To what extent do common owners affect the implied cost of capital (ICC)?

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Abstract:

Common investors' influence on their portfolio firms is examined using Callen and Lyle's (2020) term structure of implied cost of capital (ICC) as a reference. Using centrality network metrics as indicators of common ownership, we demonstrated that the societal advantages of common ownership in enhancing information environments and corporate governance for firms in their networks might outweigh their social costs in harming individual firms' competitiveness, thereby reducing the ICC. These effects are mitigated in an environment with high tunnelling (other receivables to total assets) and outstanding analyst coverage, while environments with substantial liquidity enhance them significantly. Moreover, active, and domestic common owners, who engage in more hands-on management may have a greater impact on portfolio firms. On the other hand, passive and foreign common owners who take a more hands-off approach, have a weaker impact on portfolio firms.

Keywords: mutual funds, cost of capital, block-holding, institutional investors, common ownership

1. Introduction

The role of institutional investors in financial markets has increased dramatically over the past few decades, with the institutional share of publicly traded equity rising from 33% in 1980 to 61% in 2018 in the US. This trend has also resulted in institutions often owning significant equity in multiple firms, so many firms have overlapped major shareholders as their common owners[1]. Different from well-diversified small investors, whose portfolio value is maximised by promoting whole-market competition and discipline to maximise the value of each firm, common owners with significant shareholdings and/or sophisticated monitoring capabilities may put their portfolio value above the value of each firm; by making it easier for anti-competitive outcomes to happen, managers of commonly owned firms can coordinate and share resources at the expense of each firm's value maximisation (e.g., Schmalz, 2018; Azar *et al.*, 2018; López and Vives, 2019; Condon, 2020; Azar *et al.*, 2022; Pawliczek *et al.*, 2022; Li *et al.*, 2023). Therefore, significant interest from researchers now focuses on the economic benefits and costs trade-off of common ownership to understand their impact on changing corporate objectives and behaviour.

In this paper, we study how common ownership affects the firm-level cost of equity capital. Easley and O'Hara (2004) show that public and private information differences affect a company's capital costs, while Lambert *et al.* (2007) demonstrate that a firm information environment significantly influences a firm's cost of capital by influencing how market participants evaluate the distribution of future cash flows, and by contributing to a firm's real decisions which influence its expected value and covariance with other firms. Prior research indicates that common owners have an information advantage over non-common owners via their common ownership networks (Ramalingegowda *et al*., 2021; Massa and Žaldokas, 2017). Moreover, their sophisticated influence over management based on their information advantages, established via their common ownership networks, significantly impact an individual firm's strategic decisions and its information environment (Connelly *et al*., 2019;

[1] For example, Berkshire Hathaway is the most significant shareholder of two of the country's four biggest banks (the third-largest investor in a sixth bank) and three of the country's four biggest airlines (and the third-largest stockholder in the fourth). PRIMECAP owns interests of comparable magnitude in the six leading airlines. BlackRock, Vanguard, State Street, Fidelity, and T. Rowe Price represent the most significant shareholders of most of the largest airlines (Azar et al., 2018).

Edmans *et al*., 2019). However, given the unclear impacts of common owners' information advantages to pursue their portfolio value maximisation in either aligning interests between these common and non-common owners or stimulating principal-principal conflicts between them, it is unclear how common ownership influences an individual firm's value maximisation and its assessed covariance of its future cash flows with other firms by all market participants, leading to unclear impacts on an individual firm's cost of equity capital.

Using mutual funds and EFTs ownership data of US firms between 2005 and 2021, we found that common ownership leads to a lower implied cost of equity capital. Common owners' effects on the implied cost of equity capital increase (decrease) when these common owners are either active or domestic (passive or foreign). In addition, common owners reduce the implied cost of equity capital more when tunnelling possibilities are reduced, information environments are reduced, and liquidity environments are increased. We also performed a difference-in-difference analysis using the propensity score matching approach, which allowed us to match the control and treatment groups properly and eliminated selection bias. Our findings are similar to the results revealed previously. They indicated that common shareholders maintain their portfolio companies, lowering their financing costs.

Although the rise in joint ownership is already well documented and several empirical studies have demonstrated the anticompetitive impacts of joint ownership on pricings, quantities, markups, managerial incentives, and profitability, these studies define common ownership as an institutional investor holding a significant stake in shares of two or more businesses operating *in the same industry* (competing firms). This implies that the prior study seems to have neglected the effect of other co-owned companies (enterprises with the same institutional owner as the business under investigation) in distinct sectors. Given how a firm information environment significantly influences a firm's cost of capital, which influences its expected value and covariance with other firms (Lambert *et al*., 2007), and the assumption that a shareholder whose portfolio perfectly resembles the overall economy should be encouraged to reduce the negative externalities (asymmetrical information) formed by a portion of the corporations in their portfolio, we argue that a complete portfolio-wide investment strategy must consider both companies and sectors to explain the cost of capital.

Our research contributes to common ownership and corporate governance literature in a few ways. First, we extend previous research on trade-offs in common ownership from innovation efficiency (Li *et al.*, 2023), firm-level competition (e.g., Azar, 2017; Azar *et al*., 2018; Azar *et al*., 2022), corporate social responsibility (Cheng *et al.*, 2022) to individual firms' cost of equity capital. Edmans *et al.* 2019 established a theoretical model where common owners utilise superior knowledge about their companies to make better governance through their trading choices. He *et al.* (2019) observed that common ownership enhances monitoring effectiveness and reduces externalities by providing access to various information that holds management responsible. Common owners may utilise this enhanced knowledge to generate more accurate industry projections, direct their enterprises as informational mediators (Connelly *et al.*, 2019; Massa and Žaldokas, 2017), and react to unanticipated issues more efficiently. However, Pawliczek *et al.* (2022) find that common ownership encourages managerial tacit collusion to limit their competition with one another without explicit agreement by using voluntary disclosure. Our research suggests that the social benefits of common owners, such as improving information environments and corporate governance for firms in their networks, may dominate over their social costs, including damaging individual firm's competitiveness and its expected future cash flows. These social benefits will in turn decrease the assessed covariance of these firms' expected cash flows with the sum of all the cash flows by non-common owned firms in the market, thus reduce their cost of equity capital.

Second, we extend corporate governance literature on principal-principal conflicts from those focusing on conflicts between controlling and minority shareholders (Shleifer and Vishn, 1997 for a review) and conflicts among blockholders (Pagano and Roell, 1998; Bennedsen and Wolfenzon, 2000; Bolton and Von Thadden, 1998; Maury and Pajuste, 2005; Jiang *et al.*, 2020; Jiang *et al*., 2018; Kang *et al*., 2018) to conflicts between common owners and non-common owners. By focusing on various net impacts of common ownership in reducing cost of equity capital under different potential principal-principal conflict conditions related to tunnelling possibilities, analysts following environments, and liquidity trading environments, we reveal how and why the underlying conflicts between common owners and non-common owners vary, which leads to suboptimal economic outcomes of common ownership in reducing cost of equity capital.

Third, extensive research reveals that networks and their properties influence economic outcomes in numerous contexts (e.g., Kali and Reyes, 2010). Research demonstrates that networks impact information flow and communication between linked businesses (Cai and Sevilir, 2012). However, limited studies have been undertaken on the impact of company networks on capital costs. We address the criticism of the common ownership measurement proposed by Azar *et al*. (2018) using a comprehensive common ownership networking analysis. Azar *et al*. (2018) only considered the number of common owners and their proportion of holdings and used the HHI to measure common ownership, which is a nonlinear function of each company's market share in a particular market and institutional shareholders' control and cash-flow rights in each of the businesses. However, Backus *et al.* (2019), claimed that the documented positive association between common ownership and anti-competitive effects documented in Azar *et al.* (2018) originates from the market share element of the common ownership measure rather than the ownership and control components (Backus *et al.*, 2019). Several papers reviewed this evidence and found no sufficient proof that common ownership leads to (anti-competitive) effects (He and Huang, 2017; Kennedy *et al.*, 2017;

Backus *et al*., 2019; Egland *et al*., 2020; Gilje *et al*., 2020; Eldar and Grennan, 2021; Koch *et al*., 2021; Lewellen and Lowry, 2021; Li *et al*., 2021).

We adopt a comprehensive common ownership networking analysis which considers the number of common owners (degree) and the market share of information (closeness, eigenvector) induced as a consequence of this common ownership. For example, if a company has ten common owners (degree of 10), these measurements will presume that its common ownership concentration exceeds that of a company with five common owners (a degree of 5). However, we go a step further by investigating the significance (closeness) and quality (eigenvector) of these shared ownership relationships. For example, closeness here indicates the significance of companies in the network (information market share); therefore, a company with a degree of 10 has ten common owners, regardless of how many firms it shares the common owners with. However, if this business has ten common owners with ten separate companies, then it implies it has ten distinct sources of information since it is reachable by those ten different firms. Furthermore, if another business has just a few-but-excellent common ownership linkage (eigenvector), i.e., by being linked to highly influential companies (e.g., one firm connects to another while the latter has an excellent connection to the firms in the information hub), this indicates higher-quality information.

Finally, based on common ownership networking analysis, we conduct different networking grouped by whether such networking is formed based on (1) block-ownership or small-ownership; (2) foreign or domestic networking; (3) active or passive. By doing so, we extend financial integration literature on foreign investors in increasing information asymmetry (Jiang and Kim, 2004; Sami and Zhou, 2004; Gelos and Wei, 2005), thereby increasing the cost of equity capital to common ownership networks formed by foreign institutional investors and how it differs from those formed by domestic institutional investors.

The remainder of the paper is organised as follows. Section 2 provides a review of the relevant literature and presents the study's hypotheses. In Section 3, the data and economic model are described. The empirical findings for the baseline model are provided in Section 4. Section 5 provides examination of different potential principal-principal conflict conditions. Section 6 presents subsampling tests. Section 7 provides robustness tests. Section 8 concludes.

2. Literature Review and Hypotheses Development:

Easley and O'Hara (2004) show that public and private information differences affect a company's capital costs. Investors anticipate higher returns from shares with more confidential information. Therefore, private information introduces a new type of systemic risk. Similarly, Lambert *et al*. (2007) demonstrate that a firm's beta is an indicator of the quality of its information and disclosures, and financial information influences a firm's cost of capital by influencing how market participants evaluate the distribution of future cash flows, and by contributing to a firm's real decisions, which influence its expected value and covariance with other firms.

Prior research indicates that common owners have an information advantage over non-common owners because they can access private information (Connelly *et al*., 2019; Edmans *et al*., 2019). O'Brien and Bhushan (1990) and Kacperczyk *et al.* (2005) suggest that a single institution's ownership of many rival businesses in the same industry could result in economies of scale by gathering information from multiple firms in the same industry. Edmans *et al*. (2019) established a theoretical model where common owners utilise superior knowledge about their companies to make better trading choices. He *et al.* (2019) observed that common ownership enhances monitoring effectiveness and reduces externalities by providing access to various information that holds management responsible.

Because common owners have extensive knowledge of more than one firm per sector, they may precisely evaluate various companies' financial outcomes and investment potential (Ramalingegowda *et al.*, 2021). Furthermore, common owners may provide critical information to their businesses by serving as informational intermediaries (Massa and Zaldokas, 2017). Common ownership promotes the interchange of information between businesses, enhancing corporate transparency (Park *et al.*, 2019; Pawliczek and Skinner, 2018). Connelly *et al*. (2019) argued that by acting as informational bridges, common owners enable their firms to engage in indirect competition by employing diverse competitive repertoires while retaining their overall competitive aggressiveness.

Previous research has shown that the growth in common ownership may come with high costs. Diversified shareholder interests may differ from concentrated shareholder interests and the goal of increasing shareholder wealth (Condon, 2020). Like any other investor, common shareholders want to maximise the value of their entire portfolio (Daily *et al*, 2003; Hansen and Lott, 1996). Enterprises with common owners may no longer maximise their worth but their owners' portfolio value, which may affect their strategic choices (see e.g., Hansen and Lott, 1996; López and Vives, 2019; Schmalz, 2018). This suggests that diversified shareholders may persuade corporate executives to make firm-level choices that benefit the investor's entire portfolio. Thus, the relationship between portfolio maximisation and individual value maximisation leads to the classic principal-principal conflicts and potential benefits and costs trade-offs associated with common owners to a particular firm.

According to cost of capital theories, agency cost as a form of capital market frictions increases the cost of external funding, raising the overall cost of external capital compared to internally generated funds for financially constrained businesses (e.g., Greenwald *et al.*, 1984; Myers and Majluf, 1984). Agency cost exacerbates the information asymmetry between companys' owners, resulting in increased company expenditures as financing becomes more costly (e.g., La Porta *et al.*, 2002).

Common ownership can either benefit or hinder co-owned businesses. To comprehend why, one must investigate the *portfolio perspective* of common owners and how the action (or inaction) of one firm causes collateral effects that increase (or decrease) systematic risk and decrease (or increase) portfolio value. As Coffee (2021, pp. 604-605) explains, common owners "may knowingly accept, and even cause, losses at some firms in their portfolio if they expect that those losses will be outweighed by correlative gains at other portfolio firms." This is because common owners feel the negative impact of a single business's activities on a whole industry considerably more severely than non-common owners, who own shares in just one firm in the sector (DesJardine *et al.*, 2022). Non-common shareholders, on the other hand, do not internalise the negative externalities that companies impose on each other's profitability. Thus, non-diversified shareholders do expect managers to enhance the value of the company, but diversified shareholders do not. They are willing to allow management to lose out on some profitable investment opportunities if these investments come at the expense of other portfolio firms.

