares held and exclude initiating. The main independent variable is Trust distance which is the average Euclidean distance between each manager to the other managers of the fund. Control variables include: Book to market ratio, the ratio of book value of equity and market value of equity; Firm size, the natural logarithm of market capitalization at the end of the report date; Return, past 12 month compounded stock return; Volatility, past 12 month stock return volatility; and Family size, natural logarithm of fund family's total assets under management. Regressions include fund, calendar month and objective fixed effects as indicated below. T-statistics, based on standard errors clustered at the fund level, are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variables	Purchases		
	All buys	Initiating buys	Remaining buys
	(1)	(2)	(3)
Trust distance	**-0.211*** **	**-0.136** **	**-0.117***
	(-2.68)	**(-2.13)**	**(-1.70)**
Book to market ratio	-0.000	-0.002**	-0.000
	(-0.98)	(-2.30)	(-0.72)
Firm size	0.043***	0.028***	0.035***
	(5.00)	(5.08)	(3.85)
Return	0.001	0.010**	0.003
	(0.26)	(2.15)	(0.36)
Volatility	0.039	0.032	0.038
	(0.76)	(0.80)	(0.60)
Family size	0.020	0.017	0.012
	(1.50)	(1.20)	(0.72)
Observations	156,571	38,325	118,227
Adjusted R-squared	0.300	0.260	0.305
Fund FE	Yes	Yes	Yes
Obj. FE	Yes	Yes	Yes
Time FE	Yes	Yes	Yes

Distance in trust is negatively related to the probability of a replicating purchase in an affiliated team-fund. This result holds for all purchases, initiating buys and remaining buys. A one standard deviation increase in distance in trust is associated with a 2.6 % lower probability of implementing the single-managed funds' ideas.

In the following tests I use the heterogeneity of the mutual fund universe. If distance in trust inhibits the creation, discussion and implementation of investment ideas, some funds should be more affected than others. Therefore, the next part of this paper studies the effect of distance in trust on performance separately for funds that require more cooperation in the investment process.

Funds experience decreasing returns to scale, i.e., there exists a negative relation between fund size and fund performance. Studies show that foremost stocks' liquidity is the

factor that leads to lower performance for larger funds. Large funds cannot trade in smaller stocks without adversely influencing their price, and therefore must increase the number of stocks to trade. Consequently, because more investment ideas are required, larger funds (compared to smaller funds) are more dependent on managers' cooperation and teamwork to find valuable stock investments. Differences in trust between team members should therefore be more detrimental for larger funds than for smaller funds.

Considering management companies or fund families, managers from smaller fund families are more likely to be in short supply of investment ideas because of a lack of research resources available to them (see, e.g., Bhojraj, Cho and Yehuda (2012)). At the same time, managers from smaller fund families have more discretion over investment decisions, which increases their own weight in the decision-making process. Accordingly, I expect distance in trust to be more detrimental in smaller fund families.

Another potential moderator is the time that team members work in the same constellation. Coordination costs are lower for teams that work together for a prolonged time because, i.e., team members develop personalized trust through repeated interactions (e.g., Greif (1993)). Also team size plays an important role for coordination costs because it is harder for larger teams to find consensus (e.g., Cheng (2008)). I expect differences in cultural trust to have a more pronounced effect for newer and larger teams.

Based on above considerations, I divide observations by the median of fund size, family size, team tenure and team size in different sub samples. Table 4.4 displays results from sub sample analyses for fund and family size (Panel A) and for team tenure and team size (Panel B), respectively. As expected, distance in trust has a more pronounced effect on fund performance in larger funds and smaller fund families. With respect to team characteristics, I find that distance in trust is especially detrimental in relatively newly composed and larger teams. A one standard deviation increase in distance in trust leads to a 3 bps (5 bps) decrease in performance per month for large funds (for small families). There is no statistically significant effect of distance in trust on performance for small funds and funds associated with large families. Similarly, while a one standard deviation increase in distance in trust is associated with a 3 bps (5 bps) decrease in Carhart 4-factor alpha for newly composed teams (for large teams), there is no statistically significant effect for teams working together for a longer period (for smaller teams).

Table 4.6: Differences in Demand for Investment Ideas

This table reports results from OLS regressions of fund performance on *Trust distance* (which is the average Euclidean distance between each manager to the other managers of the fund), fund characteristics and management team characteristics. The analysis is based on the fund-month level. Fund performance measures include Fama French 3-factor alpha (*Fama-French*) and Carhart 4-factor alpha (*Carhart*). Fama French 3-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the three risk factors SMB, MKT, and HML. Carhart 4-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the four risk factors SMB, MKT, HML, and MOM. The main independent variable is Distance in trust which is the average Euclidean distance in trust between each manager to the other managers of the fund. Control variables include: *Fund size*, natural logarithm of fund's total net assets under management; *Return*, fund's past raw return; *Log Fund age*, natural logarithm of fund's age; *Expense ratio*, fund's expense ratio; *Flow*, fund's net flow computed as the change in fund assets not attributable to performance; *Inst. dummy*, indicator variable equal to one if the fund has an institutional investors' share class; *Turnover ratio*, fund's portfolio turnover ratio; *Family size*, natural logarithm of fund family's total assets under management; *Manager age*, average age of fund managers managing the fund; *Manager ind. tenure*, average time since fund managers entered the industry; *Ethnic diversity*, Teachman's Entropy index based on managers' ethnic groups. Sub samples are based on the following variables: *Fund size*, *Fund age*, *Family size* (Panel A), *Team tenure*, *Team size*, and *Gender distance* (Panel B). Observations are assigned to the sub samples based on the median values of each variable. Regressions include fund, calendar month and objective fixed effects as indicated below. T-statistics, based on standard errors clustered at the fund level, are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Panel A: Fund and family characteristics

Dependent variables	Carhart			
	Fund size		Family size	
	Large	Small	Large	Small
	(1)	(2)	(3)	(4)
Trust distance	**-0.002*** **	**-0.001**	**-0.000**	**-0.003*** **
	(-2.65)	**(-1.06)**	**(-0.01)**	**(-2.72)**
Fund size	-0.002***	-0.002***	-0.002***	-0.002***
	(-15.38)	(-10.28)	(-13.40)	(-11.56)
Return	0.002	0.001	-0.002	0.003**
	(0.29)	(0.43)	(-0.22)	(2.07)
Log Fund age	-0.001	0.000	0.000	-0.000
	(-1.51)	(0.41)	(0.35)	(-0.10)
Expense ratio	-0.215	1.277	-0.121	1.269
	(-0.32)	(1.27)	(-0.16)	(1.38)
Flow	-0.001	-0.001	-0.000	-0.001
	(-0.49)	(-0.81)	(-0.16)	(-0.79)
Inst. dummy	-0.000	0.000	-0.001	0.000
	(-1.29)	(0.61)	(-1.38)	(0.72)
Turnover ratio	-0.001***	0.000	-0.000	0.000
	(-2.84)	(0.32)	(-0.39)	(0.06)
Family size	0.000	-0.000	-0.000	0.000
	(0.97)	(-0.32)	(-0.15)	(0.96)
Manager age	-0.000	0.000	-0.000	-0.000
	(-1.59)	(0.13)	(-0.65)	(-0.79)
Manager ind tenure	-0.000	-0.000	0.000	-0.000
	(-0.63)	(-1.06)	(0.43)	(-1.35)
Ethnic diversity	0.000	0.002**	0.001	0.002**
	(1.02)	(2.12)	(1.02)	(2.24)
Observations	122,579	90,528	112,126	100,981
Adjusted R-squared	0.085	0.073	0.087	0.072
Origin Dummies	Yes	Yes	Yes	Yes
Fund FE	Yes	Yes	Yes	Yes
Obj. FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes

Panel B: Team characteristics

Dependent variables	Carhart			
	Team tenure		Team size	
	High	Low	Large	Small
	(1)	(2)	(3)	(4)
Trust distance	**-0.000**	**-0.002****	**-0.006****	**-0.001**
	(-0.11)	**(-2.35)**	**(-2.51)**	**(-1.23)**
Fund size	-0.001***	-0.002***	-0.002***	-0.002***
	(-12.24)	(-11.87)	(-10.65)	(-14.56)
Return	0.003	-0.009*	-0.004	0.002
	(1.15)	(-1.91)	(-0.59)	(0.72)
Log Fund age	0.000	0.000	0.001**	-0.000
	(0.28)	(0.75)	(2.13)	(-0.18)
ExpenserRatio	1.244	-1.021	-0.584	1.146
	(1.36)	(-1.40)	(-0.71)	(1.48)
Flow	-0.000	-0.003	-0.002	-0.001
	(-0.25)	(-1.33)	(-0.65)	(-0.33)
Inst. dummy	0.000	-0.000	-0.001*	-0.000
	(0.56)	(-1.13)	(-1.78)	(-0.20)
Turnover ratio	0.000	-0.000	-0.000	0.000
	(1.20)	(-1.38)	(-1.56)	(0.09)
Family size	0.000	-0.000	0.000	0.000
	(1.46)	(-1.00)	(0.17)	(1.18)
Manager age	-0.000	-0.000	-0.000	-0.000
	(-1.47)	(-0.61)	(-0.90)	(-1.19)
Manager ind tenure	-0.000	-0.000	0.000	-0.000
	(-0.13)	(-0.41)	(1.04)	(-0.63)
Ethnic diversity	0.001	0.001	0.001	0.001
	(1.19)	(1.51)	(1.57)	(1.47)
Observations	116,414	96,617	61,085	151,944
Adjusted R-squared	0.073	0.084	0.089	0.073
Origin Dummies	Yes	Yes	Yes	Yes
Fund FE	Yes	Yes	Yes	Yes
Obj. FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes

Overall, this section provides evidence for the hypothesis that differences in trust hamper the generation, discussion and implementation of investment ideas. Managers implement fewer ideas, leading to a portfolio unable to outperform the benchmark index. Furthermore, buying decisions of team members' single managed funds are less likely to be mimicked in the team-managed fund in case of a higher distance in trust. Funds that are more dependent on fund managers' input experience a stronger impact of differences in trust. Differences in trust are associated with lower active share, which is a measure for fund managers' deviation from the fund's benchmark.

4.3. Robustness

Alternative channels for distance trust to impact team productivity are via peer-monitoring and peer-collusion. In general, increased monitoring costs may lead to detrimental fund performance. The effect of distance in trust on agency costs is not clear-cut. Distance in trust may lead to increased monitoring and thereby reduces opportunistic behavior which potentially results in better fund performance. However, differences in trust can lead to an asymmetrical monitoring effect with low-trusting managers monitoring high-trusting managers but not vice versa. Furthermore, low-trusting managers might exploit trust, which potentially leads to even higher agency costs and more opportunistic behavior. Based on this argumentation, agency costs can be higher for teams with greater distance in trust. An alternative channel is that larger differences in trust reduce collusion. In general, collusion increases average opportunistic behavior and severity of the free-rider problem while reducing overall effort.[54] Differences in trust, however, should reduce team-member collusion which could result in an overall positive effect on team productivity because a lower probability of collusion can lead to lower agency costs. Conclusively, the effect of distance in trust via a monitoring channel is unclear.

I use window dressing as one very common opportunistic practice employed by fund managers to test whether the distance in trust affects opportunistic behavior.[55] If differences in trust affect performance via a *monitoring channel* or a *collusion channel* in contrast to the outlined *cooperation channel*, then there should be an effect on opportunistic behavior such as window dressing. Increased monitoring and/or reduced collusion should reduce managers' tendency to window-dress. Data on the backwards holdings return gap measure of window dressing come from Agarwal, Gay and Ling (2014). I use the regression model outlined in equation 4.1 which is the same model used to produce results of Table 4.2 columns (4) and (5).

Results from panel regressions suggest that distance in trust does not affect window dressing at the fund level. Table 4.7 displays the results. The coefficient of distance in trust is statistically insignificant for all specifications. This suggests that it is unlikely that the *monitoring channel* or *the collusion channel* drive the results of lower fund team performance.

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[54] Studies emphasizing the importance to consider collusion among agents include Ma, Moore and Turnbull (1988), Mookherjee (1984), and Sutter and Strassmair (2009).

[55] see, e.g., Agarwal, Gay and Ling (2014).

Table 4.7: Trust distance and Window Dressing

This table reports results from OLS regressions of window dressing on Trust distance, fund characteristics and management team characteristics. The analysis is based on the fund-quarter level. Window dressing is measured as backwards-holding return gap from Agarwal, Gay and Ling (2014). The main independent variable is Trust distance which is the average Euclidean distance of trust between each manager to the other managers of the fund. Control variables include: Fund size, natural logarithm of fund's total net assets under management; Return, fund's past raw return; Log Fund age, natural logarithm of fund's age; Expense ratio, fund's expense ratio; Flow, fund's net flow computed as the change in fund assets not attributable to performance; Inst. dummy, indicator variable equal to one if the fund has an institutional investors' share class; Turnover ratio, fund's portfolio turnover ratio; Family size, natural logarithm of fund family's total assets under management; Manager age, average age of fund managers managing the fund; Manager ind. tenure, average time since fund managers entered the industry; Ethnic diversity, Teachman's Entropy index based on managers' ethnic groups. Regressions include fund, quarter and objective fixed effects as indicated below. T-statistics, based on standard errors clustered at the fund level, are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variables	Backwards-holding return gap		
	(1)	(2)	(3)
Trust distance	**-0.001**	**-0.000**	**-0.002**
	(-0.12)	**(-0.01)**	**(-0.38)**
Fund size		0.005***	0.004***
		(4.87)	(4.90)
Return		0.015***	0.014***
		(3.19)	(3.05)
Log Fund age		-0.000	-0.002
		(-0.12)	(-0.84)
Expense ratio		-0.259	-0.068
		(-0.07)	(-0.02)
Flow		-0.002	-0.002
		(-1.02)	(-0.87)
Inst. dummy		-0.002	-0.002
		(-1.28)	(-1.19)
Turnover ratio		0.007***	0.007***
		(3.83)	(3.81)
Family size		-0.000	-0.000
		(-0.69)	(-0.78)
Manager age			0.000
			(1.02)
Manager ind tenure			0.001**
			(2.23)
Ethnic diversity			-0.000
			(-0.09)
Observations	19,934	18,395	18,253
Adjusted R-squared	0.505	0.519	0.525
Origin Dummies	No	No	Yes
Fund FE	Yes	Yes	Yes
Obj. FE	Yes	Yes	Yes
Time FE	Yes	Yes	Yes

Furthermore, other cultural values and beliefs might also impact team productivity and are related to the distance in trust. In order to address this alternative explanation, I include the most often used cultural values as control variables. Similar to Ahern, Daminelli and Fracassi (2015), I use distance in power (PDI distance) and individualism (IDV distance). The latter two

dimensions are the most commonly used factors in business research and proposed by Hofstede (1980). In economic studies these dimensions are used to explain, e.g., momentum profits in the case of individualism and CEO turnover in the case of power distance (Chui, Titman and Wei (2010), Urban (2019)). Table 4.8 displays the results. The distance in both dimensions among team members is not statistically significant. Contrary, distance in trust is still highly significant and negatively related to fund performance. Accordingly, other prominent cultural variables do not explain the results.

Another concern is that distance in trust is related to some other diversity measure at the fund team level. Therefore, I include the most common team diversity measures as control variables. I use gender distance and Teachman's entropy indices based on national diversity, fund manager age, and fund managers' industry tenure. Table 4.9 shows the results. Distance in trust is still significantly and negatively related to fund performance after the inclusion of these additional control variables. With respect to the effect of the controls I find that gender distance is also negatively related to fund performance which is similar to Bär, Niessen and Ruenzi (2009). Other diversity measures do not show any significant effect.

Lastly, I focus only on observations that are in a time window of 24 months around a management turnover. A management turnover introduces a shock to the distance of trust in the team. Exploiting these instances allows to link changes in trust distance between team members to fund performance. Table 4.10 displays results of panel estimations around the event of a management team change. Also, in this restricted sample of funds that experience a change in team members, distance in trust is still significantly and negatively related to fund performance.

Table 4.8: Control for Other Cultural Variables

This table reports results from OLS regressions of fund performance on *Trust distance*, fund characteristics and management team characteristics. The analysis is based on the fund-month level. Fund performance measures include Fama French 3-factor alpha (*Fama-French*) and Carhart 4-factor alpha (*Carhart*) and Carhart 4-factor alpha based on gross returns (*Carhart gross*). Fama French 3-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the three risk factors SMB, MKT, and HML. Carhart 4-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the four risk factors SMB, MKT, HML, and MOM. The main independent variable is *Trust distance* which is the average Euclidean distance in trust between each manager to the other managers of the fund. Control variables include: PDI distance, which is the average Euclidean distance in power distance between each manager to the other managers of the fund; IDV distance, which is the average Euclidean distance in individualism between each manager to the other managers of the fund. *Fund size*, natural logarithm of fund's total net assets under management; *Return*, fund's past raw return; *Log Fund age*, natural logarithm of fund's age; *Expense ratio*, fund's expense ratio; *Flow*, fund's net flow computed as the change in fund assets not attributable to performance; *Inst. dummy*, indicator variable equal to one if the fund has an institutional investors' share class; *Turnover ratio*, fund's portfolio turnover ratio; *Family size*, natural logarithm of fund family's total assets under management; *Manager age*, average age of fund managers managing the fund; *Manager ind. tenure*, average time since fund managers entered the industry; *Ethnic diversity*, Teachman's Entropy index based on managers' ethnic groups. Regressions include fund, calendar month and objective fixed effects as indicated below. T-statistics, based on standard errors clustered at the fund level, are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Fama-French	Carhart
	(1)	(2)
Trust distance	**-0.003*** **	**-0.002*** **
	(-3.22)	**(-2.70)**
PDI distance	0.001	0.001
	(0.86)	(0.89)
IDV distance	0.001	0.001
	(0.94)	(0.64)
Fund size	-0.001***	-0.001***
	(-12.59)	(-16.86)
Return	0.009***	0.002
	(4.09)	(0.98)
Log Fund age	-0.000	0.000
	(-0.39)	(0.32)
Expense ratio	0.594	0.741
	(0.93)	(1.22)
Flow	0.003*	-0.000
	(1.82)	(-0.17)
Inst. dummy	-0.000	-0.000
	(-0.39)	(-0.55)
Turnover ratio	-0.000	-0.000
	(-0.60)	(-0.28)
Family size	-0.000	0.000
	(-0.19)	(1.27)
Manager age	-0.000	-0.000
	(-1.09)	(-1.16)
Manager ind tenure	0.000	-0.000
	(0.35)	(-0.69)
Ethnic diversity	0.001**	0.001**
	(2.41)	(2.43)
Observations	208,526	208,526
Adjusted R-squared	0.072	0.076
Origin dummies	Yes	Yes
Fund FE	Yes	Yes
Obj. FE	Yes	Yes
Time FE	Yes	Yes

Table 4.9: Control for Other Diversity Measures

This table reports results from OLS regressions of fund performance on Trust distance, fund characteristics and management team characteristics. The analysis is based on the fund-month level. Fund performance measures include Fama French 3-factor alpha (Fama-French) and Carhart 4-factor alpha (Carhart). Fama French 3-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the three risk factors SMB, MKT, and HML. Carhart 4-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the four risk factors SMB, MKT, HML, and MOM. The main independent variable is Trust distance which is the average Euclidean distance in trust between each manager to the other managers of the fund. Control variables include: Gender distance, which is the average Euclidean distance in gender between each manager to the other managers of the fund; Tenure diversity, as Teachman's Entropy index based on managers' industry tenure; Age diversity, as Teachman's Entropy index based on managers' age; National diversity, as Teachman's Entropy index based on managers' country of origin; industry Fund size, natural logarithm of fund's total net assets under management; Return, fund's past raw return; Log Fund age, natural logarithm of fund's age; Expense ratio, fund's expense ratio; Flow, fund's net flow computed as the change in fund assets not attributable to performance; Inst. dummy, indicator variable equal to one if the fund has an institutional investors' share class; Turnover ratio, fund's portfolio turnover ratio; Family size, natural logarithm of fund family's total assets under management; Manager age, average age of fund managers managing the fund; Manager ind. tenure, average time since fund managers entered the industry; Ethnic diversity, Teachman's Entropy index based on managers' ethnic groups. Regressions include fund, calendar month and objective fixed effects as indicated below. T-statistics, based on standard errors clustered at the fund level, are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Fama-French	Carhart
	(1)	(2)
Trust distance	**-0.002****	**-0.002****
	(-2.57)	**(-2.36)**
Gender distance	-0.003***	-0.002***
	(-4.33)	(-3.99)
Tenure diversity	0.000	-0.000
	(0.15)	(-0.00)
Age diversity	0.000	-0.000
	(0.80)	(-0.02)
National diversity	0.000	0.000
	(0.29)	(0.48)
Ethnic diversity	0.001**	0.001*
	(2.04)	(1.80)
Observations	198,581	198,581
Adjusted R-squared	0.073	0.076
Controls	Yes	Yes
Origin dummies	Yes	Yes
Fund FE	Yes	Yes
Obj. FE	Yes	Yes
Time FE	Yes	Yes

Table 4.10: Restricted Time Window around Team Turnover

This table reports results from OLS regressions of fund performance on *Trust distance*, fund characteristics and management team characteristics. The analysis is based on the fund-month level and is restricted to observations in a time frame of 24 months around management turnovers. Fund performance measures include Fama French 3-factor alpha (*Fama-French*) and Carhart 4-factor alpha (*Carhart*). Fama French 3-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the three risk factors SMB, MKT, and HML. Carhart 4-factor alpha is computed for a given fund each month as the difference between the actual return minus the expected return, estimated using factor loadings computed from a regression of the preceding 24 monthly excess returns on the four risk factors SMB, MKT, HML, and MOM. The main independent variable is *Trust distance* which is the average Euclidean distance in trust between each manager to the other managers of the fund. Control variables include: *Fund size*, natural logarithm of fund's total net assets under management; *Return*, fund's past raw return; *Log Fund age*, natural logarithm of fund's age; *Expense ratio*, fund's expense ratio; *Flow*, fund's net flow computed as the change in fund assets not attributable to performance; *Inst. dummy*, indicator variable equal to one if the fund has an institutional investors' share class; *Turnover ratio*, fund's portfolio turnover ratio; *Family size*, natural logarithm of fund family's total assets under management; *Manager age*, average age of fund managers managing the fund; *Manager ind. tenure*, average time since fund managers entered the industry; *Ethnic diversity*, Teachman's Entropy index based on managers' ethnic groups. Regressions include fund, calendar month and objective fixed effects as indicated below. T-statistics, based on standard errors clustered at the fund level, are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Fama-French	Carhart
	(1)	(2)
Trust distance	**-0.002*** **	**-0.002** **
	(-2.96)	**(-2.57)**
Fund size	-0.001***	-0.002***
	(-10.90)	(-15.51)
Return	0.012***	0.001
	(5.41)	(0.15)
Log Fund age	-0.000	0.000
	(-0.82)	(0.19)
Expense ratio	-1.229**	-0.639
	(-2.00)	(-1.11)
Flow	0.001	-0.002
	(0.62)	(-1.28)
Inst. dummy	-0.000	-0.000
	(-0.97)	(-0.74)
Turnover ratio	-0.000*	-0.000
	(-1.76)	(-1.33)
Family size	-0.000*	-0.000
	(-1.93)	(-0.18)
Manager age	-0.000	-0.000
	(-0.91)	(-0.83)
Manager ind tenure	-0.000	-0.000
	(-0.00)	(-1.26)
Ethnic diversity	0.001**	0.001*
	(2.15)	(1.78)
Observations	154,039	154,039
Adjusted R-squared	0.078	0.082
Origin dummies	Yes	Yes
Fund FE	Yes	Yes
Obj. FE	Yes	Yes
Time FE	Yes	Yes

4.4. Conclusion

This study provides large-scale empirical evidence that distance in trust among team members is negatively related to team productivity. In line with theory, I argue that differences in trust increase coordination costs which results in lower team productivity.

I find consistent evidence that differences in societal trust are associated with lower team fund performance. These results are robust to an extensive set of control variables and robustness checks. Evidence from shocks to the distance in trust supports a causal interpretation of the results. Furthermore, the results suggest that it is harder to find consensus in teams with larger distance in trust. This is evident in the reduced implementation of investment ideas. High trust-distance funds have lower Active Share. In addition, ideas generated by the team members in their single-managed funds are not mimicked in the team fund. Funds that require more cooperation and are in more demand of investment ideas exhibit a stronger effect of distance in trust on performance. The results hold in equilibrium because positive effects of cultural diversity that enhance task-relevant information and skills sets balance with increased coordination costs caused by distance in trust.

This study sheds light on the importance of cultural values for financial decisions. In particular, this research suggests that differences in trust increase coordination costs and reduce team productivity. The results are important for fund management companies concerned with the optimal allocation of labor. Fund families should be aware of the costs of diversity and should staff funds with a diverse team of managers that minimizes differences in trust. In that way funds can reap benefits and minimize costs to cultural diversity. This research also informs employers about processes for idea generation in the face of diversity. Also, fund investors who allocate capital to managers should be aware of the documented dynamics.