In addition, through their access to information (e.g., Backus *et al.*, 2019; Chen *et al.*, 2021; He *et al.*, 2019; Park *et al.*, 2019), common owners influence firms' performance (e.g., McConnell and Servaes, 1990), managers' tunnelling and self-dealing incentives (e.g., Antón *et al.*, 2016; La Porta *et al.*, 2000), financial reporting and disclosure (e.g., Jung, 2013), mergers and acquisitions (e.g., Brooks *et al.*, 2018; Harford *et al.*, 2011; Matvos and Ostrovsky, 2008), capital structure and cash flow management (e.g., Semov, 2017), decreasing business risks associated with the product market, increasing voluntary transparency, and enhancing profit quality, which reduces the cost of capital (Ni and Yin's, 2020, 2021).

Although access to information by joint owners might improve the performance of jointly held businesses (e.g., McConnell and Servaes, 1990), it could also encourage joint owners to participate in self-dealing acts that maximise their welfare via joint ownership in many firms. This so-called "tunnelling" can have a deleterious effect on the other shareholders in these co-owned firms (e.g., Backus *et al.*, 2019; Beatty *et al.*, 2013; Djankov *et al.*, 2008; Foster, 1981; Han *et al.*, 1989; Hou, 2007; Ke and Petroni, 2004; La Porta *et al.*, 2000; Matvos and Ostrovsky, 2008), which makes capital providers more reluctant to finance those firms.

Previous research indicates that institutional shareholders with significant holdings in a company may undertake profitable transactions based on their private knowledge, particularly in ambiguous informational settings (e.g., Bushee and Goodman, 2007; Maffett, 2012). An opaque disclosure setting encourages shareholders to become privately educated (Verrecchia, 1982; Diamond, 1985), and institutional shareholders are better suited to obtain and execute lucrative deals based on hidden information (Verrecchia, 1982; Diamond, 1985; Maffett, 2012). Therefore, more openness could decrease the ability of common owners, which are often enormous institutions, to conduct profitable transactions based on their confidential information.

Some researchers contend that institutional ownership might positively affect the investee's cost of capital by giving the *legitimacy* (in the eyes of the lenders) that could assist in reducing the investee's financing cost (e.g., Alshwer, 2012). Previous research indicates that capital providers value common ownership's supervising function for such businesses because it indicates that adverse selection is likely to be minimised, hence lowering the cost of funding (e.g., Chen *et al.*, 2021). Similarly, Attig *et al.* (2008) propose that a significant number of controlling owners is economically essential for lowering a company's cost of equity.

Consequently, institutional common holding acts as a market-based mechanism for minimising the inefficiencies caused by governance externalities, as shown by various research findings (e.g., He and Huang, 2017; He *et al.*, 2019). In fact, past research suggests that joint holdings by institutional investors allow co-owned organisations to obtain more than twice as much external investment as firms without joint owners because their existence minimises adverse selection. Their results indicate that information advantages and governance expertise acquired through several blockholdings are crucial mechanisms via which institutions conduct successful monitoring. Moreover, institutional joint ownership substantially influences financing when a company's financial statements are opaque or incomparable.

Do common owners facilitate collusion of monitoring, particularly if they own stacks in non-competing firms (firms operating in diverse industries)? The answer is it depends. The adoption of modern portfolio resulted in investors holding economical-mirroring portfolios. If large, diversified investors place a higher value on industry-level profit than firm-level profit, then they should also place a higher value on economy-level profit (e.g., Condon, 2020). Prior theory and empirical evidence indicate that governance decisions made by one company can affect other companies (e.g., Acharya and Volpin, 2010; Gao and Zhang, 2019). Thus, common owners are more incentivised to internalise the externalities, such as asymmetrical information among their portfolio firms, to maximise the value of their portfolio than with the value of any one company. Hansen and Lott (1996) highlighted this issue, arguing that adequately diversified shareholders want organisations to absorb the externalities that firms impose on other companies. Which means, common owners facilitate the monitoring incentives, which enhances company governance (He *et al.*, 2019; Kang *et al.*, 2018) and reduces informational risk and stock costs (Armstrong *et al.*, 2012; Dhaliwal *et al.*, 2011; Francis *et al.*, 2008). Thus, due to the incentives to reduce asymmetrical information among their portfolio's firms and given their informational advantages, we expect the cost of equity to be lower for firms with common owners than those without common ownership. Our main. hypothesis is:

Hypothesis 1: The advantages of common ownership in improving information environments and corporate governance among common owners' portfolio firms may outweigh their costs in harming individual firms' value, thus the cost of equity is lower for firms with common owners than those without common ownership, holding all else equal.

Pound (1992) provides three theories on the role played by institutional investors in corporate governance: *the effective monitor argument*, *the ineffective monitor argument*, and *the interest collusion argument*[2]. We argue that the effective monitoring and interest collusion arguments best represent the common blockholders (i.e. common owners holding 5% or more of outstanding shares) because ownership concentration provides large shareholders with incentives to monitor opportunistic behaviour (e.g., Demsetz and Lehn, 1985; Shleifer and Vishny, 1986) and exploit the company's resources to extract private gains (e.g., Morck *et al*. 1988; Shleifer and Vishny, 1997).

On the other hand, the ineffective monitoring argument characterises the role played by the small common holders (i.e. common owners hold less than 5%). Widely diversified shareholders have traditionally been characterised as inadequate monitors of company conduct, lacking the incentive and capacity to penalise management using their shareholder power. Because involvement is costly and they only own a small position in each company, they are

[2] The effective monitor argument suggests that institutional investors may oversee corporate management utilising their major shareholders' knowledge, expertise, and skill advantages. This effective monitor may increase the firm's value, allowing institutional investors to profit. Institutional investors may sell their shares and use active tactics if they are dissatisfied with the investment firm's operational performance or board choices. According to the ineffective monitor argument, institutional investors prioritise trading, act short-sightedly, do not interfere with corporate governance, and decide whether to keep or sell firms based on portfolio balance. The interest collusion argument refers to institutional investors and management colluding to exploit the interests of dispersed minority shareholders.

"rationally reluctant"[3] (Rock, 1991, 2015), and prefer to "free-ride" on the monitoring activities of fund managers with substantial shares.[4] Small, diversified investors lack the knowledge and ability to implement the policies they desire. This might allow considerable discretion to both the management and board of directors, and poor management practices may persist uninterrupted[5]. Relying on this anticipated heterogeneity of monitoring effectiveness between block and small common owners, our second hypothesis is as follows:

Hypothesis 2: Given their heterogeneity of monitoring, the effect of common block owners on the cost of equity is more significant than that of common small owners, holding all else equal.

Moreover, how do the net impacts of common ownership on cost of equity capital differ under different potential principal-principal conflict conditions related to tunnelling possibilities, analysts following environments, and liquidity trading environments? In other words, does the net effect of common owners prioritising their portfolio firms over individual firms change when considering different environments?

(1) Tunnelling-Oriented Environments

Although access to information by a common owner may improve the performance of a jointly held business, it may also encourage them to engage in self-dealing acts that maximise their welfare (e.g., Backus *et al.*, 2019; Beatty *et al.*, 2013; Djankov *et al.*, 2008; Foster, 1981; Han *et al.*, 1989; Hou, 2007; Ke and Petroni, 2004; La Porta *et al.*, 2004). Previous research indicates that institutional owners with significant shares in a company may participate in

[3] Kandel et al. 2011, demonstrates how small shareholders may directly affect the management's behaviour and the company's business strategies ("findings provide evidence that small shareholders could, unintentionally, have a significant governance role….").
[4] According to Bebchuk et al. (2017), financial advisors have "poor economic motive... to strengthen governance in portfolio enterprises." Rock, (2015) (explaining that insufficient incentives might account for the "classical passivity" of institutional shareholders in corporate governance); Rock, (1991) (Arguing that "it is unreasonable for a single financial adviser to bear the responsibility of disciplining" management).
[5] Shleifer and Vishny (1997) present an overview of the various types of rent that managers can appropriate.
For a discussion of the reasons why directors may not act in the interests of shareholders, see Monks and Minow (2001).

profitable transactions based on private knowledge, particularly in ambiguous informational environments (e.g., Bushee and Goodman, 2007; Maffett, 2012; Backus *et al.* 2019; Beatty *et al.* 2013; Djankov *et al.*, 2008; Foster, 1981; Han *et al*., 1989; Hou, 2007; Ke and Petroni, 2004; La Porta *et al*., 2000; Matvos and Ostrovsky, 2008), exacerbating the principle-principal conflict and making capital providers less likely to support such enterprises.

On the other hand, some researchers contend that institutional ownership might positively affect the investee's cost of capital by giving the *legitimacy* (in the eyes of the lenders) that could assist in reducing the investee's financing cost (e.g., Alshwer, 2012). Previous research indicates that capital providers value the common shareholder supervising function for such businesses because it indicates that adverse selection is likely to be minimised, hence lowering the cost of funding (e.g., Chen *et al.*, 2021). Consequently, our third hypothesis is:

Hypothesis 3: Common ownerships' incentives to maximise the whole value of their portfolio may hinder an individual businesses' s value in a tunnelling-oriented environment, holding all else equal.

(2) Analysts' Coverage

Most prior studies relate disclosure to the cost of capital in an indirect manner, either through its interaction with the company's information environment (e.g., Lang and Lundholm, 1996; Healy *et al.*, 1999) or through its relationship with the implied discount rate used by the market to price the company's equity (e.g., Botosan, 1997; Botosan and Plumlee, 2000).

Disclosures may reduce a company's financing costs, but only if they are legitimate and not self-serving. Thus, common ownership may or may not improve the transparency of businesses. On the one hand, common ownership can incentivise investors to demand more transparent and accurate disclosure from their portfolio firms (e.g., Park *et al.*, 2019), as this can assist them in making more informed investment decisions and reduce the risk of governance externalities. This is because common owners have a stake in multiple firms within the same industry, and therefore, are more likely to detect and respond to any opportunistic behaviour by corporate insiders. Therefore, they are more motivated to internalise externalities within their portfolio companies. If joint-ownership encourages businesses to consider the benefits of their reporting for co-owned peers, reducing analyst coverage for one co-owned business increases the externality advantage of its co-owned peers' disclosures (e.g., Park *et al*., 2019). Furthermore, there is a natural tendency for businesses in the same industry to conceal confidential information from competitors. Joint owners may enhance collaboration by expanding information sharing between competitor businesses, thus enhancing product market performance (He and Huang, 2017). As co-owned companies are less competitive with one another, by easing concerns regarding proprietary costs, joint ownership is linked to enhanced voluntary reporting (Park *et al.*, 2019), which can increase shareholders' ability to evaluate companies' anticipated values and reduce uncertainty regarding future cash flows (Diamond and Verrecchia, 1991; Easley and O'Hara, 2004; Goh *et al.*, 2016).

According to Jung (2013), when a company takes the "first step" towards greater transparency, it becomes more apparent to investors that similar enhanced disclosure is desirable for peer companies. If this is the case, we expect the reduction in the cost of capital to increase with more disclosure.

Common ownership may also encourage investors to reduce disclosure or provide misleading information to facilitate tunnelling or other forms of opportunistic behaviour by corporate insiders. This is because common owners may prioritise the overall value of their portfolio firms over the interests of individual firms and may be willing to sacrifice some firms' interests for the industry's benefit (Coffee, 2021), as analyst coverage declines, and information asymmetry increases. This can reduce market discipline, worsen governance externalities, and increase the cost of capital. Thus, our fourth hypothesis is:

Hypothesis 4: Common ownerships' incentives to maximise the value of their portfolio may benefit or cost an *individual businesses's value, depending on the level/quality of disclosure, holding all else equal.*

(3) High liquidity environment (Governance through exit)

Recent research shows the sale of underperforming stocks may function as a form of governance (Admati and Pfleiderer, 2009; Edmans, 2009; Edmans and Manso, 2011). When an executive's pay is based on the share market price, an exit of a blockholder typically lowers the stock price, punishing management.

By utilising exit as a form of governance, the incentives of common shareholders to increase the value of their portfolio as opposed to the value of a specific firm may be enhanced. If they are dissatisfied with the performance of a particular company, they can sell their stake and invest in another company with potentially higher returns.

However, this behaviour may not inherently harm other firms in the common owners' portfolio. The threat of departure can motivate managers to make decisions that increase the firm's value and the returns of common shareholders. Managers may be more responsive to the needs of common owners if they are aware that they can leave the company if they are unhappy with its performance. For example, Cvijanović *et al*. (2022) found that when there are many blockholders, especially mutual funds, they respond to an informed blockholder's exit, resulting in an unavoidable threat of exit that enhances corporate governance. Thus, our fifth hypothesis is:

Hypothesis 5: Common ownerships' incentives to maximise the value of their portfolio may benefit individual businesses's value, when using the threat of Exit as governance tool, holding all else equal.

Passive and active institutional shareholders may implement corporate governance differently. Actively managed funds are more effective in monitoring than index funds (Bebchuk and Hirst, 2019; Heath *et al.,* 2022). Concerning the effects of passive investing on corporate governance, the fundamental question is whether passive investors are also passive owners or whether they can participate actively in the corporate governance of investee companies.

As passive index funds seek to mirror stock indices and reduce expenses, they have no financial incentive to influence portfolio company governance (Lund, 2017). Since the benchmarks replicated by index funds include dozens of companies, the potential benefits of corporate governance engagement are likely to have a negligible effect on the funds' overall performance (Lund, 2017). According to Bebchuk, Cohen, and Hirst, "a move by any given index fund manager to improve stewardship and raise fees would unravel, because its investors would prefer to free-ride on the investment manager's efforts by switching to another investment fund that offers the same indexed portfolio but without stewardship or higher fees" (Bebchuk, *et al.*, 2017, pp.10).

Alternatively, passive index funds may participate in the governance of investee companies for a variety of reasons as documented in Enriques and Romano (2018): First, since passive investors are perpetual owners, they should be incentivised to supervise managers in order to improve the company's performance. Second, because the Big Three are "too-big-to-be-passive," there is growing reputational and regulatory pressure for major passively managed funds to adopt an active supervision role. The behaviour of the Big Three appears to support this theory. They emphasise their involvement in the governance of their portfolio companies frequently[6]. Consequently, our sixth hypothesis is as follows:

[6] For example, in a January 2018 statement to the Executives of the largest companies worldwide, Blackrock CEO Larry Fink states: "*In managing our index funds, however, BlackRock cannot express its disapproval by selling the company's securities as long as that company remains in the relevant index. As a result, our responsibility to engage and vote is more important than ever*", see e.g., Fink, L. (2018) *A sense of purpose, The Harvard Law*

Hypothesis 6: Active (Passive) common owners are more (less) inclined to be active owners and monitor their portfolio's firms, which reduces (increases) the cost of capital, holding all else equal.

It is frequently assumed that international investors know less about a local business than domestic investors (Choe *et al.*, 2005). However, Grinblatt and Keloharju (2000) and Jiang and Kim (2004) show that international investors in Japan and Finland might have a distinct informational advantage over local investors. If this is the case, foreign shareholders could be connected with a corporation with low information inequalities (Jiang and Kim, 2004). As a result, if foreign investors are not disadvantaged by more significant information asymmetry than local owners, they are more likely to boost corporate investment by improving enterprises' access to capital under decreased financial restrictions. Increased foreign ownership increases demand and pressure on local enterprises to boost transparency, resulting in greater value relevance of accounting information (Sami and Zhou, 2004; Gelos and Wei, 2005).

Foreign institutional investors might be better than domestic individual investors at analysing and extracting both public and private information. Additionally, foreign stockholders may implement an investment policy by adopting the position of block owners to oversee management operations directly and effectively, or by providing an extended investment perspective that promotes solid relationships between the company and external capital. In such circumstances, information asymmetry should decrease as foreign ownership increases, but market openness should improve. It is expected that foreign block owners will intend to make

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School Forum on Corporate Governance. Available at: https://corpgov.law.harvard.edu/2018/01/17/a-sense-of-purpose/ (Accessed: March 1, 2023); Similarly, Vanguard's CEO William McNabb: (*"when it comes to our indexed offerings, we are permanent shareholders***.** *To borrow a phrase from Warren Buffet: Our favorite holding period is forever. We're going to hold your stock when you hit your quarterly earnings target. And we'll hold it when you don't. We're going to hold your stock if we like you. And if we don't. We're going to hold your stock when everyone else is piling in. And when everyone else is running for the exits... That is* precisely *why we care so much about good governance*."), see e.g., McNabb, F.W. (2015) *Getting to know you: The case for significant shareholder engagement, The Harvard Law School Forum on Corporate Governance*. Available at: https://corpgov.law.harvard.edu/2015/06/24/getting-to-know-you-the-case-for-significant-shareholder-engagement/ (Accessed: March 1, 2023).

use of their superior information standing. Increased holding concentration could subsequently result in more legitimation of management, susceptible to less oversight by boards of directors and less market scrutiny (Morck *et al.*, 1988). According to Grinblatt and Keloharju (2001), foreigners could have motivations to retain or improve their superior information standing, but Ng *et al.* (2016) present international evidence that foreign shareholders boost company value and operational performance. However, there is a trade-off between these advantages, and high liquidity expenses and a high capital's cost.

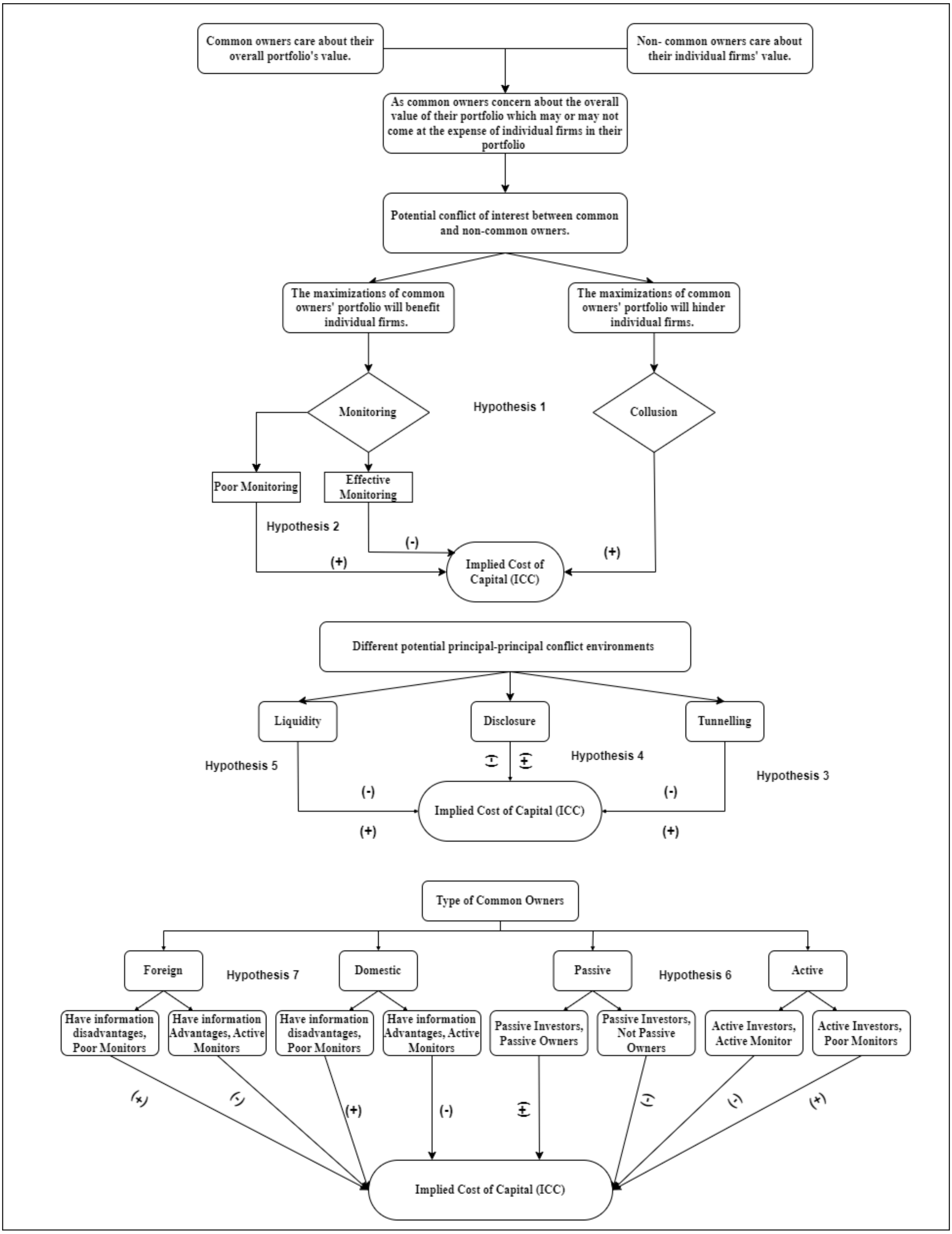
Foreign investors, for example, are "pressure-resistant" in terms of management because they are less likely to participate in or be affected by the domestic power system (Kochhar and David, 1996). As a result, their supervision is more impartial and objective than that of domestic institutional shareholders (Khanna and Palepu, 2000; Douma *et al.*, 2006). Ferreira and Matos (2008) and Chan *et al.* (2009) demonstrate that foreign institutional stockholders monitor business performance and increase company value. They contend that such investors' value-added advantages stem from their strengths in business intervention and managerial experience. That is, business value and foreign holding are positively correlated. Thus, our seventh hypothesis is as follows:

Hypothesis 7: Domestic (Foreign) common owners have information advantages (disadvantages) which facilitate (hinder) their monitoring, which reduces (increases) the cost of capital, holding all else equal.

Overall, using either ex-post or a constant ICC measurement, previous literature offers mixed evidence on the relationship between proxies for common ownership and the cost of capital. Thus, it is ex-ante unclear how shared ownership affects the time-varying ICC. Our paper differs along three dimensions. First, previous studies consider common ownership to exist only among companies operating in the same industry. In contrast, institutional owners tend to diversify and invest in multiple firms in different industries. Thus, they would eventually co-own the same enterprises operating in different sectors. Furthermore, since they incur governance externalities at the portfolio level, common owners are mutually incentivised to monitor or collude. Consequently, we deviate from previous studies' approach and define common ownership as an institutional investor (mutual fund) holding shares of at least two firms at the same time, whether in the same industry or in different industries. Second, we are concerned not only with the common block holdings; instead, we are particularly interested in common ownership, whether the co-owner is a block holder or a small owner. Moreover, our empirical design differs from that in the previous literature as follows: (i) Whereas previous studies document implications of common ownership on the cost of capital, their measure of the cost of financing is based on historical data, that is, the ex-post cost of capital. Thus, we would like to know how these implications are formulated when using an ex-ante measure. Therefore, the outcome using the ex-ante approach is complementary and helps reinforce the findings of previous studies. (ii) We use social network analysis to identify U.S. companies' importance in the mutual fund common holders' network by calculating their centralities (degree, closeness, and eigenvector).

In conclusion, the effect of shared ownership on the ICC is contingent on (1) the company's network construction (the construction of mutual funds' networks is based on the basic concept of a connection between firms that share ownership by the same mutual fund) enabling the flow of information via the network, often through predictable routes. Because information provided through network connections is not always freely available to all network members (i.e. co-owned enterprises), the network's usefulness as a tool for influencing (the cost of capital) should fluctuate depending on the locations of businesses inside it (e.g., Raub and Weesie, 1990). Remarkably, corporations that are more central will have better access to the network's information and more influence over the network's information flow (e.g., Mariolis and Jones, 1982). Enhanced centrality increases a company's influence, primarily via more access to the network's information flow (e.g., Useem, 1986). By maintaining links with several other organisations, corporations with more centralisations can promptly detect and react to environmental changes. Furthermore, (2) the proportion of outstanding shares of the investee that mutual funds hold, that is, whether those common owners are block holders or not. Additionally, (3) the type of common owner, that is, whether those common owners are passive vs active and domestic vs foreign. Figure 1 below summarises the conceptual framework of this study.

Figure 1 Conceptual Framework



3. Research Design

3.1. Sample

Our empirical study depends on identifying a company's common shareholders. Using Refinitiv Eikon, we collected quarterly data on the equity ownership of S&P 500 firms from March 2005 to December 2021. To avoid any possible selection bias, we gathered data on all organisations, regardless of whether they had joint ownership. To perform our analysis, we first classified firm-quarter data as having a mutual fund[7] block common owner if a mutual fund concurrently holds at least 5% of the equity of two or more businesses. These investors have several routes for influencing company choices via private conversations, board member elections, and shareholder resolutions (e.g., Del Guercio and Hawkins, 1999; McCahery *et al.*, 2016). Moreover, block holders who are not obligated to keep shares (e.g., active investors) might indirectly influence business choices by the threat of selling, that is, leaving the company (e.g., Edmans and Manso, 2011; Bharath *et al.*, 2013). However, we also evaluated the small (non-block) common ownership impacts (mutual fund owns less than 5% stock in any two or more enterprises concurrently) to see whether the observed findings are a function of the block holdings and cannot be generated by a typical joint owner. Figure 2 below demonstrates the mutual funds' common ownership in the sample. We collected the firms' fundamental and other accounting data from Wharton Research Data Services Compustat North America and linked them through their CUSIP (Committee on Uniform Security Identification Procedures) number. Data required to construct the term structure of implied cost of equity was obtained from OptionMetrics.

We cleansed the data across several dimensions. We eliminated duplicates, missing holdings dates, company identities, and insufficient accounting data, resulting in a loss of 0.30% of data.

[7] Throughout this paper, we will use the term "mutual fund" to refer to mutual fund and exchange traded funds (ETFs) that invest in US companies.

In addition, we omitted financial businesses (SIC:6000-6999; 5% of data) and institutional investors other than mutual funds and exchange-traded funds (ETFs; 8% of data). Furthermore, we eliminated any observations for which information on the investee but not the investors were accessible, such as non-classified holder type and missing holdings (2.22% of data). Between March 2005 and December 2021, there are 20,371 firm-quarter observations included in the final data set. Table 1 in Appendix A illustrates the distribution of industries within the research sample.