Appendix to Chapter 2

Appendix 2.A: Variable description

If not stated otherwise, source is Lipper.

Variable	Description
Dependent variables	
Flow	$Flow_{i,c,t} = \frac{TNA_{i,c,t} - TNA_{i,c,t-1}(1+R_{i,c,t})}{TNA_{i,c,t-1}}$.
Liquidation	Dummy variable equal to 1 if fund is liquidated in period t, else 0.
Main independent variables	
MS passive	Market share of passive index funds, measured as: sum of total net assets of index funds divided by the sum of total net assets of actively managed and index funds by country, year and benchmark: $MS_{c,bm,t} = \frac{\sum TNA^{p}_{c,bm,t}}{\sum TNA^{a}_{c,bm,t} + TNA^{p}_{c,bm,t}}$.
High MS passive	Dummy variable equal to 1 if value of MS passive is larger than the median of MS passive, else 0.
Ranked return$_t$	Relative fund performance measured in raw returns (0 to 1) per country and year.
Ranked alpha	Relative fund performance measured in Jensen's alpha (0 to 1) per country and year.
Low Ranked Return / Low ranked Alpha	$Low_{i,c,t} = min(0.2, Rank_{i,c,t})$, where Rank is measured as ranked return and ranked alpha.
Mid Ranked Return / Mid ranked Alpha	$Mid_{i,c,t} = min(0.6, Rank_{i,c,t} - Low_{i,c,t})$, where Rank is measured as ranked return and ranked alpha.
Top Ranked Return / Top ranked Alpha	$Top_{i,c,t} = Rank_{i,c,t} - (Low_{i,c,t} + Mid_{i,c,t})$, where Rank is measured as ranked return and ranked alpha.
Control variables	
Fund size	Natural logarithm of fund's total net assets in period t.
Expenses	Fund's annual total expense ratio in period t.

Risk	Fund's standard deviation of monthly returns in period t.
Volatility Flow	Fund's standard deviation of monthly flows in period t.
Log Fund Age	Natural logarithm of fund's age since inception date in period t.
Institutional Fund Dummy	Dummy variable that equals 1 if fund offers institutional investor share class in period t, else 0.
Team Dummy	Dummy variable that equals 1 if fund is team managed, else 0.
High Fee (Low Fee)	Dummy variable equal to 1 if value of Expenses is larger (smaller) than the median of Expenses else 0.
Large (Small)	Dummy variable equal to 1 if value of Fund size is larger (smaller) than the median of Fund size else 0.
# actively managed funds/GDP	Number of actively managed equity mutual funds divided by GDP in period t (Source: Lipper and World Bank).
Pop. owning shares	Percentage of the population that owns shares in the equity market (Source: Grout, Megginson and Zalewska (2009)).
GDP/capita	Gross Domestic Product per Capita (Source: World Bank).
Governance index	Country-level governance index based on World Governance Indicators (WGI) (Source: World Bank).

Appendix 2.B: WLS

This table reports the results from WLS regressions of *Flow* on *MS Passive* (which is the market share of passive funds in the country and benchmark where the actively managed fund is available for sale), the fractional performance rank (measured as raw performance defined from 0 (worst) to 1 (best) by country and year), the interaction between the fractional performance rank and *MS Passive* (which measures the change in sensitivity of performance on flows due to the market share of passive funds), and fund characteristics as control variables (Panel A). In Panel B the coefficients on fractional performance ranks are estimated using a piecewise linear regression framework over five quintiles. These performance quintiles are grouped in *Low Ranked Return* (bottom quintile), *Mid Ranked Return* (2nd to 4th quintile) and *Top Ranked Return* (top quintile). *Flow* is the yearly growth rate of an actively managed mutual fund's total net assets due to inflows of new capital. In Panel C the dependent variable is *Liquidation* (which is an indicator variable that is equal to one if the fund is liquidated in period t. *MS Passive* is the sum of total net assets of index funds divided by the sum of total net assets of actively managed and index funds by country and benchmark for a given year. Weights are dependent on the number of distinct funds per country-year. All variables are defined in Appendix 2.A. Robust t-statistics (in parantheses) are based on standard errors clustered by fund. Specification (1) – (3) include country, year and benchmark fixed effects. Specification (4) includes country times year and benchmark fixed effects. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Sensitivity to past performance

Dependent variables	$Flow_t$			
	(1)	(2)	(3)	(4)
$Ranked\ Return_{t-1}$	0.322***	0.315***	0.328***	0.326***
	(18.18)	(19.00)	(19.04)	(18.92)
$MS\ Passive_{t-1}$	0.364***	0.502***	0.534***	0.550***
	(4.68)	(6.58)	(6.31)	(6.46)
$Ranked\ Return_{t-1}$ x $MS\ Passive_{t-1}$	**-0.483*** **	**-0.576*** **	**-0.634*** **	**-0.631*** **
	(-4.93)	**(-6.06)**	**(-6.18)**	**(-6.14)**
$Fund\ size_{t-1}$	-0.110***	-0.044***	-0.043***	-0.043***
	(-27.10)	(-14.38)	(-13.95)	(-13.80)
$Flow_{t-1}$	0.121***	0.072***	0.073***	0.073***
	(20.86)	(12.51)	(12.34)	(12.25)
$Expenses_{t-1}$	-8.306***	-5.100***	-5.617***	-5.638***
	(-8.54)	(-5.45)	(-5.51)	(-5.47)
$Risk_{t-1}$		-4.557***	-4.655***	-4.884***
		(-10.00)	(-9.96)	(-10.08)
$Volatility\ Flow_{t-1}$		7.656***	7.610***	7.631***
		(23.23)	(22.74)	(22.69)
$Log\ Fund\ Age_{t-1}$		-0.053***	-0.054***	-0.055***
		(-8.54)	(-8.47)	(-8.57)
$Institutional\ Fund\ Dummy_{t-1}$		0.015*	0.019**	0.020**
		(1.68)	(2.05)	(2.08)
Team Dummy			-0.031***	-0.031***
			(-3.12)	(-3.15)
Observations	96,817	94,876	87,215	87,186
Adjusted R-squared	0.108	0.235	0.234	0.233
Fixed Effects	Country, Year, Benchmark	Country, Year, Benchmark	Country, Year, Benchmark	Country x Year, Benchmark

Panel B: Convexity and performance-flow relation

Dependent variables	$Flow_t$			
	(1)	(2)	(3)	(4)
Low Ranked $Return_{t-1}$	-0.127	0.108	0.107	0.097
	(-1.10)	(0.94)	(0.92)	(0.83)
Mid Ranked $Return_{t-1}$	0.291***	0.294***	0.305***	0.303***
	(11.30)	(12.30)	(12.16)	(12.05)
Top Ranked $Return_{t-1}$	0.976***	0.646***	0.686***	0.699***
	(6.79)	(4.84)	(4.95)	(5.03)
MS $Passive_{t-1}$	0.099	0.168*	0.182*	0.202*
	(1.00)	(1.73)	(1.76)	(1.96)
Low Ranked Ret_{t-1} x MS $Passive_{t-1}$	**1.312****	**1.603*****	**1.698*****	**1.670*****
	(2.10)	**(2.71)**	**(2.68)**	**(2.63)**
Mid Ranked Ret_{t-1} x MS $Passive_{t-1}$	**-0.558*****	**-0.597*****	**-0.658*****	**-0.645*****
	(-4.02)	**(-4.44)**	**(-4.33)**	**(-4.23)**
Top Ranked Ret_{t-1} x MS $Passive_{t-1}$	**-1.533****	**-2.264*****	**-2.460*****	**-2.496*****
	(-2.38)	**(-3.63)**	**(-3.74)**	**(-3.80)**
Fund $size_{t-1}$	-0.110***	-0.043***	-0.043***	-0.043***
	(-27.07)	(-14.39)	(-13.96)	(-13.80)
$Flow_{t-1}$	0.119***	0.072***	0.073***	0.073***
	(20.58)	(12.46)	(12.29)	(12.19)
$Expenses_{t-1}$	-8.554***	-4.996***	-5.507***	-5.535***
	(-8.80)	(-5.35)	(-5.40)	(-5.37)
$Risk_{t-1}$		-4.497***	-4.592***	-4.833***
		(-9.93)	(-9.89)	(-10.02)
Volatility $Flow_{t-1}$		7.663***	7.617***	7.638***
		(23.29)	(22.81)	(22.76)
Log Fund Age_{t-1}		-0.053***	-0.054***	-0.055***
		(-8.50)	(-8.43)	(-8.53)
Institutional Fund $Dummy_{t-1}$		0.015*	0.019**	0.020**
		(1.67)	(2.04)	(2.07)
Team Dummy			-0.031***	-0.031***
			(-3.14)	(-3.17)
Observations	96,817	94,876	87,215	87,186
Adjusted R-squared	0.109	0.235	0.235	0.234
Fixed Effects	Country, Year, Benchmark	Country, Year, Benchmark	Country, Year, Benchmark	Country x Year, Benchmark

Panel C: Fund performance-liquidation sensitivity

Dependent variables	Liquidation			
	(1)	(2)	(3)	(4)
Ranked return$_{t-1}$	-0.006***	-0.005**	-0.006**	-0.006**
	(-2.62)	(-2.32)	(-2.49)	(-2.53)
High MS Passive$_{t-1}$	0.005**	0.005**	0.005**	0.005**
	(2.28)	(2.24)	(2.26)	(2.17)
Ranked return$_{t-1}$x High MS Passive$_{t-1}$	**-0.008*** **	**-0.009*** **	**-0.008** **	**-0.008** **
	(-2.59)	**(-2.77)**	**(-2.44)**	**(-2.32)**
Fund size$_{t-1}$	-0.007***	-0.007***	-0.007***	-0.007***
	(-17.88)	(-15.98)	(-15.58)	(-15.52)
Flow$_{t-1}$	-0.002***	-0.002***	-0.002***	-0.002***
	(-5.75)	(-5.77)	(-5.61)	(-5.48)
Expenses$_{t-1}$	-0.693***	-0.680***	-0.720***	-0.733***
	(-6.57)	(-6.33)	(-6.22)	(-6.27)
Risk$_{t-1}$		0.018	0.018	0.034
		(0.47)	(0.47)	(0.84)
Volatility Flow$_{t-1}$		-0.024**	-0.026**	-0.027**
		(-2.04)	(-2.12)	(-2.28)
Log Fund Age$_{t-1}$		-0.002**	-0.002**	-0.002**
		(-2.08)	(-2.11)	(-2.08)
Institutional Fund Dummy$_{t-1}$		0.002	0.001	0.001
		(1.43)	(1.33)	(1.34)
Team Dummy			-0.000	-0.000
			(-0.18)	(-0.13)
Observations	96,817	94,876	87,215	87,186
Adjusted R-squared	0.033	0.033	0.034	0.032
Fixed Effects	Country, Year, Benchmark	Country, Year, Benchmark	Country, Year, Benchmark	Country x Year, Benchmark

Appendix to Chapter 3

Appendix 3.A: Variable definitions

Accounting, ownership, and stock price data is from Thomson Reuters Eikon. Voting data is from ISS Voting Analytics.

Variable	Definition
Trust variables:	
Avg trust foreign investors	Weighted average of the level of trust that prevails in the countries where a firm's largest foreign investors are headquartered. Foreign investors among a firm's top 50 investors are considered. The weighted average is calculated using the percentage of shares held by each investor as the respective weights. (Sources: Eikon and WVS)
Inherited trust	Weighted average level of inherited trust that prevails in a U.S. county given the county's composition of its population. The weighted average is calculated based on the composition of the population (in terms of ancestries/nationalities) prevailing in a county according to the 2000 U.S. Census and the WVS trust measure by multiplying the share of a county's population with a given ancestry (e.g., French) by the trust level reported for the respective nationality/country (e.g., France) in the WVS. (Sources: U.S. Census and WVS)
Trust	Proportion of people in a country agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. (Source: WVS)
Voting variables:	
# Shareholder proposals	Number of proposals initiated by shareholders at a given shareholder meeting
% Mgmt. "against" votes	Average percentage of votes cast against management-initiated proposals at a given shareholder meeting.
% Mgmt. "for" votes	Average percentage of votes cast in support of firm management-initiated proposals at a given shareholder meeting.
% Mgmt. "for" votes adjusted for blockholder ownership	Average percentage of votes cast in support of firm management-initiated proposals at a given shareholder meeting minus the percentage of shares held by top 50 investors.
"For" vote	Indicator variables which equals one if the U.S. institutional investor voted for the given management proposal.
% Votes cast	Average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting.
% Votes cast adjusted for blockholder ownership	Average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting minus the percentage of shares held by the top 50 investors.
Capitalization	Average percentage of votes cast in support of the firm management's recommendations with respect to capitalization-related agenda items at a given shareholder meeting.
Compensation	Average percentage of votes cast in support of the firm management's recommendations with respect to compensation-related agenda items at a given shareholder meeting.
Directors	Average percentage of votes cast in support of the firm management's recommendations with respect to director-related agenda items at a given shareholder meeting.
Dissent	Indicator variable, which equals one if the variable *% Mgmt. "for" votes* takes a value in the first quartile of its distribution.
High mgmt. "for" votes	Indicator variable, which takes the value one if *% Mgmt. "for" votes* is larger than its sample median value, and zero otherwise.