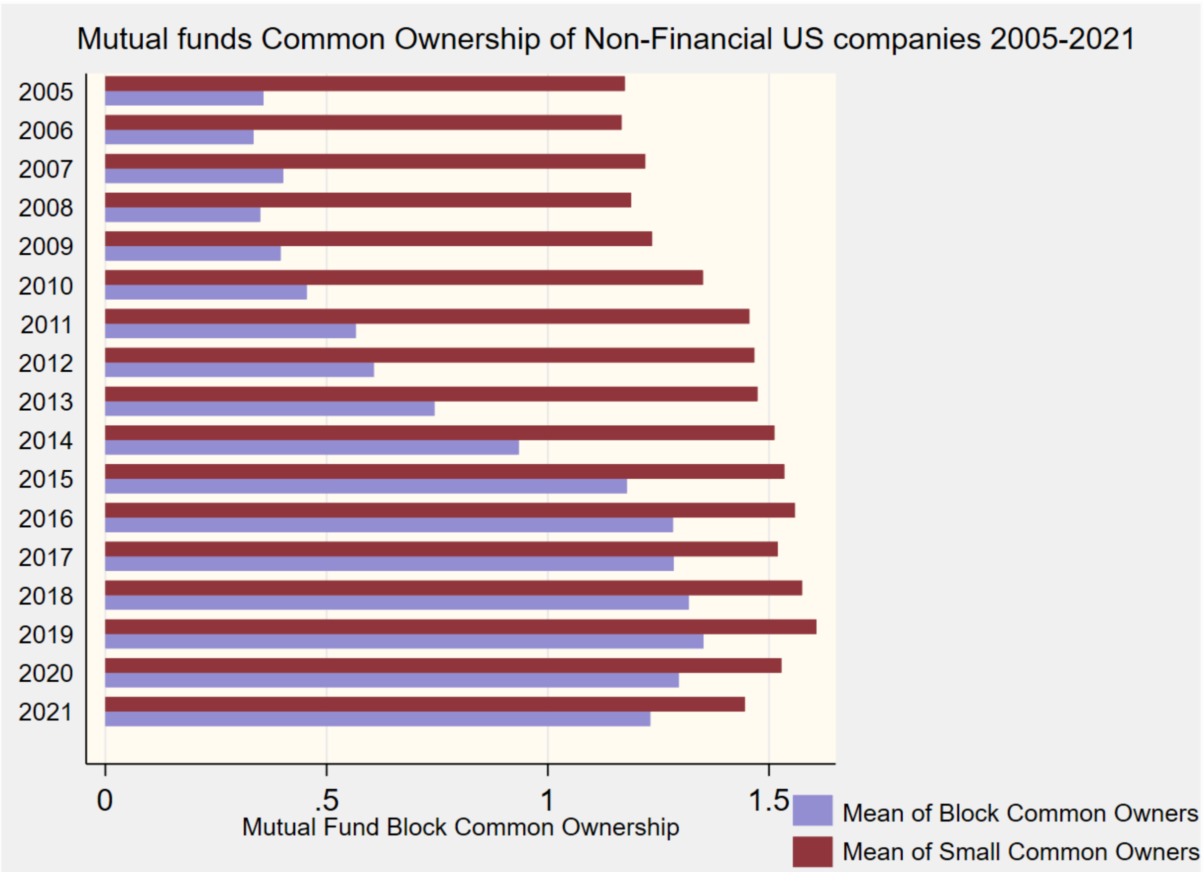


Figure 1Mutual funds' common ownership of non-financial US companies between 2005-2021

3.2. Economical Model

$$ICC_{i,t} = \delta_0 + \sum_{j=1}^{N} \delta_j connect^j{}_{i,t-1} + \text{Controls}_{\ i,t} + \text{f}_{\ t} + \tau_{\ t} + \varepsilon_{i,t} \qquad (1)$$

This study uses generalised least squares (GLS) to explicitly correct for heteroskedasticity, as indicated in the following section. The dependent variable $ICC_{i,t}$ is the term structure of implied cost of equity following Callen and Lyle's (2020) model. The primary test variable ($connect_{i,t-1}$) reflects each network property separately (e.g., degree, closeness, eigenvector). It is the degree to which an individual nonfinancial firm i relates to all other nonfinancial firms j via shared a mutual fund holding at the beginning of each quarter t. N is the number of connections in the network. $Controls_{i,t}$ reflects a set of control variables that are found to explain the firms' capital's costs (e.g., Chen *et al.*, 2011) and will be controlled for leverage, company size, book-to-market ratio, stock beta, the return on equity (ROE) as well as the institutional holdings. Furthermore, to control for unobservable differences across quarters, this paper will include industry and quarter fixed effects throughout the study. f_t and τ_t are the industry and quarter fixed effect, respectively. $\varepsilon_{i,t}$ is the error term. Continuous variables are winsorized at 1% and 99%. Error terms are clustered at firm level.

3.3. Constructing the Study Variables

3.3.1. The Dependent Variable: The Term Structure of Implied Cost of Capital

Capital costs have long been a topic of both theoretical and practical interest. Investors desire an accurate estimate for valuation models, directors require the same for capital planning, and academic researchers need an accurate estimate to study the impact of factors of interest on a company's cost of equity capital. Numerous academics are interested in identifying the most accurate surrogate for the cost of equity financing. Currently, there is no universally acknowledged method for determining the cost of equity capital.

In recent years, a large strand of research has produced a variation of methods for calculating the ICC because they provide valuable insights by clearly separating the impact of equity cost from business valuations and do not depend on noisy actual returns or specialised asset pricing models (Hail and Leuz, 2006; Pástor *et al.*, 2008). The cost of capital is implied when it is approximated based on the present market value of the stock and anticipated future dividends. Applying a valuation model to compute the capitals' cost as the internal rate of return by matching the present value of expected streams of dividends or income with the current market value is the central concept behind the ICC at business level. These computations imply that each anticipated cash flow is discounted at the same rate, irrespective of when it is anticipated to be delivered.[8] All of these methods produce a flat term structure by design (static implied equity costs), showing that the validity of constant implied equity cost methods is questionable (e.g., Callen and Lyle, 2020).

Extensive empirical research has found that the costs of equity fluctuate with time and that stock values are compatible with time-varying (dynamical) discount rates (Guay *et al.* 2011; Easton and Monahan, 2005, 2007; Larocque and Lyle, 2017; Campbell and Shiller, 1988, 1991, among others).[9] Using the conditional CAPM, Ang and Liu (2004) demonstrate that applying time-variable discount rates as contrary to static constant rates may result in valuation errors of at least 50%, proving that time-variable discount rates are economically significant.

Therefore, it is essential to use a model for the ICC that allows the cost of capital to vary over time, specifically, a term structure of implied costs of equity capital in which we produce a collection of discount rates, one for each future period, that matches the present market value of a company's shares to its predicted future cash flows during its life. To overcome this limitation, we followed Lyle and Callen (2020) and generated futures prices at firm-level using trading data of call and put options using the put-call parity.

[8] See Echterling *et al.* (2015) for a review of the literature on how to calculate the ICC.
[9] See Callen and Lyle (2020) for a recent review of the literature and methodology on how to construct a time-varying ICC.

Nevertheless, put-call price equality applies exclusively to European options, whereas company-level information is only accessible for American options. Following Callen and Lyle (2020), we first derived estimated European option prices from American option data to address this difficulty. In particular, implied volatilities[10] generated from American option prices for each maturity $t+T$ were inserted into a typical Black-Scholes formula to create replicated European call and put option values, denoted as C^{bs}_{t+T} and P^{bs}_{t+T} , respectively.[11] These synthetic European option values were then inserted into the following calculation to produce synthetic futures contracts:

$$F_{t,t+T} = \left[C^{bs}_{t+T}\left(\sigma^{iv}_{c}(t,t+T)\right) - P^{bs}_{t+T}\left(\sigma^{iv}_{p}(t,t+T)\right)\right] Rf_{t,t+T} + K \qquad (2)$$

where $\sigma^{iv}_{c}(t,t+T)$ and $\sigma^{iv}_{p}(t,t+T)$ refer to the implied call and put volatilities at time $t+T$ (as estimated at time t), respectively. $Rf_{t,t+T}$ is the risk-free rate. K is the strike price.

These synthetic futures values were then integrated with other data to determine the term structure of the company's implied equity cost. Consequently, this research employs model-driven at-the-money implied volatilities from OptionMetrics to generate a two-year-ahead term structure of implied equity cost following the methodology described in Lyle and Callen (2020), as follows[12]:

$$ICC_{t,t+T} = \begin{cases} \dfrac{F_{t,t+1} + E_t[D_{t+1}]}{S_t} + Rf_{t,t+T} Corr_t\left(R^M_{t,t+1}, \dfrac{S_{t+1}}{S_t}\right)\sigma^M_{t,t+1}\sigma^S_{t,t+1} & if\ T = 1 \\ \dfrac{F_{t,t+T} + E_t[D_{t+T}]}{S_t - \sum_{i=1}^{T-1} ICC^{-1}_{t,t+i}\, E_t[D_{t+i}]} + \dfrac{S_t Rf_{t,t+T} Corr_t\left(R^M_{t,t+T}, \dfrac{S_{t+T}}{S_t}\right)\sigma^M_{t,t+T}\sigma^S_{t,t+T}}{S_t - \sum_{i=1}^{T-1} ICC^{-1}_{t,t+i}\, E_t[D_{t+i}]} & if\ T > 1 \end{cases} \qquad (3)$$

where S_t is the market price of the company's equity at time t, $ICC_{t,t+T}$ indicates the discount rate at time t for predicted cash flows to be received by stockholders at time $t+T$. E_t is the

[10] Implied volatilities are used to track the market's perception of a stock's volatility. In contrast to historical volatilities, implied volatilities are forward-looking (see Hull, 2018).

[11] The investor does not have to wait until the option's expiry date to exercise an American-style option. To account for this, therefore, we control for the early exercise premium and subtract the present value of the dividends from the option prices prior to using the Black-Scholes model (see Hull, 2018).

[12] Detailed methodology is provided in Appendix B

conditional time t expectations operator and D_{t+1} represents cash dividends to be received at time $t+T$. $Rf_{t,t+T}$ is the return at time t on a risk-free bond that will be obtained at time $t+T$. $Corr_t\left(R^M_{t,t+T}, \frac{S_{t+T}}{S_t}\right)$ represents the conditional correlation (at time t) between the market portfolio's return and the company equity's return throughout the period t to $t+T$, $\sigma^M_{t,t+T}$ represents the conditional volatility (at time t) of the market portfolio's return throughout the period t to $t+T$, and $\sigma^S_{t,t+T}$ denotes the conditional volatility (at time t) of firms' equity's return throughout the period t to $t+T$. $F_{t,t+1}$ are the synthesised futures contracts from call and put options.

3.3.2. The Independent Variable: Common Ownership Network

Is the network of common ownership of mutual funds empirically meaningful in explaining the co-owned firms' equity costs? To answer this question, we created a collection of network proxies that capture a business's centrality in a mutual funds' common ownership network (degree, eigenvector and closeness).

The theory of financial networks has the potential to be highly beneficial in capturing risk-related externalities created by a financial institution and the consequent effects on the larger financial system. According to Paltalidis *et al.* (2015), a network is a collection of nodes and the links between them; hence, the structure of interconnections between firms (i.e. nodes) can be described and quantified using a network representation.

This research investigates the network of common ownership by analysing the mutual fund sector. We contend that analysing mutual funds is beneficial for the following reasons: Mutual funds are crucial components of the external governance system due to their large shareholdings[13] and superior investing skills because they monitor the behaviour of their invested firms (e.g., Morgan *et al.*, 2011; Nain and Yao, 2013). Mutual funds contribute to the participation and stability of stock and credit markets; by purchasing low-liquidity securities and selling high-liquidity securities, they guarantee the equity market's stability. In addition, the significance of the mutual fund business has expanded dramatically and persistently over the last 20 years, whether measured by assets under management or by the number of mutual funds (e.g., Gruber, 1996). Moreover, Hadlock and Schwartz-Ziv (2019) show in an influential paper that between 2001 and 2014, 73.7% of U.S. corporations had at least one mutual fund serving as a block holder. In addition, they discover that mutual funds maintain an average of 11.75 block positions every year, which motivates us to explore the influence, if any, of their joint block holdings on the equity cost of co-owned firms.

We built our measure of common ownership connections following Azzar (2012) by constructing a network model in which the nodes represent U.S. public firms. The edges are percentages of common ownerships. In other words, two nodes (firms) will be connected by a link (common mutual fund holding) if a mutual fund holds them simultaneously in the same quarter. As in Baker *et al.* (2020, 2021) and Bostanci and Yilmaz (2020), we used Gephi software to calculate the network centrality scores (Bastian *et al.*, 2009).

Centrality, which represents the placement of a company in a global network using measurements such as degree, eigenvector, and proximity, is one of the most often researched network properties. Companies with extensive networks receive a bigger quantity of data. Occupying a close proximity to other businesses and establishing relationships with well-connected businesses would also result in improved access to a vast array of data. Multiple

[13] Backus *et al.* (2019) report that at the beginning of 2018, the four most significant asset managers (BlackRock, Vanguard, State Street, and Fidelity) handled over $16 trillion in assets, and for 88% of S&P 500 firms, one of these four asset managers was the top shareholder.

centrality measurements examine centrality from various angles. Following earlier research, we concentrated on three normalised network centrality indices and calculated them as described in Appendix B. The degree, or the number of common owners a company has, is the most basic indicator of centrality. The more common owners a company has, the greater its access to information. The degree centrality of a node is defined as follows (Freeman, 1977; Nieminen, 1974):

$$Degree = \sum_{i=1}^{n} a(firm_i, firm_x) \tag{4}$$

Where:

$$a(firm_i, firm_x) = f(x) = \begin{cases} 1 \; if \; and \; only \; if \; firm_i \; and \; firm_x \; are \; connected \; by \; a \; line \\ 0 \; otherwise \end{cases}$$

We use a normalised degree proxy, which measures the percentage of all other companies to which a specific company is linked during a quarter.

$$Degree = \frac{\sum_{i=1}^{n} a(firm_i, firm_x)}{n-1} \tag{5}$$

with $a(firm_i, firm_x)$= 1 if the company is connected to another node firm and 0 otherwise; with $n-1$ as the potential number of connections in a network of n vertices.