Low votes cast	Indicator variable, which takes on the value one if *% Votes cast* is lower than its sample median value, and zero otherwise.
M&A	Average percentage of votes cast in support of the firm management's recommendations with respect to M&A-related agenda items at a given shareholder meeting.
Mgmt. proposal rejected	Indicator variable which equals one if one management-initiated proposal received less than 50% of votes cast at a given shareholder meeting.
Firm and governance variables:	
% Free float	The percentage of shares not held by the top 50 largest investors, defined as the difference between 100% and the percentage of shares held by the top 50 largest investors for a given fiscal year.
% Shares domestic investors	The percentage of shares held by domestic investors for a given fiscal year.
% Shares foreign investors	The percentage of shares held by foreign investors for a given fiscal year.
% Shares institutional investors	The percentage of shares held by institutional investors for a given fiscal year winsorized at the 1st and 99th percentiles.
% Shares largest investor	The percentage of shares held by the largest investor.
3-year avg ROE	Three-year average return on equity, defined as net income divided by book value of equity for a given fiscal year winsorized at the 1st and 99th percentiles.
CEO cash/total compensation	The fraction of cash to total compensation of a firm's CEO. (Source: Capital IQ)
CEO total compensation	The total compensation of the firm's CEO. (Source: Capital IQ)
ESG rating	A firm's rating based on environmental, social and governance variables (Source: Eikon).
Firm age	The number of years since IPO for a given fiscal year.
Herfindahl top 10 investors	Herfindahl index based on the company's top 10 investors for a given fiscal year.
High foreign ownership	Indicator variable, which takes the value one if foreign ownership among the top 50 largest investors is larger than its sample median value, and zero otherwise.
High free float	Indicator variable, which takes the value one if the variable *% free float* takes on values larger than its sample median, and zero otherwise.
Largest investor = bank (or corporation or family or government or institutional investor or management)	6 separate indicator variables equal to one if the largest investor is i) a bank or ii) a corporation or iii) a family or iv) a government or v) an institutional investor or vi) firm management for a given fiscal year, and zero otherwise.
Leverage	The company's total debt divided by its total assets for a given fiscal year winsorized at the 5th and 95th percentiles.
Ln(market cap)	Natural logarithm of the company's total market capitalization (in $) for a given fiscal year. Total market capitalization (in $) is winsorized at the 5th and 95th percentiles.
MTB	Market-to-book ratio, defined as market capitalization divided by book value of equity for a given fiscal year winsorized at the 5th and 95th percentiles.
Special meeting	Indicator variable equal to one if the shareholders' vote in a special meeting, and zero otherwise.
Stock return	The company's stock market return for a given fiscal year winsorized at the 5th and 95th percentiles.
Tobin's Q	The company's market capitalization plus book value of total debt divided by the book value of total assets, winsorized at the 5th and 95th percentiles.
Country variables:	
Confidence in companies	Average response to how much confidence people have in the country's major companies based on the following Likert scale: 1: None at all, 2: Not very much, 3: Quite a lot, 4: A great deal. (Source: WVS; the order of the original Likert scale has been reversed to facilitate the interpretation of the results)
Confidence in government	Average response to how much confidence people have in the country's government based on the following Likert scale: 1: None at all, 2: Not very much, 3: Quite a lot, 4: A great deal. (Source: WVS; the order of the original Likert scale has been reversed to facilitate the interpretation of the results)

Confidence in press	Average response to how much confidence people have in the country's press based on the following Likert scale: 1: None at all, 2: Not very much, 3: Quite a lot, 4: A great deal. (Source: WVS; the order of the original Likert scale has been reversed to facilitate the interpretation of the results)
Djankov ADRI	Anti-director rights index. (Source: Djankov et al., 2008)
Djankov ASDI	Anti-self-dealing index. (Source: Djankov et al., 2008)
Djankov English	Indicator variable equal to one if the company's country of headquarters is of English legal origin, and zero otherwise. (Source: Djankov et al., 2008)
Djankov French	Indicator variable equal to one if the company's country of headquarters is of French legal origin, and zero otherwise. (Source: Djankov et al., 2008)
Djankov German	Indicator variable equal to one if the company's country of headquarters is of German legal origin, and zero otherwise. (Source: Djankov et al., 2008)
GDP per capita	Country of headquarters' gross domestic product (GDP) per capita. (Source: World Bank World Development Indicators)
Market cap/GDP	Market capitalization as a percentage of the country's GDP for a given fiscal year. (Source: World Bank World Development Indicators)
Rule of law	Measures the extent to which agents have confidence in the quality of contract enforcement, property rights, the police, and the courts. (Source: World Bank)
Stock market participation	Domestic investors' participation rates per country (based on Giannetti and Koskinen, 2010).
U.S. county variables:	
% College	Annual % share of people in a county who are 25 years or older and have at least one year of college education. (Source: U.S. Census)
Household income	Per capita personal income in a county in a given year deflated to 2005 USD. (Source: Bureau of Economic Analysis)
Median age	Median age of people living in a county in a given year. (Source: U.S. Census)
Non-white population	One minus the percentage share of residents living in a county in a given year who are reported to be white. (Source: U.S. Census)
Population density	Number of people living in a county in a given year divided by the county's land area in sqm. (Sources: Bureau of Economic Analysis and U.S. Census)
Population growth	Annual growth rate of a county's population in a given year. (Source: Bureau of Economic Analysis)
Instrumental variables:	
% Hierarchical religion in 1900	Proportion of people in a country in 1900 who consider themselves Roman Catholic or Muslim. (Source: Enke, 2019)
Herfindahl index top 5 surnames	Herfindahl index of the top 5 (i.e., the 5 most frequent) surnames for a given country. The frequency of surnames per country is measured by the number of articles on Wikipedia per country that feature the surnames. (Source: Wikipedia's Wikidata)
Terror	Indicator variable equal to one if a terrorist attack (with at least 1 or 10 fatalities) occurred within two weeks or one month before the shareholder meeting. Subscript AR>0 indicates that terrorist attacks associated with a negative stock market reaction are excluded, where the abnormal return (AR>0) is calculated as the realized daily return minus the expected return (i.e., the average market return of the preceding 252 trading days). (Source: University of Maryland Global Terror Database)

Appendix 3.B: Alternative measures of shareholder dissent and different types of management proposals

Panel A of this table reports results from re-estimating the regression shown in column (5) of Table 3.2 and Table 3.3 with the dependent variables *Dissent*, *% Mgmt. "against" votes, Mgmt. proposal rejected*, and *# Shareholder proposals*. *Dissent* is an indicator variable, which equals one if the variable *% Mgmt. "for" votes* takes a value in the first quartile of its distribution. *% Mgmt. "against" votes* is the average percentage of votes cast against the management's recommendations at a given shareholder meeting. *Mgmt. proposal rejected* is an indicator variable, which equals one if at least one management proposal received less than 50% of the votes cast at a given shareholder meeting. *# Shareholder proposals* is the number of proposals initiated by shareholders at a given shareholder meeting. Panel B of this table reports results from re-estimating the regression shown in column (5) of Table 3.2 and Table 3.3, with *Capitalization*, *Compensation*, *Directors*, and *M&A* being the average percentage of votes cast in support of the respective management proposal types. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). All variables are defined in Appendix 3.A. Robust t-statistics (in parentheses) are based on standard errors clustered by firm. All specifications include sub-continent, year and industry fixed effects as well as fixed effects for the type of largest investor and legal origins. Investor type classifications are: bank, corporation, family, government, institutional and management. Legal origins are: English, French and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Alternative measures of shareholder dissent

	% Mgmt. "against" votes	**Dissent**	**Mgmt. proposal rejected**	**# Shareholder proposals**
	(1)	(2)	(3)	(4)
Trust	**-11.942*** (-7.02)**	**-0.999*** (-10.79)**	**-0.317*** (-7.02)**	**-0.192*** (-3.32)**
Firm controls	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes
Country controls	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	17,682	25,838	25,838	32,582
Adjusted R-squared	0.077	0.170	0.085	0.030

Panel B: Results for different types of management proposals

Dep. variables:	**Capitalization**	**Compensation**	**Directors**	**M&A**
	(1)	(2)	(3)	(4)
Trust	**10.361*** (4.61)**	**29.946*** (7.15)**	**6.561*** (4.40)**	**6.102 (1.15)**
Country controls	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	8,470	7,495	18,027	9,512
Adjusted R-squared	0.125	0.146	0.084	0.013

Appendix 3.C: Pairwise correlations

This table reports the pairwise correlations between the variable of interest, *Trust*, and the main control variables for firm, ownership, and country characteristics. Asterisks indicate a statistical significance level of 1%.

	Trust	3-year avg ROE	Firm age	Leverage	Ln (market cap)	MTB	Special meeting	Stock return	% Free float	% foreign investors	% inst. investors	% shares largest inv.	Herf. Top 10 inv.	Djankov ADRI	Djankov ASDI	GDP per capita	Market cap/GDP	Rule of law	English legal origin	French legal origin
Trust	**1.000**																			
3-year avg ROE	**-0.014***	1.000																		
Firm age	**-0.226***	0.059*	1.000																	
Leverage	**-0.022***	0.003	-0.003	1.000																
Ln(market cap)	**0.122***	0.294*	0.121*	0.009	1.000															
MTB	**-0.008**	-0.015*	-0.018*	0.030*	0.048*	1.000														
Special meeting	**0.137***	-0.042*	-0.213*	0.022*	0.041*	0.010	1.0000													
Stock return	**0.060***	0.013*	-0.004	-0.014*	0.173*	0.014*	0.021*	1.000												
% Free float	**0.140***	-0.156*	0.089*	-0.010	-0.204*	-0.013*	-0.002	-0.058*	1.000											
% Foreign investors	**-0.019***	0.029*	-0.117*	0.005	0.120*	0.037*	-0.038*	-0.055*	-0.289*	1.000										
% Inst. investors	**-0.088***	0.031*	-0.077*	-0.008	0.177*	0.043*	-0.041*	0.002	-0.285*	0.279*	1.000									
% Shares largest inv.	**-0.002**	0.113*	-0.087*	0.018*	0.165*	-0.000	0.077*	0.012*	-0.693*	0.251*	-0.108*	1.000								
Herf. Top 10 inv.	**-0.029***	0.099*	-0.062*	0.013*	0.149*	0.003	0.065*	0.009	-0.622*	0.253*	-0.074*	0.918*	1.000							
Djankov ADRI	**-0.642***	-0.085*	0.252*	0.001	-0.302*	0.005	-0.297*	-0.071*	-0.015*	0.050*	0.120*	-0.113*	-0.091*	1.000						
Djankov ASDI	**0.263***	-0.002	-0.261*	-0.031*	-0.004	-0.002	0.075*	0.030*	-0.094*	0.052*	0.092*	0.052*	0.015*	0.068*	1.000					
GDP per capita	**0.068***	-0.195*	0.140*	-0.021*	-0.294*	0.006	-0.207*	-0.100*	0.249*	0.017*	0.130*	-0.220*	-0.192*	0.422*	-0.161*	1.000				
Market cap/GDP	**0.059***	-0.016*	-0.091*	-0.011*	-0.047*	-0.008	-0.046*	0.001	-0.034*	0.179*	-0.074*	0.118*	0.082*	0.336*	0.465*	0.127*	1.000			
Rule of law	**-0.057***	-0.197*	0.126*	-0.025*	-0.341*	0.012*	-0.229*	-0.109*	0.179*	0.048*	0.190*	-0.196*	-0.172*	0.585*	-0.006	0.914*	0.298*	1.000		
English legal origin	**-0.240***	-0.119*	-0.145*	-0.020*	-0.305*	0.007	-0.034*	-0.064*	-0.025*	0.106*	0.190*	-0.070*	-0.070*	0.558*	0.550*	0.148*	0.381*	0.335*	1.000	
French legal origin	**0.231***	0.126*	-0.183*	0.026*	0.352*	0.003	0.323*	0.044*	-0.097*	-0.002	-0.115*	0.197*	0.177*	-0.757*	-0.130*	-0.556*	-0.266*	-0.671*	-0.617*	1.000
German legal origin	**0.026***	-0.000	0.378*	-0.005	-0.031*	-0.012*	-0.326*	0.026*	0.131*	-0.121*	-0.093*	-0.133*	-0.112*	0.181*	-0.502*	0.441*	-0.144*	0.348*	-0.493*	-0.380*

Additional correlations	**Trust**	Fraction of shares held by hedge funds	ISS for recommendation
Trust	**1.000**		
Fraction of shares held by hedge funds	**-0.019***	1.000	
ISS for recommendation	**-0.017***	-0.001*	1.000

Appendix 3.D: Regressions on annual level

This table reports the results from OLS regressions on annual level of *% Votes cast* (Panel A) and *% Mgmt. "for" votes* (Panel B) on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. Regressions are run for each year of the sample period separately. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by firm / country. All specifications include year- and industry-fixed effects. Investor type classifications are: bank, corporation, family, government, institutional and management. Legal origins are: English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: % Votes cast

	% Votes cast					
	Firm-clustered SEs			**Country-clustered SEs**		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**
	(1)	(2)	(3)	(4)	(5)	(6)
Trust	**-34.104*** (-2.93)**	**-38.273*** (-4.87)**	**-45.679*** (-6.22)**	**-34.104*** (-3.51)**	**-38.273*** (-3.86)**	**-45.679*** (-6.11)**
Country controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,507	4,780	6,096	2,507	4,780	6,096
Adjusted R-squared	0.470	0.418	0.485	0.470	0.418	0.485

Panel B: % Mgmt. "for" votes

	% Mgmt. "for" votes					
	Firm-clustered SEs			Country-clustered SEs		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**
	(1)	(2)	(3)	(4)	(5)	(6)
Trust	**13.445*** **	**12.953*** **	**13.684*** **	**13.445*** **	**12.953*** **	**13.684*** **
	(4.94)	**(5.18)**	**(7.60)**	**(7.20)**	**(5.65)**	**(6.03)**
Country controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,239	9,042	10,557	6,239	9,042	10,557
Adjusted R-squared	0.097	0.090	0.091	0.097	0.090	0.091

Appendix 3.E: Blockholder-adjusted votes cast and management for votes

This table reports OLS regression results of *% Mgmt. "for" votes adjusted for blockholder ownership* and *% Votes cast adjusted for blockholder ownership* on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. Firm, ownership, and country controls (not displayed) are similar to those used in Table 3.2 and Table 3.3. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals minus the percentage of votes held by blockholders at a given shareholder meeting. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision minus the percentage of votes held by blockholders at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by firm (Panel A) and country (Panel B). All specifications include year and industry fixed effects as well as fixed effects for the type of largest investor and legal origins. Specifications (3) and (6) additionally include sub-continent fixed effects. Investor type classifications are: bank, corporation, family, government, institutional and management. Legal origins are: English, French and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Firm-clustered SEs

Dep. variables:	% Votes cast adjusted for blockholder ownership			% Mgmt. "for" votes adjusted for blockholder ownership		
	(1)	(2)	(3)	(4)	(5)	(6)
Trust	**-19.594*** (-9.65)**	**-10.530** (-2.15)**	**-21.511*** (-3.06)**	**4.222*** (12.95)**	**4.913*** (5.22)**	**11.918*** (10.19)**
Country controls	No	Yes	Yes	No	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes
Sub-continent FE	No	No	Yes	No	No	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,266	4,889	4,889	26,713	25,016	25,016
Adjusted R-squared	0.579	0.592	0.604	0.954	0.955	0.956

Panel B: Country-clustered SEs

Dep. variables:	% Votes cast adjusted for blockholder ownership			% Mgmt. "for" votes adjusted for blockholder ownership		
	(1)	(2)	(3)	(4)	(5)	(6)
Trust	**-19.594*** (-3.82)**	**-10.530** (-2.19)**	**-21.511*** (-4.12)**	**4.222* (1.96)**	**4.913* (1.98)**	**11.918*** (8.15)**
Sub-continent FE	No	No	Yes	No	No	Yes
Country controls	No	Yes	Yes	No	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,266	4,889	4,889	26,713	25,016	25,016
Adjusted R-squared	0.579	0.592	0.604	0.954	0.955	0.956

Appendix 3.F: Controlling for confidence in institutions

This table reports the results from OLS regressions of *% Votes cast* (columns (1) to (5)) and *% Mgmt. "for" votes* (columns (6) to (10)) on *Trust*, firm characteristics, ownership characteristics, and country characteristics and three different measures for peoples' confidence in institutions (i.e., *Confidence in companies*, *Confidence in press* and *Confidence in government*). Firm, ownership, and country controls (not displayed) are similar to those used in Table 3.2 and Table 3.3. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals for a given fiscal year. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. *Residual trust* is the residual of an unreported regression from trust on *Confidence in companies*, *Confidence in press* and *Confidence in government*. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by firm (Panel A) and country (Panel B). All specifications include sub-continent, year and industry fixed effects as well as fixed effects for the type of largest investor and legal origins. Investor type classifications are: bank, corporation, family, government, institutional and management. Legal origins are: English, French and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Firm-clustered SEs

Dep. variables:	**% Votes cast**					**% Mgmt. "for" votes**				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Trust	**-30.439*** **	**-30.583*** **	**-38.472*** **	**-25.182*** **		**12.303*** **	**12.042*** **	**12.414*** **	**12.212*** **	
	(-4.57)	**(-4.21)**	**(-5.58)**	**(-3.60)**		**(8.77)**	**(7.78)**	**(8.34)**	**(7.92)**	
Residual trust					**-23.138*** **					**9.488*** **
					(-3.54)					**(6.27)**
Confidence in companies	-37.681***			-31.051***		4.999**			5.109*	
	(-8.22)			(-6.24)		(2.08)			(1.96)	
Confidence in government		-15.682***		-9.768***			0.783		0.385	
		(-6.49)		(-2.88)			(1.28)		(0.33)	
Confidence in press			-14.109***	-1.262				0.930	-0.702	
			(-3.92)	(-0.28)				(1.19)	(-0.44)	
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,383	13,383	13,383	13,383	13,383	25,838	25,838	25,838	25,838	25,838
Adjusted R-squared	0.460	0.458	0.456	0.462	0.451	0.092	0.091	0.091	0.092	0.089

Panel B: Country-clustered SEs

Dep. variables:	% Votes cast					% Mgmt. "for" votes				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Trust	**-30.439*** **	**-30.583*** **	**-38.472*** **	**-25.182*** **		**12.303*** **	**12.042*** **	**12.414*** **	**12.212*** **	
	(-3.87)	**(-4.20)**	**(-6.36)**	**(-6.24)**		**(7.85)**	**(8.69)**	**(8.63)**	**(8.26)**	
Residual trust					**-23.138*** **					**9.488*** **
					(-4.00)					**(4.22)**
Confidence in companies	-37.681***			-31.051***		4.999*			5.109**	
	(-5.56)			(-6.26)		(1.96)			(2.10)	
Confidence in government		-15.682***		-9.768**			0.783		0.385	
		(-3.32)		(-2.74)			(1.07)		(0.27)	
Confidence in press			-14.109	-1.262				0.930	-0.702	
			(-1.58)	(-0.27)				(1.02)	(-0.35)	
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,383	13,383	13,383	13,383	13,383	25,838	25,838	25,838	25,838	25,838
Adjusted R-squared	0.460	0.458	0.456	0.462	0.451	0.092	0.091	0.091	0.092	0.089

Appendix 3.G: Controlling for additional firm-specific corporate governance variables

This table reports the results from OLS regressions of *% Votes cast* and *% Mgmt. "for" votes* on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. Firm, ownership, and country controls (not displayed) are similar to those used in Table 3.2 and Table 3.3. The regressions additionally include the variables *ESG rating* (columns (1) and (6)), *ISS recommendation* (columns (2), (5), (7) and (10)), *CEO total compensation* (columns (3), (5), (8) and (10)) and *CEO cash/total compensation* (columns (4), (5), (9) and (10)). *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by firm (Panel A) and country (Panel B). All specifications include sub-continent, year and industry fixed effects as well as fixed effects for the type of largest investor and legal origins. The largest investor type dummies are bank, corporation, family, government, institutional shareholder and management. Legal origins are English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Firm-clustered SEs

Dep. variables:	% Votes cast					% Mgmt. "for" votes				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Trust	**-30.847*** **	**-41.677*** **	**-40.541*** **	**-40.109*** **	**-42.239*** **	**4.636***	**11.540*** **	**8.394*** **	**7.664*** **	**7.890*** **
	(-3.50)	**(-6.14)**	**(-5.26)**	**(-5.11)**	**(-5.43)**	**(1.75)**	**(8.31)**	**(4.42)**	**(4.09)**	**(4.21)**
ESG rating	-0.017					0.011				
	(-0.46)					(1.27)				
ISS recommendation		-0.219			-0.097**		6.340***			0.032***
		(-0.34)			(-2.45)		(15.83)			(3.08)
CEO total compensation			0.000		0.000			0.000		0.000
			(0.62)		(0.58)			(1.16)		(0.45)
CEO cash/total compens.				-0.582	-0.278				-0.704*	-0.611
				(-0.29)	(-0.13)				(-1.68)	(-1.38)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,397	13,383	4,320	4,143	4,143	3,282	25,838	9,565	9,276	9,276
Adjusted R-squared	0.372	0.455	0.323	0.335	0.336	0.058	0.134	0.072	0.076	0.076

Panel B: Country-clustered SEs

Dep. variables:	% Votes cast					% Mgmt. "for" votes				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Trust	**-30.847*** (-4.93)**	**-41.677*** (-4.40)**	**-40.541*** (-5.21)**	**-40.109*** (-5.54)**	**-42.239*** (-5.68)**	**4.636** (2.55)**	**11.540*** (6.76)**	**8.394*** (3.79)**	**7.664*** (3.66)**	**7.890*** (3.38)**
ESG rating	-0.017					0.011				
	(-0.45)					(1.25)				
ISS recommendation		-0.219			-0.097***		6.340***			0.032**
		(-0.22)			(-3.29)		(5.28)			(2.39)
CEO total compensation			0.000		0.000			0.000		0.000
			(0.58)		(0.48)			(1.58)		(0.64)
CEO cash/total compens.				-0.582	-0.278				-0.704**	-0.611*
				(-0.36)	(-0.14)				(-2.36)	(-1.98)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,397	13,383	4,320	4,143	4,143	3,282	25,838	9,565	9,276	9,276
Adjusted R-squared	0.372	0.455	0.323	0.335	0.336	0.058	0.134	0.072	0.076	0.076

Appendix 3.H: Additional controls for World Governance Indicators (World Bank)

This table reports the results from OLS regressions of *% Votes cast* and *% Mgmt. "for" votes* on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. Firm, ownership, and country controls (not displayed) are similar to those used in Table 3.2 and Table 3.3. The regressions additionally include *Voice and accountability*, *Control of corruption*, *Regulatory quality*, *Political stability* and *Government effectiveness* of firms' country of headquarters. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by firm / country. All specifications include year- and industry-fixed effects. The largest investor type dummies are bank, corporation, family, government, institutional shareholder and management. Legal origins are English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

	% Votes cast		**% Mgmt. "for" votes**	
	Firm-clustered SEs	**Country-clustered SEs**	**Firm-clustered SEs**	**Country-clustered SEs**
	(1)	(2)	(3)	(4)
Trust	**-43.973*** **	**-43.973*** **	**12.688*** **	**12.688*** **
	(-6.61)	**(-6.99)**	**(8.34)**	**(9.59)**
Control of corruption	10.922***	10.922***	-1.050	-1.050
	(4.39)	(3.42)	(-1.45)	(-1.31)
Government effectiveness	-3.701*	-3.701	-0.913*	-0.913
	(-1.91)	(-0.80)	(-1.68)	(-1.54)
Political stability	5.677**	5.677	-0.303	-0.303
	(1.96)	(1.07)	(-0.62)	(-0.54)
Regulatory quality	6.287*	6.287	0.535	0.535
	(1.92)	(1.06)	(0.82)	(0.83)
Voice and accountability	7.409***	7.409**	-0.232	-0.232
	(3.56)	(2.50)	(-0.42)	(-0.33)
Country controls	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	13,383	13,383	25,838	25,838
Adjusted R-squared	0.460	0.460	0.091	0.091

Appendix 3.I: Additional controls for power distance and individualism (Hofstede)