Centrality can also be determined by a node's effect on the overall network as measured by its distance from other nodes. The closer a company is to other companies, the more central it becomes in a network. Our second centrality is closeness, which provides information on a company's proximity to other companies. According to Sabidussi (1966), the closeness centrality formula is as follows:

$$Closeness = \frac{1}{\sum_{i=1}^{n} d(firm_i, firm_x)} \quad (6)$$

where $d(firm_i, firm_x)$ is the inverse of the sum of the geodesic distances (i.e. the shortest paths) between two nodes, $firm_i$ and $firm_x$. We use a normalised form of this measure, which indicates the average length of the shortest paths, rather than their total which facilitates the comparison of nodes in graphs of different sizes, as below:

$$Closeness = \frac{1}{n-1} * \frac{1}{\sum_{i=1}^{n} d(firm_i, firm_x)} \quad (7)$$

Our final proxy of centrality is the eigenvector (Bonacich, 1972). Unlike degree centrality, eigenvector centrality indicates not just the number of common owners a firm shares, but also with whom it shares those common owners. In other words, a company's centrality is established by the centralities to which it is tied. Companies with more eigenvector centrality are linked to well-connected firms and become closer to all other firms in the network, holding more dominant positions at the centre of the information hub.

$$Eigenvector\ (firm_i) = \alpha \sum_{\{firm_i, firm_x\} \in V} Eigenvector\ (firm_x) \quad (8)$$

with $Eigenvector = (Eigenvector(1), \ldots\ldots, Eigenvector(N))^T$. The solution to the eigenvalue problem is $A\ Eigenvector$=D-1 $Eigenvector$, where A is the adjacency matrix for the network graph (Kolaczyk and Csárdi, 2014). We also normalise this proxy by dividing it by the highest eigenvector centrality in the network.

The network proxies are also benchmarked using the Principal Component Analysis (PCA) to reduce the dimensionality of the individual network proxies into (latent) centrality constructs against the individual proxies to examine whether the combined factors outperform the separate indexes and if the findings are constant among individual indicators loading on the same factor. Particularly, we combined the network measures into a single centrality measure, denoted as PCA, by taking the first principal component of the equal-weighted network measures. We take the PCA of the degree, closeness, and eigenvector. Specifically, after constructing the correlation matrix, the eigenvalues and eigenvectors of network measures have been extracted from the correlation matrix which were then used to compute the PCA. The main goal is to generate an individual index that ensures the least correlation between the variables. In other words, the PCA is a product of linear combinations of the initial variables to create a single index that explains the most significant variance in the dataset.

3.3.3. The Controlling Variables:

We included several control variables to reduce the possibility of an omitted associated variable influencing our findings.

1) **Institutional Holdings:** Businesses can be monitored by institutions, hence eliminating information inequalities. Several studies indicate that institutional holdings affect the cost of capital. McConnell and Servaes (1990) demonstrate a substantial correlation between institutional holding and company value. This literature's central premise is that enterprises with a greater concentration of institutional shareholders would have a cheaper cost of capital and superior performance. Bushee (1998), Aslan *et al.* (2011), and Yan and Zhang (2009) establish a relationship between institutional holding and informational risk; this will ultimately factor into the cost of equity capital as follows: businesses with more institutional ownership are less vulnerable to information asymmetries.

Moreover, some argue that the number of institutional owners is positively correlated with reporting (Ajinkya *et al.*, 2005; Boone and White, 2015; Bird and Karolyi, 2016) and that institutional ownership concentration is inversely related with reporting (Bamber and Cheon, 1998; Ajinkya *et al.*, 2005), which will affect the cost of capital. The argument is that the more stockholders there are, the less concentrated the shares are. Consequently, we must track shareholder concentration and the number of institutional owners. To isolate the incremental effect of co-owner mutual funds from that of the general institutional owners, we used the percentage of institutional holdings and the number of institutional owners as an index for the level of institutional ownership (Cornett *et al.*, 2007; McConnell and Servaes, 1990), that is, the total number of institutional shareholders each quarter for each business as our index of shareholder concentration (Inst-N). In addition, we followed Sharfman and Fernando (2008) and He *et al.* (2020) and used the fraction of institutional holdings within the same quarter as an additional measure of shareholder concentration (Inst-PCT). We log-transformed (Inst-N) to reduce skewness to conventional levels.

2) **Market Beta (Beta):** We accounted for beta using historical return data. In other words, beta is the slope coefficient derived by regressing the daily individual stock returns of the past three years (with at least three-year returns) on the S&P 500 (Fama and French, 1992).

3) **Firm Size (Size) and Book-to-Market Ratio (B/M):** According to Fama and French (1992), the correlation between stock returns and company size is negative, but the correlation with book-to-market (B/M) equity is positive. We controlled for size and B/M as follows: (Size) is proportional to the natural logarithm of total assets. (B/M) is the ratio of the equity's book value to its market value.

4) **Leverage Ratio (Leverage):** Because Modigliani and Miller (1958) suggest that equity's cost should grow as leverage improves, we added a leverage ratio (Leverage), which is the total debt divided by the total assets at the end of the preceding quarter.

5) **Return on Assets (ROA):** Although market-based metrics are more objective than accounting-based indicators, they are still subject to unpredictable variables (Gani and

Jermias, 2006). When analysing the link between corporate governance and business performance, Hutchinson and Gul (2004) suggest that accounting-based performance indicators are better than market-based measurements because they represent the effects of management activities. Prior studies (e.g., Hermalin and Weisbach, 1991; Shleifer and Vishny, 1997; John and Senbet, 1998; Eisenberg *et al.*, 1998; Mashayekhi and Bazaz, 2008) have established a link between corporate governance and enterprise performance using indexes for business valuation, such as Tobin's Q, ROE, ROA, Earning Per Share (EPS), and annual stock return. In this analysis, ROA serves as a metric of financial success. (ROA) is calculated by dividing income before exceptional items by total assets.

4. Results:

4.1. Descriptive Statistics

Table 3 in Appendix A provides a summary of statistics for our sample. All continuous variables are winsorized at the 1% and 99% levels to mitigate the influence of outliers. The mean values of the term structure of implied cost of equity (i.e., ICC_91, ICC_182, ICC_273, ICC_365, ICC_365, ICC_456, ICC_547, ICC_638, and ICC_730) indicate an upward-sloping curve ranging from 8% in one-quarter ahead to 10% in eight-quarters ahead. The mean value of the Degree-Block, which indicates how many common owners firms share with other firms, is 0.44, indicating that 44% of the firms in the sample share at least one mutual fund that acts as a block holder, whereas the mean value of the Degree-Small across industries is 5.89, indicating that firms in our sample share, on average, 5 mutual funds holding less than 5% of shares. The Closeness-Block mean value is 0.10, indicating that 10% of firms in our sample are reachable from other firms with common block holders. At the same time, 99.7% of firms are closer to each other because they share common owners holding a small percentage of their shares (less than 5%). The eigenvector centrality shows that only 0.3% of firms in the sample are connected to highly influential firms that share the same block holder. On the other hand, an average of 29% firms which share small common owners, have higher eigenvector centrality and are linked to other firms that are well-connected, and become closer to all other companies in the network, thereby holding more dominant positions in the information hub. The N-Analysts following the firms have a mean value of 29, indicating that, on average, firms have disclosure coverage equals 29. The ORACTA shows that 1.2% of firms, on average, have related party transactions that might be used to tunnel a company's resources. The mean value of Turnover is 0.22.

4.2. Pairwise Correlation

The pairwise correlation matrix between the research variables is shown in Table 1. As is evident, the term structure of ICC is considerably and statically associated, as shown by Callen and Lyle (2020). Nonetheless, the one-quarter-ahead ICC (i.e., ICC_91) is considerably and adversely linked with the other term structure indicators. They indicate a downward-sloping term structure that transforms into an upward-sloping term structure as the curve continues.

In addition, except for the one-quarter-ahead ICC (ICC_91), the degree centrality is negatively correlated with the majority of ICC measures, indicating that the larger the number of joint owners a company has, the lower its cost of capital, regardless of whether the common owners are block holders or minor common owners (holding less than 5%). This is consistent with the frequently stated argument about the supervisory function of common owners (e.g., Bushee, 1998; Chen *et al.*, 2007; Cremers and Petajisto, 2009; Cronqvist and Fahlenbrach, 2009). In addition, the closer enterprises are to one another, the more information they have access to and the lower their cost of capital, as shown by the negative and statistically significant relationship between the closeness and the term structure of cost of capital. This conclusion is consistent with the information asymmetry reasoning, as Bae *et al.* (2002) indicate.

When considering common block owners, the eigenvector centrality is strongly and adversely connected with the term structure. The negative correlation suggests that when firms are co-owned by the same common owner as the most popular firm (we call it a popular firm because it is being co-owned by a large number of investors), their cost of capital will decrease.

The ORACTA shows a positive relationship with the ICCs, indicating that the related party transactions might be used to extract private benefits for the controlling owners and that sends an adverse signal to capital providers and ultimately increases the ICCs. Although the N-analysts show a positive relationship with the ICCs, this relation flips its sign in the presence of common owners, particularly the block common owners. This might be attributed to the monitoring incentives of common owners who tend to boost the disclosure of their portfolio firms. Turnover shows a negative correlation with the term structure indicating that whenever investors are dissatisfied with the management, they can threaten to exit the firm and that disciplines management and lowers the financing cost.

In addition, there is a considerable correlation between all term structure indicators and beta, B/M, ROA, leverage, institutional investor numbers, and concentration.

4.3. Baseline Regressions

4.3.1. Block Common Ownership and The Term Structure of ICC

Using various network statistics, we capture a firm’s connectivity via mutual funds’ common ownership and the ICC term structure. This paper uses three centrality measures that are frequently used in network analysis: degree centrality, eigenvector centrality, and closeness. The most straightforward proxy is the firm’s degree centrality, which shows the network’s number of co-owners with other firms. Closeness is the inverted average of the number of network paths required for a company to reach or be reached by any other company based on the co-owners they share. Eigenvector centrality measures global significance by giving scores to all companies in the network based on the premise that linkages to high-scoring companies add more to a company's score than linkages to low-scoring firms.

Given the serial autocorrelation and the heteroskedasticity reported in Appendix A, this study uses the regression with Newey–West Standard Errors (1987), where the dependent variables are the term structure of implied cost of equity and the test variables are the network proxies. Given the high correlation between the network proxies, we evaluated the effects of the network measures by adding them set by set. Then, we took the principal component analysis (PCA) of the network variables and used it as an independent variable. This study controls for a set of variables used in previous studies and impacts the cost of capital – namely, the leverage ratio, the B/M, beta, ROA, and size.

Table 2 below reports the estimation results of mutual funds' block common ownership on the ICC term structure. As can be seen, the degree centrality, which measures the number of co-owners a firm shares with any other firm in a given quarter, is substantially and negatively related to the ICC term structure, with the exception of the first quarter-ahead ICC, which exhibits a positive relationship with the degree centrality. For example, it reduces the second-, third-, fourth-, fifth-, sixth-, seventh-, and eighth- quarter-ahead ICCs by 3.9%, 3.9%, 3.9%, 4%, 3.9%, 4.2% and 3.7%, respectively. This indicates that the more co-owners the firm shares with other firms, the lower its cost of capital. Additionally, these results are in line with the argument that institutional owners who own shares in many companies may obtain and verify confidential information across companies, reducing informational risk and stock costs (Armstrong *et al.*, 2012; Dhaliwal *et al.*, 2011; Francis *et al.*, 2008). The degree function here remains consistent with common owners' monitoring functions (e.g., Bushee, 1998; Chen *et al.*, 2007; Cremers and Petajisto, 2009; Cronqvist and Fahlenbrach, 2009), which supports the first hypothesis.

Moreover, the closeness centrality measure, which shows the centrality of a company in the network in relation to other nodes, is the most statistically significant in relation to the ICC, except for the first quarter ahead. Closeness centrality has been conceptualised as a firm's ability to gain access to information efficiently and to achieve competitive advantage.

Generally, the closeness follows a negative sign, except for the first quarter-ahead. When the firm gets closer to other firms, it reduces the second-, third-, fourth-, fifth-, sixth-, seventh-, and eighth-quarters ICCs by 3%, 2.9%, 2.9%, 3.1%, 2.9%, 3.3%, and 2.8%, respectively. This closeness suggests that common owners have easier access to information and a more robust capacity to share material information (Jackson, 2010; Newman, 2010), which contributes to a decrease in the ICC. These results further confirm the monitoring hypothesis of common owners.

Eigenvector centrality measures global significance by giving scores to all companies in the network based on the premise that linkages to high-scoring companies add more to a company's score than linkages to low-scoring firms. However, degree centrality only considers the local connectivity of a firm. The eigenvector continues to follow the degree and closeness direction. It is significantly related to the ICC. The eigenvector decreases the second-, third, fourth-, fifth-, sixth, seventh-, and eighth-quarter-ahead ICCs by 2.9%, 2.9%, 2.9%, 2.9%, 2.9%, 3.1%, and 2.8%, respectively, indicating that not only does the number of connections matter (degree), but also the quality of these connections (eigenvector) (e.g., Bonacich 1972, 1987; Hochberg et al., 2007) in explaining the reduction in the ICCs due to increased monitoring incentives.