This table reports the results from OLS regressions of *% Votes cast* (Panel A) and *% Mgmt. "for" votes* (Panel B) on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. Firm, ownership, and country controls (not displayed) are similar to those used in Table 3.2 and Table 3.3. The regressions additionally include the Hofstede power distance index (*Power distance*) and individualism index (*Individualism*) of firms' country of headquarters. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by firm / country. All specifications include year- and industry-fixed effects. The largest investor type dummies are bank, corporation, family, government, institutional shareholder and management. Legal origins are English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: % Votes cast

	% Votes cast					
	Firm-clustered SEs			**Country-clustered SEs**		
	(1)	(2)	(3)	(4)	(5)	(6)
Trust	**-53.783*** (-7.74)**	**-43.342*** (-5.95)**	**-54.210*** (-7.59)**	**-53.783*** (-5.34)**	**-43.342*** (-4.15)**	**-54.210*** (-5.03)**
Power distance	-0.356*** (-4.19)		-0.348*** (-3.96)	-0.356*** (-2.82)		-0.348*** (-2.91)
Individualism		-0.112 (-1.19)	-0.042 (-0.44)		-0.112 (-0.67)	-0.042 (-0.24)
Country controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,142	13,142	13,142	13,142	13,142	13,142
Adjusted R-squared	0.452	0.451	0.452	0.452	0.451	0.452

Panel B: % Mgmt. "for" votes

	% Mgmt. "for" votes					
	Firm-clustered SEs			**Country-clustered SEs**		
	(1)	(2)	(3)	(4)	(5)	(6)
Trust	**12.428*** (7.76)**	**13.136*** (9.13)**	**12.508*** (7.88)**	**12.428*** (6.28)**	**13.136*** (8.76)**	**12.508*** (7.20)**
Power distance	-0.010 (-0.62)		-0.014 (-0.82)	-0.010 (-0.57)		-0.014 (-0.82)
Individualism		0.018 (0.70)	0.024 (0.86)		0.018 (0.61)	0.024 (0.81)
Country controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes
Sub-continent FE	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	25,499	25,499	25,499	25,499	25,499	25,499
Adjusted R-squared	0.091	0.091	0.091	0.091	0.091	0.091

Appendix 3.J: Controlling for stock market participation

This table reports the results from OLS regressions of *% Votes cast* and *% Mgmt. "for" votes* on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. The regressions additionally include the variable *Stock market participation*, which is the stock market participation in the firms' country of headquarters (as in Giannetti and Koskinen (2010) whose data we use). *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by firm / country. All specifications include year- and industry-fixed effects. The largest investor type dummies are bank, corporation, family, government, institutional shareholder and management. Legal origins are English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

	% Votes cast		**% Mgmt. "for" votes**	
	Firm-clustered SEs	**Country-clustered SEs**	**Firm-clustered SEs**	**Country-clustered SEs**
	(1)	(2)	(3)	(4)
Trust	**-70.967*** **	**-70.967*** **	**10.848** **	**10.848*** **
	(-3.49)	**(-3.16)**	**(2.77)**	**(2.75)**
Stock market participation	-774.029**	-774.029**	77.596*	77.596
	(-2.73)	(-2.36)	(1.77)	(1.32)
3-year avg ROE	3.324***	3.324***	-0.113	-0.113
	(3.57)	(3.55)	(-0.48)	(-0.75)
Firm age	0.037***	0.037**	0.001	0.001
	(3.69)	(2.20)	(0.49)	(0.57)
Leverage	0.311	0.311	-0.497	-0.497
	(0.18)	(0.20)	(-1.25)	(-0.87)
Ln(market cap)	2.524***	2.524***	-0.064	-0.064
	(11.08)	(10.52)	(-0.66)	(-1.49)
MTB	0.005	0.005	-0.000	-0.000
	(1.08)	(0.93)	(-0.26)	(-0.11)
Special meeting	-4.235*	-4.235***	-1.110*	-1.110***
	(-1.96)	(-6.67)	(-1.87)	(-5.83)
Stock return	-1.046**	-1.046*	0.597**	0.597***
	(-2.47)	(-1.76)	(2.97)	(5.76)
% Free float	-0.300***	-0.300***	-0.029***	-0.029***
	(-5.61)	(-10.29)	(-3.76)	(-5.79)
% Shares foreign investors	-0.038	-0.038**	-0.010	-0.010**
	(-1.18)	(-2.15)	(-1.58)	(-2.40)
% Shares institutional inv.	-0.065	-0.065**	-0.046**	-0.046***
	(-1.25)	(-2.10)	(-2.67)	(-6.13)
% Shares largest investor	0.045	0.045	0.005	0.005
	(0.68)	(0.97)	(0.46)	(0.64)
Herfindahl Top 10 investors	0.001	0.001	0.000	0.000*
	(1.13)	(1.26)	(1.04)	(1.76)
Djankov ADRI	36.457***	36.457***	-4.201**	-4.201*
	(3.25)	(2.64)	(-2.39)	(-1.65)
Djankov ASDI	-212.899***	-212.899***	16.915*	16.915*
	(-3.86)	(-3.39)	(2.11)	(1.68)
GDP per capita	0.003**	0.003***	-0.000*	-0.000*
	(2.94)	(2.72)	(-2.11)	(-1.69)
Market cap/GDP	-0.035	-0.035	-0.012**	-0.012**
	(-1.61)	(-1.14)	(-2.21)	(-1.96)
Rule of law	-22.033***	-22.033***	2.292**	2.292*
	(-3.78)	(-3.26)	(2.65)	(1.88)
Sub-continent FE	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	4,366	4,366	16,651	16,651
Adjusted R-squared	0.352	0.352	0.073	0.073

Appendix 3.K: Trust and voting - European countries only

This table reports the results from OLS regressions on annual level of *% Votes cast* (Panel A) and *% Mgmt. "for" votes* (Panel B) on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. Firm, ownership, and country controls (not displayed) are similar to those used in Table 3.2 and Table 3.3. The regressions are estimated for European countries only. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by firm / country. All specifications include year- and industry-fixed effects. The largest investor type dummies are bank, corporation, family, government, institutional shareholder and management. Legal origins are English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: % Votes cast

	% Votes cast					
	Firm-clustered SEs			**Country-clustered SEs**		
	(1)	(2)	(3)	(4)	(5)	(6)
Trust	**-21.477*** (-7.36)**	**-17.064*** (-5.92)**	**-40.103*** (-2.82)**	**-21.477*** (-4.36)**	**-17.064*** (-3.92)**	**-40.103** (-3.23)**
Country controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,363	1,895	1,398	3,363	1,895	1,398
Adjusted R-squared	0.103	0.427	0.492	0.103	0.427	0.492

Panel B: % Mgmt. "for" votes

	% Mgmt. "for" votes					
	Firm-clustered SEs			**Country-clustered SEs**		
	(1)	(2)	(3)	(4)	(5)	(6)
Trust	**7.402*** (8.23)**	**4.484*** (3.91)**	**24.352*** (2.96)**	**7.402** (2.34)**	**4.484** (2.33)**	**24.352*** (6.11)**
Country controls	No	No	Yes	No	No	Yes
Firm controls	No	Yes	Yes	No	Yes	Yes
Ownership controls	No	Yes	Yes	No	Yes	Yes
Djankov legal origin FE	No	Yes	Yes	No	Yes	Yes
Largest investor type FE	No	Yes	Yes	No	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,125	3,380	1,746	6,125	3,380	1,746
Adjusted R-squared	0.026	0.059	0.074	0.026	0.059	0.074

Appendix 3.L: Evidence based on the extended cross-country sample including the USA

This table reports the results from OLS regressions of *% Votes cast* and *% Mgmt. "for" votes* on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. The regressions are based on an extended cross-country sample, which additionally includes data for U.S. (Russell 3000) companies as provided by ISS Voting Analytics. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by firm / country. All specifications include year- and industry-fixed effects. The largest investor type dummies are bank, corporation, family, government, institutional shareholder and management. Legal origins are English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

	% Votes cast		**% Mgmt. "for" votes**	
	Firm-clustered SEs	**Country-clustered SEs**	**Firm-clustered SEs**	**Country-clustered SEs**
	(1)	(2)	(3)	(4)
Trust	**-48.049*** **	**-48.049*** **	**10.428*** **	**10.428*** **
	(-8.24)	**(-4.39)**	**(9.97)**	**(9.80)**
3-year avg ROE	1.903***	1.903***	-0.089	-0.089
	(4.48)	(5.16)	(-0.80)	(-0.57)
Firm age	-0.001	-0.001	0.001**	0.001***
	(-0.44)	(-0.68)	(2.15)	(3.10)
Leverage	-2.516***	-2.516**	-0.363	-0.363
	(-2.79)	(-2.06)	(-0.86)	(-1.12)
Ln(market cap)	2.400***	2.400***	0.152***	0.152
	(19.21)	(16.90)	(4.85)	(0.89)
MTB	-0.000	-0.000	-0.000	-0.000
	(-0.39)	(-1.59)	(-0.61)	(-1.55)
Special meeting	-3.960***	-3.960***	-0.840***	-0.840**
	(-12.85)	(-4.19)	(-7.49)	(-2.22)
Stock return	-1.118***	-1.118***	0.367***	0.367***
	(-3.99)	(-2.94)	(4.86)	(2.93)
% Free float	-0.069***	-0.069	-0.010***	-0.010
	(-4.45)	(-0.92)	(-3.29)	(-1.22)
% Shares foreign investors	0.054***	0.054	-0.022***	-0.022***
	(4.03)	(0.85)	(-7.15)	(-5.50)
% Shares institutional investors	0.152***	0.152	-0.010***	-0.010
	(11.34)	(0.98)	(-2.64)	(-0.87)
% Shares largest investor	0.185***	0.185***	0.017***	0.017
	(4.89)	(3.13)	(2.80)	(1.29)
Herfindahl Top 10 investors	0.001*	0.001*	0.000	0.000
	(1.88)	(1.73)	(0.97)	(0.71)
Djankov ADRI	-3.610***	-3.610**	0.733***	0.733***
	(-4.80)	(-2.19)	(4.01)	(4.24)
Djankov ASDI	-1.158	-1.158	2.888**	2.888**
	(-0.17)	(-0.12)	(2.29)	(2.62)
GDP per capita	0.000***	0.000**	-0.000***	-0.000***
	(4.44)	(2.38)	(-4.49)	(-4.65)
Market cap/GDP	0.008***	0.008	-0.003***	-0.003***
	(2.96)	(1.50)	(-3.66)	(-3.07)
Rule of law	4.860***	4.860*	0.013	0.013
	(3.43)	(1.74)	(0.03)	(0.03)
Sub-continent FE	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	20,818	20,818	33,341	33,341
Adjusted R-squared	0.501	0.501	0.086	0.086

Appendix 3.M: Trust and votes cast (country-clustered SEs)

This table reports the results from OLS regressions of *% Votes cast* on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by country. All specifications include year and industry fixed effects as well as largest investor type and legal origin fixed effects. Investor type classifications are: bank, corporation, family, government, institutional and management. Legal origins are: English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Dep. variables:	**% Votes cast**				
	(1)	(2)	(3)	(4)	(5)
Trust	**-41.765*** (-11.36)**	**-35.605*** (-9.16)**	**-31.091** (-2.20)**	**-41.747*** (-4.41)**	**-41.372*** (-4.58)**
3-year avg ROE		3.510*** (3.96)	3.261*** (6.68)	3.183*** (7.54)	3.319*** (6.63)
Firm age		0.039 (1.55)	0.026 (0.95)	0.027 (1.13)	0.031 (1.29)
Leverage		-1.885 (-1.67)	-2.251** (-2.20)	-0.792 (-0.75)	-0.498 (-0.38)
Ln(market cap)		1.517*** (2.73)	2.189*** (8.00)	2.286*** (10.10)	2.217*** (8.92)
MTB		0.001 (0.72)	0.002 (0.38)	0.001 (0.16)	0.000 (0.06)
Special meeting		-4.731*** (-4.31)	-3.774*** (-4.38)	-3.317*** (-4.63)	-3.307*** (-4.43)
Stock return		-1.147*** (-3.51)	-0.785** (-2.19)	-0.692* (-1.99)	-0.897** (-2.23)
% Free float		-0.256*** (-9.74)	-0.244*** (-7.88)	-0.261*** (-12.05)	-0.253*** (-12.94)
% Shares foreign investors		0.109* (1.91)	0.108* (1.85)	0.107* (1.71)	0.108* (1.70)
% Shares institutional investors		-0.243*** (-2.73)	-0.285*** (-3.20)	-0.279*** (-3.10)	-0.260*** (-3.10)
% Shares largest investor		0.004 (0.10)	0.036 (1.08)	0.031 (1.07)	0.028 (0.77)
Herfindahl Top 10 investors		0.001*** (3.15)	0.001** (2.60)	0.001** (2.34)	0.001* (1.90)
Djankov ADRI			3.319 (1.44)	-3.268* (-1.92)	-3.122* (-1.87)
Djankov ASDI			11.228 (0.74)	-5.467 (-0.70)	-4.393 (-0.58)
GDP per capita			0.000 (0.82)	0.000* (1.74)	0.000 (1.69)
Market cap/GDP			-0.011 (-1.58)	0.007 (1.07)	0.006 (0.96)
Rule of law			-1.839 (-0.48)	5.566** (2.31)	5.645** (2.37)
Avg trust foreign investors					-3.816* (-1.71)
Sub-continent FE	No	No	No	Yes	Yes
Djankov legal origin FE	No	No	Yes	Yes	Yes
Largest investor type FE	No	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	20,716	14,085	13,383	13,383	12,202
Adjusted R-squared	0.219	0.406	0.431	0.455	0.452

Appendix 3.N: Trust and management "for" votes (country-clustered SEs)

This table reports the results from OLS regressions of *% Mgmt. "for" votes* on *Trust* (which is the trust level of the country where the firm has its headquarters), firm characteristics, ownership characteristics, and country characteristics. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting (Panel A). *Capitalization*, *Compensation*, *Directors*, and *M&A* is the average percentage of votes cast in support of the respective management proposal types (Panel B). *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by country. All specifications include year and industry fixed effects as well as largest investor type and legal origin fixed effects. Investor type classifications are: bank, corporation, family, government, institutional and management. Legal origins are: English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: % Mgmt. "for" votes

Dep. variables:	**% Mgmt. "for" votes**				
	(1)	(2)	(3)	(4)	(5)
Trust	**5.723** **(2.04)**	**4.332*** **(1.88)**	**4.929*** **(1.87)**	**12.809***** **(8.35)**	**12.718***** **(9.21)**
3-year avg ROE		0.399	-0.004	-0.025	-0.015
		(1.34)	(-0.02)	(-0.13)	(-0.07)
Firm age		-0.009*	-0.000	0.003	0.003
		(-1.95)	(-0.02)	(0.83)	(1.03)
Leverage		0.057	-0.361	-0.481	-0.537
		(0.13)	(-1.06)	(-1.48)	(-1.43)
Ln(market cap)		0.135	-0.023	-0.048	-0.040
		(1.07)	(-0.25)	(-0.57)	(-0.48)
MTB		0.000	-0.000	-0.000	-0.000
		(0.71)	(-0.32)	(-0.25)	(-0.25)
Special meeting		-0.300	-0.725*	-0.718*	-0.732*
		(-0.60)	(-1.87)	(-1.82)	(-1.87)
Stock return		0.406**	0.377**	0.403**	0.404**
		(2.35)	(2.61)	(2.74)	(2.62)
% Free float		-0.034***	-0.022***	-0.022***	-0.025***
		(-3.57)	(-6.15)	(-5.38)	(-5.61)
% Shares foreign investors		-0.022***	-0.016**	-0.017***	-0.018***
		(-5.04)	(-2.64)	(-2.97)	(-2.98)
% Shares institutional investors		-0.035**	-0.041***	-0.039***	-0.040***
		(-2.25)	(-3.03)	(-3.02)	(-3.10)
% Shares largest investor		0.005	0.003	0.002	0.002
		(0.52)	(0.31)	(0.23)	(0.24)
Herfindahl Top 10 investors		0.000	0.000	0.000	0.000
		(0.89)	(1.44)	(1.58)	(1.42)
Djankov ADRI			-0.050	0.897***	0.819***
			(-0.14)	(3.97)	(4.26)
Djankov ASDI			-1.104	3.300***	2.883**
			(-0.70)	(2.90)	(2.67)
GDP per capita			-0.000	-0.000***	-0.000***
			(-1.23)	(-4.22)	(-4.89)
Market cap/GDP			0.001	-0.004***	-0.004***
			(1.00)	(-3.43)	(-4.18)
Rule of law			-0.522	0.241	0.301
			(-0.56)	(0.49)	(0.68)
Avg trust foreign investors					0.601
					(0.95)
Sub-continent FE	No	No	No	Yes	Yes
Djankov legal origin FE	No	No	Yes	Yes	Yes
Largest investor type FE	No	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	39,436	27,645	25,838	25,838	24,295
Adjusted R-squared	0.024	0.051	0.083	0.091	0.091

Panel B: % Mgmt. "for" votes by proposal type

Dep. variables:	**Capitalization**	**Compensation**	**Directors**	**M&A**
	(1)	(2)	(3)	(4)
Trust	**10.361*** **	**29.946*** **	**6.561*** **	**6.102**
	(4.73)	**(4.42)**	**(4.04)**	**(1.39)**
Sub-continent FE	Yes	Yes	Yes	Yes
Country controls	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	8,470	7,495	18,027	9,512
Adjusted R-squared	0.125	0.146	0.084	0.013

Appendix 3.O: Trust, shareholder voting, and differences across corporate ownership (with country fixed effects) (country-clustered SEs)

This table reports the results from OLS regressions of *% Mgmt. "for" votes* and *% Votes cast* on *Trust* (which is the trust level of the country where the firm has its headquarters), the interaction of *Trust* and *High free float* (which is a binary variable equal to one if the firm's free float is above the sample median) or the interaction of *Trust* and *High foreign ownership* (which is a binary variable equal to one if the share of foreign investors among the firm's top 50 largest investors is above the sample median), firm characteristics, ownership characteristics and country characteristics. Firm, ownership, and country controls (not displayed) are similar to those used in Table 3.2 and Table 3.3. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by country. All specifications include year and industry fixed effects as well as fixed effects for the type of largest investor. Investor type classifications are: bank, corporation, family, government, institutional and management. Specifications with even (odd) numbers also include country fixed effects (legal origin and sub-continent fixed effects). Legal origins are: English, French and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

	% Votes cast				**% Mgmt. "for" votes**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trust	-38.364***		-55.972***		12.068***		14.296***	
	(-3.99)		(-6.31)		(7.61)		(7.57)	
High free float	-2.736	-3.615			-0.829	-0.758		
	(-0.86)	(-1.16)			(-1.40)	(-1.28)		
Trust * High free float	**-6.538**	**-5.057**			**1.573***	**1.436**		
	(-1.16)	**(-0.91)**			**(1.71)**	**(1.54)**		
High foreign ownership			-7.987***	-7.272***			0.686	0.665
			(-4.17)	(-3.96)			(1.42)	(1.37)
Trust * High foreign			**25.400*** **	**23.728*** **			**-2.898** **	**-2.878** **
			(4.33)	**(3.85)**			**(-2.33)**	**(-2.31)**
Country FE	No	**Yes**	No	**Yes**	No	**Yes**	No	**Yes**
Subcontinent FE	Yes	No	Yes	No	Yes	No	Yes	No
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin dummies	Yes	No	Yes	No	Yes	No	Yes	No
Largest investor dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,383	13,380	13,383	13,380	25,838	25,837	25,838	25,837
Adj. R-squared	0.462	0.471	0.465	0.473	0.091	0.093	0.092	0.095

Appendix 3.P: Trust, shareholder voting, and future firm performance (with country fixed effects) (country-clustered SEs)

This table reports the OLS regression results of *Stock return* and *Tobin's Q* on *Trust*, *Low votes cast*, and the interaction term *Trust * Low votes cast* (columns (1) to (4)). This table also reports the OLS regression results of *Stock return* and *Tobin's Q* on *Trust*, *High mgmt. "for" votes*, and the interaction term *Trust * High mgmt. "for" votes* (columns (5) to (8)). All regressions include firm characteristics, ownership characteristics, and country characteristics as control variables. Firm, ownership, and country controls (not displayed) are similar to those used in Table 3.2 and Table 3.3. The regressions shown in columns (2), (4), (6) and (8) additionally include country fixed effects. *High mgmt. "for" votes* is an indicator variable, which is equal to one if *% Mgmt. "for" votes* is larger than its sample median value. *Low votes cast* is an indicator variable, which is equal to one if *% Votes cast* is smaller than its sample median value. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by country. All specifications include year and industry fixed effects as well as fixed effects for the type of largest investor. Investor type classifications are: bank, corporation, family, government, institutional and management. Specifications with even (odd) numbers also include country fixed effects (legal origin fixed effects). Legal origins are: English, French, and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

	% Votes cast				**% Mgmt. "for" votes**			
Dep. variables:	**Stock return$_{t+1}$**		**Tobin's Q$_{t+1}$**		**Stock return$_{t+1}$**		**Tobin's Q$_{t+1}$**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trust	0.445		1.31		0.357*		0.643**	
	(1.34)		(1.56)		(1.75)		(2.22)	
Low votes cast	-0.115**	-0.118**	-0.353**	-0.524**				
	(-2.45)	(-2.59)	(-2.48)	(-2.42)				
Trust * Low votes cast	**0.226*** **	**0.211*** **	**0.862*** **	**1.043*** **				
	(3.50)	**(3.40)**	**(3.62)**	**(2.80)**				
High mgmt. "for" votes					-0.105***	-0.083***	-0.125	-0.187
					(-3.76)	(-3.40)	(-1.16)	(-1.58)
Trust * High mgmt. "for"					**0.338*** **	**0.296*** **	**0.775*** **	**0.881*** **
					(6.30)	**(6.33)**	**(4.19)**	**(3.94)**
Country FE	No	**Yes**	No	**Yes**	No	**Yes**	No	**Yes**
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ownership controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Djankov legal origin dummies	Yes	No	Yes	No	Yes	No	Yes	No
Largest investor dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,376	13,376	13,537	13,537	25,826	25,826	25,777	25,777
Adj. R-squared	0.138	0.165	0.297	0.314	0.112	0.137	0.251	0.253

Appendix 3.Q: Terrorist attacks as transitory negative shocks to trust (country-clustered SEs)

This table reports the results from OLS regressions of *% Votes cast* and *% Mgmt. "for" votes* on different measures of terrorist attacks. Following Ahern (2018), we use terrorist attacks as exogenous shocks that cause a temporary reduction in trust in others. We define shareholder meetings as treated if a terrorist attack took place within two weeks / one month before the meeting date, which mitigates concerns that institutional or economic responses to terrorism cause our results. *Terror* is an indicator variable that equals one if there was a terrorist attack with at least one fatality within two weeks (i.e., *Terror (2 weeks)*) or one month (i.e., *Terror (1 month)*) of the shareholder meeting (i.e., both AGM and special meeting) in the respective company's country of headquarters. *Terror*ln(# fatalities)* is an interaction term of the variable *Terror* with the number of people that died in the respective terrorist attack (fatalities). Panel B shows results for the same variables based on a sample that excludes terrorist attacks with a negative stock market reaction to further mitigate concerns that economic responses to terrorism cause our results. *% Votes cast* is the average percentage of votes cast irrespective the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by country. All specifications include year, industry and country fixed effects. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: All terrorist attacks

	% Votes cast				**% Mgmt. "for" votes**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Terror (2 weeks)	**0.835*** (3.33)**				**-0.330*** (-5.60)**			
Terror (2 weeks)*ln(# fatalities)		**0.471*** (5.46)**				**-0.114*** (-5.65)**		
Terror (1 month)			**0.417* (1.74)**				**-0.232** (-2.61)**	
Terror (1 month)*ln(# fatalities)				**0.284** (2.37)**				**-0.123*** (-4.67)**
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20,712	20,712	20,712	20,712	39,433	39,433	39,433	39,433
Adjusted R-squared	0.287	0.288	0.287	0.287	0.075	0.075	0.075	0.075

Panel B: Excluding terrorist attacks with negative stock market reaction

	% Votes cast				% Mgmt. "for" votes			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Terror (2 weeks)$_{AR>0}$	**1.088*** (3.48)**				**-0.310*** (-3.86)**			
Terror (2 weeks)$_{AR>0}$*ln(# fatalities)		**0.490*** (6.09)**				**-0.109*** (-3.53)**		
Terror (1 month)$_{AR>0}$			**0.689** (2.59)**				**-0.199** (-2.15)**	
Terror (1 month)$_{AR>0}$*ln(# fatalities)				**0.292*** (4.89)**				**-0.114*** (-2.73)**
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20,712	20,712	20,712	20,712	39,433	39,433	39,433	39,433
Adjusted R-squared	0.287	0.288	0.287	0.287	0.075	0.075	0.075	0.075

Appendix 3.R: Instrumental variable (IV) regressions (country-clustered SEs)