Table 1 Pairwise correlations:

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) ICC_91	1.000												
(2) ICC_182	-0.960***	1.000											
(3) ICC_273	-0.977***	0.983***	1.000										
(4) ICC_365	-0.978***	0.983***	1.000***	1.000									
(5) ICC_456	-0.937***	0.996***	0.965***	0.964***	1.000								
(6) ICC_547	-0.974***	0.996***	0.995***	0.995***	0.985***	1.000							
(7) ICC_638	-0.951***	0.999***	0.983***	0.982***	0.996***	0.994***	1.000						
(8) ICC_730	-0.886***	0.823***	0.913***	0.913***	0.775***	0.870***	0.827***	1.000					
(9) Degree-Block	0.081***	-0.094***	-0.090***	-0.090***	-0.094***	-0.092***	-0.094***	-0.071***	1.000				
(10) Closeness-Block	0.068***	-0.088***	-0.083***	-0.083***	-0.090***	-0.086***	-0.088***	-0.063***	0.782***	1.000			
(11) Eigenvector-Block	0.067***	-0.074***	-0.071***	-0.071***	-0.074***	-0.073***	-0.074***	-0.058***	0.865***	0.548***	1.000		
(12) PCA-Block	0.079***	-0.094***	-0.090***	-0.090***	-0.095***	-0.092***	-0.094***	-0.070***	0.976***	0.851***	0.891***	1.000	
(13) Degree-Small	0.029***	-0.034***	-0.030***	-0.030***	-0.036***	-0.032***	-0.034***	-0.016**	-0.040***	-0.061***	-0.029***	-0.047***	1.000
(14) Closeness-Small	-0.018***	0.001	0.012*	0.013*	-0.004	0.007	0.001	0.034***	0.013**	0.017**	0.009	0.014**	0.169***
(15) Eigenvector-Small	-0.008	0.010	0.008	0.008	0.011	0.009	0.010	0.003	0.003	0.008	-0.011*	0.000	-0.055***
(16) PCA-Small	0.010	-0.023***	-0.013**	-0.013*	-0.028***	-0.018***	-0.024***	0.010	-0.019***	-0.031***	-0.011*	-0.022***	0.767***
(17) ORACTA	-0.023***	0.028***	0.030***	0.030***	0.027***	0.029***	0.029***	0.031***	-0.032***	-0.021***	-0.033***	-0.032***	-0.039***
(18) N-Analysts	0.006	0.017**	0.003	0.003	0.023***	0.011	0.017**	-0.029***	-0.027***	-0.096***	0.001	-0.043***	0.180***
(19) Turnover	0.057***	-0.062***	-0.062***	-0.062***	-0.060***	-0.063***	-0.060***	-0.051***	0.077***	0.057***	0.070***	0.075***	-0.006
(20) B/M	-0.042***	0.050***	0.049***	0.049***	0.050***	0.050***	0.051***	0.042***	0.000	0.007	-0.006	0.000	-0.039***
(21) Beta	-0.061***	0.033***	0.055***	0.055***	0.022***	0.044***	0.032***	0.095***	-0.024***	-0.021***	-0.022***	-0.024***	0.012*
(22) ROA	-0.021***	0.003	0.008	0.009	-0.001	0.007	-0.001	0.015**	-0.089***	-0.073***	-0.058***	-0.081***	0.002
(23) Leverage	-0.003	0.005	0.005	0.005	0.005	0.005	0.006	0.006	-0.004	0.002	-0.005	-0.003	-0.017**
(24) Size	-0.112***	0.139***	0.126***	0.127***	0.141***	0.134***	0.133***	0.077***	-0.172***	-0.212***	-0.120***	-0.184***	0.144***
(25) Inst-N	-0.027***	0.019***	0.026***	0.027***	0.013**	0.024***	0.014**	0.032***	-0.109***	-0.160***	-0.073***	-0.125***	0.358***
(26) Inst-PCT	0.116***	-0.139***	-0.120***	-0.120***	-0.145***	-0.131***	-0.136***	-0.060***	0.266***	0.259***	0.188***	0.262***	0.248***

Variables	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
(14) Closeness-Small	1.000												
(15) Eigenvector-Small	0.000	1.000											
(16) PCA-Small	0.730***	-0.236***	1.000										
(17) ORACTA	0.012	-0.006	-0.020***	1.000									
(18) N-Analysts	0.033***	-0.030***	0.160***	-0.048***	1.000								
(19) Turnover	0.010	-0.006	0.002	-0.031***	0.093***	1.000							
(20) B/M	0.026***	0.020***	-0.019***	0.004	0.108***	0.061***	1.000						
(21) Beta	0.017**	0.047***	0.009	0.050***	0.033***	-0.015**	0.072***	1.000					
(22) ROA	0.013*	-0.007	0.010	0.027***	0.023***	-0.204***	-0.097***	0.050***	1.000				
(23) Leverage	-0.007	-0.004	-0.015**	0.003	-0.011	-0.002	0.036***	-0.020***	-0.010	1.000			
(24) Size	0.046***	-0.028***	0.129***	0.069***	0.451***	-0.152***	0.247***	0.067***	0.093***	-0.012*	1.000		
(25) Inst-N	0.363***	-0.055***	0.469***	-0.001	0.500***	-0.116***	0.024***	0.052***	0.174***	-0.023***	0.666***	1.000	
(26) Inst-PCT	0.154***	-0.035***	0.264***	-0.084***	0.032***	0.028***	-0.059***	-0.033***	-0.053***	0.001	-0.137***	0.297***	1.000

This table shows the pairwise correlation matrices of the study's variables. ICC_91, ICC_182, ICC_273, ICC_365, ICC_456, ICC_547, ICC_638, and ICC_730 are the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days). Degree: shows the number of co-owners the firm shares with other firms in the same quarter. Degree-Small shows the degree for common owners holding less than 5%. Degree-Block shows the degree for common owners holding 5% or more. Closeness: shows the centrality of a firm in the network to other firms. Closeness-Small shows the closeness for common owners holding less than 5%. Closeness-Block shows the closeness for common owners holding 5% or more. Eigenvector measures a node's importance while considering the importance of its neighbours. Eigenvector-Small shows the eigenvector for common owners holding less than 5%. Eigenvector-Block shows the eigenvector for common owners holding 5% or more. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** they indicate statistical significance at the 10%, 5%, and 1% levels, respectively. All the variables in the table are quarterly.

The network proxies are also benchmarked using PCA to reduce the dimensionality of the individual network proxies into (latent) centrality constructs against the individual proxies to examine whether the combined factors outperform the separate indexes and if the findings are constant among individual indicators loading on the same factor. Particularly, we combined the network measures into a single centrality measure, denoted as PCA, by taking the first principal component of the degree, closeness, and eigenvector. The results continue to show a significant negative relationship with the ICC. The number of institutional owners and their percentage of holdings have shown a statistically significant ICC prediction. This aligns with the corporate governance argument of Berle and Means (1932), which states that the higher the number (the holdings percentage) of institutional investors, the bigger (the smaller) the gap between management and control, the larger (the lower) the agency costs, and the lower (the higher) its cost of capital.

4.3.2. Small Common Ownership and The Term Structure of ICC

We tested whether the previous estimation results derived from the block holding and not the joint ownership. In other words, if common holding is defined using only block holders, the findings will involve a mixed block holder and joint ownership effect (Schmalz, 2021). Thus, we repeated the analysis using the common ownership of mutual funds holding less than 5% and present the results in Table 3 below. The results continue to show negative effects between the network proxies and the ICCs.

For example, the degree centrality reduces the term structure ICCs significantly by 6.9%, 6.9%, 7%, 6.6%, 7%, 6.5%, 5.9%, for the second- up to the eighth- quarter-ahead, respectively. The closeness centrality continues to show a negative relationship with the ICCs (albeit weaker), which are in line with the weak monitoring incentives of small common owners (Rock (1991, 2015). However, eigenvector centrality does show a stronger significant relationship with the

IC indicating that when firms share a common owner holding less than 5% of their share, it does matter to whom the firm is connected in explaining the reduction of its cost of capital. PCA shows a negative relationship with the ICCs along the term structure.

These results confirm that the negative relationship between the common owners and the ICCs in the previous section do not solely result from blockholdings and they can be derived by average common owners' presence. However, the presence of common blockholdings magnifies the effects and makes them more significant. This is consistent with the proposition that concentrated ownership minimises free-rider concerns related to dispersed ownership, increasing major stockholders' supervising incentives (Grossman and Hart, 1980; Holmstrom, 1982; Shleifer and Vishny, 1986). Thus, the negative relationship between the common ownership (blockholding and small holdings) and the ICCs shows that common investors encourage a monitoring incentive, information asymmetries will be reduced, and the cost of capital will decrease.

5. Do common owners' incentives to monitor or collude change?

Do the incentives of common owners to function as either monitors or colluders, which eventually affect the cost of capital, change when considering environments with varying degrees of (1) tunnelling, (2) disclosure, and (3) liquidity?

(1) **Tunnelling**

Rent appropriation by common owners is difficult to assess due to its multiplicity of forms. Previous studies (Jiang *et al.*, 2010, Liu and Tian, 2012, Qian and Yeung, 2015) identified a straightforward method for managers to transfer loans to controlling shareholders: intercorporate debts that are reported as "other receivable" on corporate balance statements.

This account is used to record all payable payments, including recurring prepayments that are not recorded as notes or accounts receivable.

Table 2 Block holding Common ownership and the term structure of implied cost of capital:

	(1) ICC_91	(2) ICC_91	(3) ICC_91	(4) ICC_91	(5) ICC_182	(6) ICC_182	(7) ICC_182	(8) ICC_182	(9) ICC_273	(10) ICC_273	(11) ICC_273	(12) ICC_273	(13) ICC_365	(14) ICC_365	(15) ICC_365	(16) ICC_365
Degree	.028**				-.039***				-.039***				-.039***			
	(.014)				(.015)				(.015)				(.015)			
Closeness		.011				-.03**				-.029**				-.029**		
		(.013)				(.014)				(.014)				(.014)		
Eigenvector			.024*				-.029**				-.029**				-.029**	
			(.013)				(.014)				(.014)				(.014)	
PCA				.024*				-.037**				-.037**				-.037**
				(.014)				(.015)				(.015)				(.014)
Inst_ PCT	.104***	.11***	.108***	.105***	-.105***	-.108***	-.112***	-.106***	-.088***	-.092***	-.095***	-.089***	-.088***	-.092***	-.096***	-.089***
	(.014)	(.013)	(.014)	(.014)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)
Inst_ N	-.075***	-.079***	-.078***	-.076***	.044**	.044**	.048**	.043**	.06***	.06***	.065***	.06***	.061***	.062***	.066***	.061***
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)
Size	.013	.014	.014	.013	.031	.031	.029	.031	.008	.007	.006	.007	.008	.007	.006	.007
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Leverage	.002	.002	.002	.002	-.001	0	0	-.001	.001	.001	.001	.001	0	.001	.001	0
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.002	-.003	-.002	-.002	-.011	-.01	-.01	-.011	-.011	-.01	-.01	-.011	-.011	-.009	-.01	-.01
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Beta	-.052***	-.052***	-.052***	-.052***	.021**	.021**	.021**	.021**	.042***	.043***	.042***	.043***	.043***	.043***	.043***	.043***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	.009	.009	.009	.009	-.013	-.012	-.013	-.012	-.01	-.009	-.01	-.01	-.01	-.009	-.01	-.01
	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.01)	(.009)	(.01)	(.009)	(.01)	(.009)	(.01)	(.009)	(.01)	(.01)
cons	-.765***	-.766***	-.772***	-.766***	.456***	.452***	.465***	.457***	.76***	.757***	.77***	.762***	.761***	.758***	.771***	.763***
	(.083)	(.084)	(.083)	(.083)	(.077)	(.077)	(.078)	(.077)	(.081)	(.081)	(.081)	(.081)	(.081)	(.081)	(.082)	(.081)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.104	.103	.104	.104	.11	.11	.11	.11	.103	.103	.103	.103	.104	.103	.103	.104

	(17) ICC_456	(18) ICC_456	(19) ICC_456	(20) ICC_456	(21) ICC_547	(22) ICC_547	(23) ICC_547	(24) ICC_547	(25) ICC_638	(26) ICC_638	(27) ICC_638	(28) ICC_638	(29) ICC_730	(30) ICC_730	(31) ICC_730	(32) ICC_730
Degree	-.04***				-.039***				-.042***				-.037**			
	(.015)				(.015)				(.015)				(.014)			
Closeness		-.031**				-.029**				-.033**				-.028**		
		(.014)				(.014)				(.014)				(.014)		
Eigenvector			-.029**				-.029**				-.031**				-.028**	
			(.014)				(.014)				(.014)				(.014)	
PCA				-.038***				-.037**				-.04***				-.036**
				(.015)				(.014)				(.015)				(.014)
Inst_ PCT	-.108***	-.111***	-.116***	-.109***	-.098***	-.102***	-.105***	-.099***	-.098***	-.101***	-.106***	-.099***	-.034**	-.037***	-.041***	-.034**
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.012)	(.012)	(.014)	(.013)	(.013)	(.014)
Inst_ N	.032	.032	.037*	.032	.053**	.054**	.058***	.053**	.036*	.036*	.041*	.036*	.082***	.082***	.086***	.081***
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.023)	(.023)	(.023)	(.023)
Size	.041**	.041**	.039**	.041**	.02	.019	.018	.02	.031	.03	.029	.03	-.046**	-.046**	-.047**	-.046**
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Leverage	-.001	-.001	-.001	-.001	0	0	0	0	0	0	0	0	.004	.004	.004	.004
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.013	-.012	-.012	-.012	-.01	-.009	-.009	-.01	-.015*	-.013	-.014	-.014	-.012	-.011	-.011	-.012
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)
Beta	.01	.01	.01	.01	.032***	.032***	.032***	.032***	.02*	.02*	.019*	.02*	.083***	.083***	.083***	.083***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.011)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)
B/M	-.013	-.012	-.013	-.013	-.012	-.011	-.012	-.012	-.011	-.01	-.011	-.01	0	0	0	0
	(.009)	(.009)	(.009)	(.009)	(.01)	(.009)	(.01)	(.01)	(.009)	(.008)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
cons	.317***	.313***	.327***	.319***	.605***	.601***	.614***	.606***	.466***	.462***	.477***	.468***	1.347***	1.344***	1.356***	1.349***
	(.077)	(.077)	(.078)	(.078)	(.078)	(.078)	(.079)	(.078)	(.075)	(.075)	(.076)	(.076)	(.11)	(.111)	(.11)	(.109)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.111	.111	.111	.111	.108	.107	.107	.108	.106	.105	.105	.106	.091	.091	.091	.091