This table reports the coefficients from instrumental variable regressions. Specifications (1) and (3) in Panel A and (1), (3), (5) and (7) in Panel B and C show the results from the first-stage regressions. Following Putnam (1993), La Porta et al. (1997), and Zak and Knack (2001), we instrument *Trust* with *% Hierarchical religion in 1900* (Panel A). *% Hierarchical religion in 1900* is the proportion of people in a country in the year 1900 who belonged to the religious groups of Roman Catholics or Muslims. Specifications (2) and (4) in Panel A and (2), (4), (6) and (8) in Panel B and C report the second-stage results, with *Trust* being instrumented by *% Hierarchical religion in 1900* (Panel A) or, alternatively, by *Herfindahl index top 5 surnames*, *Genetic distance*, *Pronoun drop*, or *Rainfall variation* (Panel B and C) in a given country. The instrumented *Trust* variable is denoted *Trust (IV)*. *% Votes cast* is the average percentage of votes cast irrespective of the concrete voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. *Trust* is the proportion of people agreeing that 'most people can be trusted' against the alternative that 'you can't be too careful in dealing with people'. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by country. All specifications include sub-continent, year and industry fixed effects as well as fixed effects for the type of largest investor and for legal origins. Investor type classifications are: bank, corporation, family, government, institutional and management. Legal origins are: English, French and German. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: % Hierarchical religions in 1900

Dep. variables:	First Stage **Trust**	Second Stage **% Votes cast**	First Stage **Trust**	Second Stage **% Mgmt. "for" votes**
	(1)	(2)	(3)	(4)
% Hierarchical religion 1900	**-0.563*** **		**-0.523*** **	
	(-5.95)		**(-8.16)**	
Trust (IV)		**-65.516*** **		**14.992*** **
		(-3.28)		**(4.60)**
3-year avg ROE	-0.000	3.254***	-0.000	0.042
	(-0.74)	(6.82)	(-0.51)	(0.18)
Firm Age	0.000	0.030	-0.000	0.004
	(1.52)	(1.27)	(-0.54)	(1.00)
Leverage	-0.001	-0.773	0.001	-0.587*
	(-0.71)	(-0.66)	(1.26)	(-1.77)
Ln(market cap)	0.000	2.286***	0.000	-0.017
	(0.62)	(10.20)	(0.08)	(-0.19)
MTB	0.000	0.000	-0.000	-0.000
	(1.41)	(0.10)	(-1.53)	(-0.28)
Special meeting	-0.002	-2.957***	-0.001	-0.731*
	(-1.02)	(-8.30)	(-0.39)	(-1.65)
Stock return	0.001	-0.507	0.000	0.324**
	(1.07)	(-1.51)	(0.36)	(2.41)
% Free float	0.000	-0.269***	0.000	-0.021***
	(0.73)	(-14.10)	(1.23)	(-4.92)
% Shares foreign investors	0.000	0.118*	0.000	-0.019***
	(1.60)	(1.75)	(1.52)	(-2.64)
% Shares institutional investors	-0.000	-0.296***	0.000	-0.029***
	(-1.19)	(-3.47)	(1.12)	(-4.06)
% Shares largest investor	-0.000	0.040	0.000	0.006
	(-0.03)	(1.46)	(1.05)	(0.74)
Herfindahl Index Top 10 Investors	-0.000	0.001**	-0.000	0.000
	(-0.09)	(2.20)	(-0.38)	(1.26)
Djankov ADRI	-0.061**	-6.691*	-0.067**	1.372**
	(-2.11)	(-1.75)	(-2.51)	(2.38)
Djankov ASDI	0.025	-10.321	0.042	3.867***
	(0.20)	(-0.71)	(0.41)	(2.88)
GDP per capita	0.000*	0.000*	0.000***	-0.000***
	(1.84)	(1.84)	(3.50)	(-2.89)
Market cap/GDP	-0.000	-0.037	0.000	0.000
	(-0.15)	(-1.44)	(0.47)	(0.03)
Rule of Law	-0.036	6.788**	-0.009	-0.018
	(-1.32)	(2.02)	(-0.27)	(-0.04)
Sub-continent FE	Yes	Yes	Yes	Yes
Djankov legal origin FE	Yes	Yes	Yes	Yes
Largest investor type FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Kleibergen-Paap F-statistic	35.46		66.62	
Ratio Trust (IV) / Trust		1.57		1.17
Observations	12,689		23,490	
Adj. R-squared		0.477		0.100

Panel B: % Votes cast

Stage	First	Second	First	Second	First	Second	First	Second
Dep. variables:	Trust	% Votes cast	Trust	% Votes cast	Trust	% Votes cast	Trust	% Votes cast
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Herfindahl index top 5 surnames	**20.115*** **							
	(18.45)							
Genetic Distance			**-2.136**					
			(1.34)					
Pronoun drop					**0.207****			
					(2.08)			
Rainfall variation							**0.135***	
							(1.72)	
Trust (IV)		**-32.499*** **		**-177.715****		**-54.502***		**-110.745****
		(-3.97)		**(-1.97)**		**(-1.72)**		**(-2.38)**
Controls and FE as in Panel A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kleibergen-Paap F-statistic	340.53		1.81		4.31		2.96	
Observations	9,380	9,380	12,677	12,677	12,968	12,968	12,689	12,689
R-squared		0.482		0.427		0.453		0.466

Panel C: % Mgmt. for Votes

Stage	First	Second	First	Second	First	Second	First	Second
Dep. variables:	Trust	% Mgmt for votes	Trust	% Mgmt for votes	Trust	% Mgmt for votes	Trust	% Mgmt for votes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Herfindahl index top 5 surnames	**20.220*** **							
	(13.99)							
Genetic Distance			**-2.623***					
			(-1.81)					
Pronoun drop					**0.097**			
					(1.51)			
Rainfall variation							**0.146****	
							(2.04)	
Trust (IV)		**11.739*** **		**25.767*** **		**31.315***		**27.435*** **
		(7.99)		**(2.30)**		**(1.69)**		**(3.06)**
Controls and FE as in Panel A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kleibergen-Paap F-statistic	195.70		3.28		2.28		4.15	
Observations	20,111	20,111	23,122	23,122	18,145	18,145	23,490	23,490
R-squared		0.103		0.097		0.077		0.094

Appendix 3.S: Inherited trust and voting – U.S. county-level evidence (with state fixed effects) (county-clustered SEs)

This table reports OLS regression results of *% Votes cast* and *% Mgmt. "for" votes* on *Inherited trust*, firm characteristics, county characteristics, and ownership characteristics for a sample of U.S. Russell 3000 companies between 2003 and 2015. *Inherited trust* is the weighted average WVS trust level of a populations' ancestors in the county where the firm is headquartered. *% Votes cast* is the average percentage of votes cast irrespective of the voting decision at a given shareholder meeting. *% Mgmt. "for" votes* is the average percentage of votes cast in support of management-initiated proposals at a given shareholder meeting. All regressions include a constant (not reported). Robust t-statistics (in parentheses) are based on standard errors clustered by U.S. county. All specifications include year, industry, and U.S. state fixed effects as well as fixed effects for the type of largest investor. Investor type classifications are: bank, corporation, family, government, institutional and management. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Dep. variables:	**% Votes cast**			**% Mgmt. "for" votes**		
	(1)	(2)	(3)	(4)	(5)	(6)
Inherited Trust	**-0.265*** (-3.00)**	**-0.181* (-1.73)**	**0.041 (0.57)**	**0.116*** (3.34)**	**0.132*** (3.04)**	**0.152*** (3.48)**
3-year avg ROE		0.008*** (3.45)	0.006*** (3.46)		0.001 (1.02)	0.001 (0.98)
Firm age		-0.001*** (-6.45)	0.000 (0.06)		-0.000 (-1.17)	-0.000 (-0.91)
Leverage		-0.043*** (-4.74)	-0.037*** (-5.20)		-0.000 (-0.11)	0.001 (0.18)
Ln(market cap)		0.022*** (14.40)	0.019*** (23.68)		0.004*** (10.80)	0.005*** (12.60)
MTB		-0.009*** (-5.91)	-0.006*** (-6.26)		0.001 (1.20)	0.001 (0.97)
Special meeting		-0.138*** (-24.17)	-0.136*** (-23.48)		-0.145*** (-17.67)	-0.145*** (-17.61)
Stock return		0.001 (0.27)	0.001 (0.41)		0.005*** (4.26)	0.005*** (3.86)
% College		-0.000 (-0.38)	-0.000 (-0.80)		0.000 (0.16)	0.000 (0.43)
Household income		0.000 (0.08)	-0.000 (-0.45)		-0.000 (-0.20)	-0.000 (-0.23)
Median age		0.002 (0.87)	0.001 (0.48)		-0.000 (-0.04)	0.000 (0.24)
Non-white population		0.020 (1.45)	0.004 (0.41)		0.010 (1.50)	0.009 (1.28)
Population density		-0.000* (-1.72)	-0.000 (-0.81)		-0.000 (-0.96)	-0.000 (-1.51)
Population growth		0.348*** (2.96)	0.249** (2.22)		0.036 (0.41)	0.046 (0.52)
% Free float			-0.003*** (-17.61)			-0.000*** (-3.00)
% Shares foreign investors			-0.001*** (-5.59)			0.000 (0.88)
% Shares institutional investors			0.000 (1.50)			-0.000*** (-3.41)
% Shares largest investor			0.000 (1.30)			0.000 (1.44)
Herfindahl Top 10 investors			0.000* (1.81)			0.000 (0.88)
Largest investor type FE	No	No	Yes	No	No	Yes
U.S. State FE	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	35,551	23,289	23,086	36,027	23,551	23,344
Adjusted R-squared	0.222	0.324	0.446	0.036	0.160	0.165

Table 3.T: Voting behavior of U.S. institutional investors (county-clustered SEs)

This table reports regression results of *% Mgmt. "for" votes (N-PX)* on *Trust*, county characteristics, firm characteristics, and ownership characteristics for a sample of U.S. Russell 3000 firms between 2003 and 2015. *Inherited trust* is the weighted average WVS trust level of a populations' ancestors in the county where the firm is headquartered. *% Mgmt. "for" votes (N-PX)* is the average percentage of votes cast by U.S. institutional investors (extracted from N-PX filings) in support of management-initiated proposals at a given shareholder meeting. All regressions include a constant (not reported) as well as year, U.S. state and industry fixed effects and fixed effects for the type of largest investor. Investor type classifications are: bank, corporation, family, government, institutional and management. Robust t-statistics (in parentheses) are based on standard errors clustered by county. ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

Dep. variable:	**% Mgmt. "for" votes (N-PX)**	
	(1)	(2)
Inherited Trust	**0.289*** **	**0.347*** **
	(4.41)	**(4.60)**
3-year avg ROE	0.002	0.002
	(0.82)	(0.95)
Firm Age	0.000**	0.000**
	(2.25)	(2.21)
Leverage	-0.013*	-0.013*
	(-1.78)	(-1.72)
Ln(market cap)	0.012***	0.012***
	(13.75)	(13.50)
MTB	-0.002	-0.002
	(-1.57)	(-1.49)
Special meeting	-0.003	-0.003
	(-1.53)	(-1.42)
Stock return	-0.049***	-0.049***
	(-8.59)	(-8.75)
% Free float	0.000	0.000
	(1.38)	(1.55)
% Shares foreign investors	-0.000	-0.000
	(-1.50)	(-1.40)
% Shares institutional investors	0.001***	0.001***
	(4.36)	(4.52)
% Shares largest investor	-0.001***	-0.001***
	(-3.14)	(-2.96)
Herfindahl Index Top 10 Investors	-0.000*	-0.000**
	(-2.10)	(-2.27)
% College		-0.000
		(-0.42)
Household income		-0.000
		(-0.19)
Median age		0.001
		(0.66)
Non-white population		0.012
		(1.05)
Population density		-0.000
		(-0.66)
Population growth		0.023
		(0.18)
Largest investor type FE	Yes	Yes
U.S. state FE	**Yes**	**Yes**
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	22,029	21,732
Adjusted R-squared	0.146	0.146

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Hiermit versichere ich an Eides Statt, dass ich die vorgelegte Arbeit selbstständig und ohne die Benutzung anderer als der angegebenen Hilfsmittel angefertigt habe. Die aus anderen Quellen direkt oder indirekt übernommenen Aussagen, Daten und Konzepte sind unter Angabe der Quelle gekennzeichnet. Bei der Auswahl und Auswertung folgenden Materials haben mir die nachstehend aufgeführten Personen in der jeweils beschriebenen Weise entgeltlich/ unentgeltlich geholfen:

Prof. Dr. Peter Limbach, Dr. Florian Sonnenburg und Prof. Raghavendra Rau, Ph.D (gemeinsame Projektarbeit für die Inhalte in Kapitel 2) sowie Prof. Dr. Peter Limbach und Prof. Marc Goergen, DPhil. (gemeinsame Projektarbeit für die Inhalte in Kapitel 3).

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