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' block common ownership on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) to eight-quarters ahead (730 days) of S&P500 non-financial companies between 2005 and 2021. Degree: shows the number of blocks co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 3 Small Common ownership and the term structure of implied cost of capital:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	ICC_91	ICC_91	ICC_91	ICC_91	ICC_182	ICC_182	ICC_182	ICC_182	ICC_273	ICC_273	ICC_273	ICC_273	ICC_365	ICC_365	ICC_365	ICC_365
Degree	.062*				-.069**				-.069**				-.07**			
	(.034)				(.035)				(.033)				(.033)			
Closeness		.011				-.027***				-.018*				-.018*		
		(.01)				(.01)				(.01)				(.01)		
Eigenvector			.083**				-.152***				-.114**				-.114**	
			(.04)				(.038)				(.045)				(.045)	
PCA				.021				-.039***				-.03**				-.03**
				(.013)				(.013)				(.013)				(.013)
Inst_ PCT	.115***	.115***	.115***	.115***	-.12***	-.12***	-.12***	-.12***	-.103***	-.103***	-.103***	-.103***	-.104***	-.104***	-.104***	-.104***
	(.013)	(.013)	(.013)	(.013)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)
Inst_ N	-.09***	-.09***	-.082***	-.093***	.061***	.072***	.054**	.073***	.078***	.082***	.07***	.085***	.079***	.083***	.071***	.086***
	(.023)	(.027)	(.022)	(.026)	(.023)	(.026)	(.022)	(.025)	(.023)	(.026)	(.022)	(.025)	(.023)	(.026)	(.022)	(.025)
Size	.019	.02	.015	.021	.023	.017	.027	.016	-.001	-.003	.004	-.005	-.001	-.003	.004	-.005
	(.021)	(.022)	(.02)	(.022)	(.02)	(.022)	(.02)	(.022)	(.02)	(.022)	(.02)	(.021)	(.02)	(.022)	(.02)	(.021)
Leverage	.002	.002	.002	.002	0	-.001	0	-.001	.001	.001	.001	.001	.001	.001	.001	.001
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.002	-.002	-.003	-.002	-.01	-.011	-.009	-.011	-.01	-.01	-.009	-.011	-.01	-.01	-.009	-.01
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Beta	-.052***	-.052***	-.052***	-.052***	.02*	.021**	.021**	.021*	.042***	.042***	.042***	.042***	.042***	.042***	.043***	.042***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	.009	.008	.009	.008	-.012	-.011	-.013	-.011	-.009	-.009	-.01	-.008	-.009	-.009	-.01	-.009
	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.01)	(.009)	(.01)	(.009)	(.01)	(.009)	(.01)	(.01)	(.01)	(.009)
cons	-.728***	-.775***	-.755***	-.768***	.416***	.475***	.436***	.458***	.72***	.775***	.747***	.764***	.721***	.776***	.748***	.765***
	(.086)	(.086)	(.085)	(.085)	(.079)	(.078)	(.077)	(.077)	(.084)	(.083)	(.082)	(.083)	(.084)	(.084)	(.083)	(.083)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.103	.103	.103	.103	.109	.109	.109	.109	.102	.102	.102	.102	.103	.103	.102	.103

	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
	ICC_456	ICC_456	ICC_456	ICC_456	ICC_547	ICC_547	ICC_547	ICC_547	ICC_638	ICC_638	ICC_638	ICC_638	ICC_730	ICC_730	ICC_730	ICC_730
Degree	-.066*				-.07**				-.065*				-.059*			
	(.035)				(.034)				(.034)				(.032)			
Closeness		-.029***				-.023**				-.025***				.006		
		(.01)				(.01)				(.01)				(.011)		
Eigenvector			-.166***				-.135***				-.148***				-.013	
			(.039)				(.041)				(.038)				(.075)	
PCA				-.041***				-.035***				-.036***				-.004
				(.013)				(.013)				(.013)				(.015)
Inst_ PCT	-.124***	-.124***	-.124***	-.124***	-.113***	-.114***	-.113***	-.114***	-.115***	-.115***	-.114***	-.115***	-.048***	-.048***	-.048***	-.048***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)	(.013)	(.013)	(.013)	(.013)
Inst_ N	.049**	.063**	.042*	.063**	.071***	.079***	.063***	.081***	.054**	.064**	.047**	.065**	.098***	.086***	.09***	.092***
	(.023)	(.026)	(.022)	(.025)	(.023)	(.026)	(.022)	(.025)	(.022)	(.026)	(.022)	(.025)	(.024)	(.027)	(.023)	(.027)
Size	.033	.025	.037*	.025	.012	.007	.016	.006	.022	.017	.026	.016	-.053**	-.047**	-.049**	-.05**
	(.02)	(.022)	(.02)	(.022)	(.02)	(.022)	(.02)	(.022)	(.02)	(.022)	(.02)	(.021)	(.021)	(.022)	(.021)	(.022)
Leverage	0	-.001	0	-.001	0	0	0	0	0	0	.001	0	.004	.004	.004	.004
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.012	-.013	-.011	-.013	-.009	-.01	-.009	-.01	-.013	-.014	-.013	-.014	-.011	-.01	-.01	-.011
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)
Beta	.01	.01	.01	.01	.031***	.032***	.032***	.031***	.019*	.019*	.019*	.019*	.083***	.083***	.083***	.083***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.011)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)
B/M	-.012	-.011	-.013	-.011	-.011	-.01	-.012	-.01	-.01	-.009	-.011	-.009	0	-.001	0	0
	(.009)	(.009)	(.009)	(.009)	(.01)	(.009)	(.01)	(.009)	(.009)	(.008)	(.009)	(.008)	(.009)	(.009)	(.009)	(.009)
cons	.279***	.338***	.295***	.32***	.564***	.622***	.588***	.608***	.43***	.485***	.448***	.47***	1.313***	1.349***	1.35***	1.352***
	(.079)	(.078)	(.077)	(.077)	(.081)	(.08)	(.079)	(.079)	(.078)	(.077)	(.076)	(.076)	(.114)	(.113)	(.113)	(.113)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.11	.11	.11	.11	.107	.107	.106	.107	.105	.105	.105	.105	.09	.09	.09	.09

This table shows results from Newey–West Standard Errors regression of mutual funds' small common ownership on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) to eight-quarters ahead (730 days) of S&P500 companies between 2005 and 2021. Degree: is the number of co-owners. Closeness: is the closeness of a firm to other firms. Eigenvector is a node's importance. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Since the reporting rules for other receivables are unclear, this account is utilised for transactions unrelated to operations. These transactions include loans to parent companies and their unlisted subsidiaries. In conclusion, tunnelling via other receivable accounts has been described as "an especially blatant type of corporate misconduct in which controlling owners steal billions of RMB from hundreds of Chinese listed enterprises" (Jiang *et al.*, 2010: p1). Therefore, the intensity of appropriation is determined by dividing the value of a company's other receivables by the value of all its assets which we donate as (ORACTA).

By using a simple indicator of tunnelling that is independent to company value, we can identify the occurrence of tunnelling across all firms (not only those with certain ownership structures or within related business groupings) (Jiang *et al.,* 2010). This method has a major disadvantage of investigating only one type of tunnelling. In contrast to the literature on control premiums, which calculates the utmost aggregate private profits for control, this study provides a minimum direct measurement of tunnelling. This measurement is more interpretable as strong evidence of tunnelling, even though the overall scope of the problem is undoubtedly greater than this estimate. Previous research has established a "ceiling" for the overall impact of tunnelling on the economy, but this analysis indicates a "floor" for US businesses (Jiang *et al*., 2010). In conclusion, even though ORACTA does not account for all rent appropriations, it is a suitable substitute for the purposes of our study.

(2) **Disclosure**

Accounting literature suggests a connection between corporate disclosure quality and analyst coverage. For instance, Hong *et al*. (2000), found that better analyst coverage is associated with a higher level of information on the company. Similarly, Lang and Lundholm (1996) and Healy *et al*. (1999) demonstrate that firms with higher disclosure quality have a larger analyst following. Brennan and Subrahmanyam (1995) find a similar negative association between the number of analysts monitoring a company and projections of the adverse selection element of the bid-ask spread. This suggests that the larger the number of analysts observing a company, the more data they generate, reducing information asymmetry and adverse selection.

In a particular quarter, we collected the number of analysts following a company to represent the analyst coverage. The greater the quantity of analyst forecasts, the better the information environment for a corporation and hence reduce the uncertainty (He and Tian, 2013). Thus, we extract the number of analysts following the firm from the I/B/E/S Historical File, as an indicator of the level of disclosure and openness (N-Analysts). For each firm in our sample, we set the coverage in any given quarter equal to the number of I/B/E/S analysts who provide fiscal year 1 earnings estimates that quarter.

(3) **Liquidity**

According to the common opinion, stockholders regulate by interfering (e.g., Admati *et al.*, 1994). Admati and Pfleiderer (2009), Edmans (2009), and Edmans and Manso (2011), among others, contend that even in the absence of monitoring, shareholders can still exert control by participating in informed trading. The threat of exit can be an effective corporate control tool ex-ante because it reduces the stock price and penalises the management because managers' pay depends on the share price (Admati and Pfleiderer, 2009; Edmans, 2009; Edmans and Manso, 2011).

Because the threat of exit cannot be observed directly, we adhere to earlier studies linking the threat of exit to liquidity (e.g., Edmans, 2009). Investors can sell assets more easily when there is more liquidity. (Turnover), an indicator of liquidity in a particular quarter, is determined by dividing the trading volume by the total number of outstanding shares.

Using these three channels, we repeat the analysis using the following economic model:

$$ICC_{i,t} = \delta_0 + \sum_{j=1}^{N} \delta_j connect^j{}_{i,t-1} +* \text{channels}_{i,t}$$
$$+ \delta_j connect^j{}_{i,t-1} * \text{channels}_{i,t} + \text{Controls}_{\ i,t} + \varepsilon_{i,t} \quad (9)$$

The dependent variable $ICC_{i,t}$ is the term structure of implied cost of equity following Callen and Lyle's (2020) model. The primary test variable is the interaction term between $connect_{i,t-1}$ and $channels_{i,t}$. ($connect_{i,t-1}$) reflects each network property separately (e.g., degree, closeness, eigenvector). N is the number of connections in the network. ($channels_{i,t}$) reflects the disclosure (N-Analysts), Tunnel (ORACTA), and liquidity/exit (Turnover) channels. $Controls_{\ i,t}$ reflects the same set of control variables that are used in the previous analysis: leverage, company size, book-to-market ratio, and stock beta, the return on equity (ROE) as well as the institutional holdings. Furthermore, to control for unobservable differences across quarters, this paper will include industry and quarter fixed effects throughout the study. $f_{\ t}$ and $\tau_{\ t}$ are the industry and quarter fixed effect, respectively. $\varepsilon_{i,t}$is the error term. Continuous variables are winsorized at 1% and 99%. Error terms are clustered at firm level.

5.1. Regression Analyses

Table 4 and Table 5 show the effects of the channel on the term structure of ICCs for block common owners and for small common owners, respectively. The significant negative direct effects of the block and small common owners on the ICCs continue to hold, indicating that common owners adopt a monitoring incentive for their portfolio firms which reduces the ICCs. The direct negative effect of ORACTA on the ICCs demonstrates that these financial assets and other items due to be received, such as interest receivable, loans to other businesses, and refundable income taxes, are valuable items because they indicate money that is contractually obliged to be paid to the company, sending a positive signal about the firm's operations and resulting in lower ICCs.

In Table 4, the direct effects of the N-Analysts on the ICCs shows that the increase in disclosure level reduces the asymmetry in information and that reduces the informational risk premium capital providers are demanding; thus, the ICCs will be diminished. On the other hand, the increase in the disclosure that accompanies an increase in the Turnover sends a negative sign to the market and eventually the ICCs increase. This pattern between disclosure and liquidity has been discussed in Diamond and Verrecchia, (1991) who stated that "[in some situations] … reduced information asymmetry is not desirable and raises the cost of capital, because reduced information asymmetry leads to rapid exit from market making"[14] . Moreover, as expected there is a negative effect of Turnover on the ICC, indicating that the exit/ threat of exit can be used a form of governance when investors are dissatisfied with the management (e.g., Admati and Pfleiderer, 2009, Edman, 2009, Edmans and Manso, 2011).

The interaction terms between the ORACTA, N-Analysts, and the Turnover and all the network proxies show that the common owners' incentives change according to the environments we have explored. For example, there are positive insignificant effects of the interaction term between the ORACTA and degree and closeness in the case of block common owners; the more common blockholder firms share as measured by degree, the larger their ICCs. This demonstrates that the incentives to monitor reduce in a high tunnelling-oriented environment and that the controlling owners may exploit the company's resources to extract private gains (e.g., Morck *et al.*, 1988; Shleifer and Vishny, 1997) by using the ORACTA as a channel of tunnelling. The interaction term between the closeness and the ORACTA shows that the closer

[14] See Diamond and Verrecchia, (1991): "However, reduced information asymmetry reduces the volatility of order imbalances, causing some market makers to exit. If there is little information asymmetry, the welfare of large traders and their willingness to take large positions depend primarily on the number of market makers. Large traders are better off, and security prices are higher, with a small positive amount of information asymmetry than none at all. However, with large information asymmetry, the effect of disclosure in reducing order imbalances dominates the effect of exit. In this case, disclosure makes large traders better off and raises security prices."; Gao (2010): "Disclosure could increase cost of capital if it increases the [firms' cash flow] variance and the variance grows faster than the stock price."

firms are to each other, the faster their access to information and the larger their ICCs because the incentive to monitor decreases as the tunnelling becomes easier.

The interaction terms between the number of analysts following a firms and degree, closeness, eigenvector and the PCA of the network measures, show a positive and insignificant effect on the ICCs, indicating that in an informational-oriented environment, the incentive to monitor reduces as shown by the increase in the ICCs. This might be attributed to the fact that analyst coverage minimises informational asymmetries. As a result, common owners who monitor their firms may find that analysts have already released a significant portion of the information they would have discovered themselves, thereby diminishing the value of their monitoring efforts. The interaction terms between the Turnover and the network proxies show that whenever firms have common owners, governance through exit is manifested significantly. This Turnover reduces the ICCs indicating a support to the governing through exit argument that when investors are dissatisfied with the management they can threaten to exit and that will improve the management incentives to reduce the agency conflicts (Cvijanović *et al.*, 2022) which drive the ICCs down. Consistent with the finding of Edmans *et al.* (2019) who find that the effect of governing through exit is amplified when the stakes are in unrelated firms. Furthermore, Cvijanović *et al.* (2022) found that when there are many blockholders, especially mutual funds, they respond to an informed blockholder's exit, resulting in an unavoidable threat of exit that enhances corporate governance.

Turning to Table 5, all the interaction terms between our environment variables ORACTA, N-Analysts, and Turnover and the network proxies have (mostly positive and) insignificant effects. Collectively, the results indicate that monitoring incentives of small common owners reduced significantly in a high-tunnelling environment, in a high-analysts coverage environment, and in a high-tunnelling environment.

7.2. Predictive Margin Analysis

To make these results more tangible, we employ predictive marginal analysis. Specifically, we set the environments at their 10th and 90th percentiles and see how the estimates of the response will change. Table 6 shows the results. The results indicate that ICCs will grow at a slower rate in a high-informational environment, as represented by the 90th percentile of the N-Analysts, than in a low-informational environment, as represented by the 10th percentile of the N-Analysts. These results further confirm our monitoring hypothesis of common owners. Similar pattern is observed in a high-liquidity environment, as indicated by the 90th percentile of the Turnover, compared to a low-liquidity environment, as indicated by the 10th percentile of the Turnover. Such results demonstrate that exit as a form of governance facilitates reducing ICCs. Moreover, in a high-tunnelling environment, as measured by the 90^{th} percentile of the ORACTA, the increase in the ICCs is of a lower rate than in a low-tunnelling environment, as measured by the 10th percentile of the ORACTA.

Table 4 Block Common Owners and Their incentives to Monitor or Collude in different environments:

	(1) ICC_91	(2) ICC_91	(3) ICC_91	(4) ICC_91	(5) ICC_182	(6) ICC_182	(7) ICC_182	(8) ICC_182	(9) ICC_273	(10) ICC_273	(11) ICC_273	(12) ICC_273	(13) ICC_365	(14) ICC_365	(15) ICC_365	(16) ICC_365
Degree	.02				-.036**				-.034**				-.034**			
	(.014)				(.015)				(.015)				(.015)			
Closeness		.005				-.024*				-.023				-.022		
		(.013)				(.014)				(.014)				(.014)		
Eigenvector			.016				-.026*				-.024*				-.023*	
			(.013)				(.014)				(.014)				(.014)	
PCA				.017				-.034**				-.032**				-.031**
				(.014)				(.015)				(.015)				(.015)
ORACTA	.015*	.015*	.016*	.015*	-.017**	-.016**	-.019**	-.017**	-.017**	-.016**	-.018**	-.017**	-.017**	-.016**	-.019**	-.017**
	(.008)	(.008)	(.009)	(.008)	(.008)	(.008)	(.009)	(.008)	(.008)	(.007)	(.008)	(.008)	(.008)	(.007)	(.008)	(.008)
N_ Analysts	.001	.002	.002	.002	.03**	.03*	.028*	.03*	.008	.007	.006	.007	.007	.006	.005	.007
	(.017)	(.017)	(.017)	(.017)	(.015)	(.016)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)
Turnover	-.001	.003	-.003	-.002	-.006	-.011	-.003	-.005	-.006	-.01	-.004	-.006	-.006	-.01	-.004	-.006
	(.011)	(.011)	(.012)	(.011)	(.01)	(.011)	(.01)	(.01)	(.01)	(.011)	(.01)	(.01)	(.01)	(.011)	(.011)	(.011)
Degree # ORACTA	-.011				-.005				.002				.002			
	(.014)				(.016)				(.016)				(.016)			
Degree # N_ Analysts	-.001				.013				.009				.009			
	(.011)				(.01)				(.01)				(.01)			
Degree # Turnover	.022***				-.021***				-.022***				-.022***			
	(.006)				(.007)				(.007)				(.007)			
Closeness # ORACTA		-.012				.003				.007				.007		
		(.008)				(.009)				(.009)				(.009)		
Closeness # N_ Analysts		-.009				.018				.014				.014		
		(.013)				(.012)				(.012)				(.012)		
Closeness # Turnover		.029***				-.025*				-.03***				-.03***		
		(.011)				(.013)				(.011)				(.011)		
Eigenvector # ORACTA			-.007				-.011				-.002				-.002	
			(.02)				(.023)				(.022)				(.022)	
Eigenvector # N_ Analysts			.003				.007				.004				.004	
			(.01)				(.01)				(.009)				(.009)	
Eigenvector # Turnover			.018***				-.02***				-.019***				-.019***	
			(.004)				(.004)				(.004)				(.004)	
PCA # ORACTA				-.013				-.003				.003				.003
				(.013)				(.015)				(.015)				(.015)
PCA # N_ Analysts				-.001				.013				.009				.009
				(.011)				(.01)				(.01)				(.01)
PCA # Turnover				.022***				-.021***				-.022***				-.022***
				(.005)				(.006)				(.006)				(.006)
Inst_ PCT	.106***	.111***	.11***	.107***	-.104***	-.108***	-.112***	-.105***	-.089***	-.092***	-.097***	-.09***	-.089***	-.093***	-.097***	-.09***
	(.014)	(.013)	(.014)	(.014)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)
Inst_ N	-.075***	-.079***	-.078***	-.076***	.033	.035	.039*	.033	.057***	.058***	.062***	.057***	.058***	.059***	.063***	.058***
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)
Size	.011	.011	.012	.011	.026	.026	.025	.026	.007	.007	.006	.007	.007	.007	.006	.007
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Leverage	.002	.002	.002	.002	-.001	-.001	-.001	-.001	0	.001	.001	0	0	0	0	0
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.002	-.002	-.003	-.002	-.011	-.011	-.01	-.011	-.012	-.012	-.011	-.012	-.012	-.011	-.01	-.011
	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Beta	-.052***	-.052***	-.052***	-.052***	.022**	.021**	.021**	.022**	.043***	.043***	.043***	.043***	.043***	.043***	.043***	.043***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	.01	.009	.01	.01	-.013	-.012	-.014	-.013	-.01	-.009	-.011	-.01	-.01	-.009	-.011	-.01
	(.01)	(.01)	(.01)	(.01)	(.01)	(.009)	(.01)	(.009)	(.01)	(.009)	(.01)	(.01)	(.01)	(.009)	(.01)	(.01)
cons	-.773***	-.771***	-.78***	-.775***	.477***	.471***	.486***	.479***	.769***	.764***	.778***	.771***	.769***	.765***	.778***	.771***
	(.085)	(.086)	(.085)	(.085)	(.078)	(.078)	(.079)	(.079)	(.082)	(.082)	(.083)	(.082)	(.082)	(.083)	(.083)	(.083)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.105	.104	.105	.105	.112	.111	.112	.112	.105	.104	.104	.105	.105	.105	.105	.105
	(17) ICC_456	(18) ICC_456	(19) ICC_456	(20) ICC_456	(21) ICC_547	(22) ICC_547	(23) ICC_547	(24) ICC_547	(25) ICC_638	(26) ICC_638	(27) ICC_638	(28) ICC_638	(29) ICC_730	(30) ICC_730	(31) ICC_730	(32) ICC_730
Degree	-.038***				-.035**				-.039***				-.027*			
	(.015)				(.015)				(.015)				(.015)			

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Closeness		-.026*				-.023				-.027*				-.02		
		(.014)				(.014)				(.014)				(.014)		
Eigenvector			-.028*				-.025*				-.028*				-.017	
			(.014)				(.014)				(.015)				(.014)	
PCA				-.036**				-.032**				-.037**				-.025*
				(.015)				(.014)				(.015)				(.015)
ORACTA	-.017**	-.015**	-.019**	-.017**	-.017**	-.016**	-.019**	-.017**	-.017**	-.015**	-.019**	-.017**	-.014	-.014*	-.014	-.014
	(.008)	(.008)	(.009)	(.008)	(.008)	(.007)	(.008)	(.008)	(.008)	(.007)	(.008)	(.008)	(.009)	(.008)	(.009)	(.009)
N_ Analysts	.041***	.041***	.039**	.041***	.019	.018	.017	.018	.032**	.032**	.03**	.032**	-.042**	-.043***	-.043***	-.043***
	(.015)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.015)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)
Turnover	-.006	-.011	-.003	-.005	-.006	-.01	-.003	-.005	-.006	-.011	-.003	-.005	-.007	-.009	-.006	-.006
	(.01)	(.011)	(.01)	(.01)	(.01)	(.011)	(.01)	(.01)	(.01)	(.011)	(.01)	(.01)	(.012)	(.012)	(.012)	(.012)
Degree # ORACTA	-.008				-.002				-.005				.016			
	(.016)				(.016)				(.016)				(.016)			
Degree # N_ Analysts	.015				.01				.014				.001			
	(.01)				(.01)				(.01)				(.01)			
Degree # Turnover	-.021***				-.021***				-.022***				-.021***			
	(.007)				(.007)				(.007)				(.006)			
Closeness # ORACTA		.002				.005				.004				.014		
		(.009)				(.009)				(.009)				(.011)		
Closeness # N_ Analysts		.02				.016				.019				.007		
		(.012)				(.012)				(.012)				(.013)		
Closeness # Turnover		-.022				-.027**				-.025*				-.037***		
		(.014)				(.012)				(.013)				(.01)		
Eigenvector # ORACTA			-.015				-.006				-.011				.018	
			(.024)				(.023)				(.024)				(.02)	
Eigenvector # N_ Analysts			.009				.005				.009				-.003	
			(.01)				(.01)				(.01)				(.01)	
Eigenvector # Turnover			-.02***				-.019***				-.02***				-.017***	
			(.004)				(.004)				(.005)				(.004)	
PCA # ORACTA				-.006				0				-.003				.018
				(.015)				(.015)				(.015)				(.016)
PCA # N_ Analysts				.016				.011				.015				.001
				(.01)				(.01)				(.01)				(.01)
PCA # Turnover				-.021***				-.022***				-.022***				-.022***
				(.006)				(.006)				(.006)				(.005)
Inst_ PCT	-.107***	-.11***	-.115***	-.108***	-.098***	-.102***	-.106***	-.099***	-.097***	-.101***	-.106***	-.098***	-.038***	-.04***	-.044***	-.039***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.012)	(.014)	(.013)	(.014)	(.014)
Inst_ N	.018	.019	.024	.018	.047**	.048**	.052**	.047**	.025	.026	.031	.025	.094***	.094***	.098***	.094***
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.023)	(.023)	(.023)	(.023)
Size	.034*	.033*	.033*	.034*	.017	.017	.016	.017	.025	.025	.024	.025	-.037*	-.037*	-.039*	-.037*
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.021)	(.021)	(.021)	(.021)
Leverage	-.001	-.001	-.001	-.001	0	0	0	0	0	0	0	0	.004	.004	.004	.004
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.013	-.012	-.011	-.012	-.011	-.011	-.01	-.011	-.015	-.014	-.013	-.014	-.015	-.015	-.014	-.015
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)
Beta	.011	.011	.011	.011	.032***	.032***	.032***	.032***	.02*	.02*	.02*	.02*	.083***	.083***	.083***	.083***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	-.014	-.012	-.015	-.014	-.012	-.011	-.013	-.012	-.011	-.01	-.012	-.011	0	.002	0	0
	(.009)	(.009)	(.009)	(.009)	(.01)	(.009)	(.01)	(.01)	(.009)	(.008)	(.009)	(.009)	(.009)	(.008)	(.009)	(.009)
cons	.345***	.338***	.354***	.346***	.62***	.615***	.629***	.622***	.489***	.482***	.499***	.491***	1.326***	1.323***	1.334***	1.329***
	(.078)	(.078)	(.079)	(.079)	(.08)	(.08)	(.081)	(.08)	(.077)	(.076)	(.078)	(.077)	(.11)	(.11)	(.11)	(.11)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.113	.113	.113	.113	.109	.109	.109	.109	.108	.107	.108	.108	.093	.094	.093	.094

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' block common ownership (5% or above) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies between 2005 and 2021. Degree: shows the number of blocks co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 5 Small Common Owners and Their incentives to Monitor or Collude in different environments:

	(1) ICC_91	(2) ICC_91	(3) ICC_91	(4) ICC_91	(5) ICC_182	(6) ICC_182	(7) ICC_182	(8) ICC_182	(9) ICC_273	(10) ICC_273	(11) ICC_273	(12) ICC_273	(13) ICC_365	(14) ICC_365	(15) ICC_365	(16) ICC_365
Degree	.06*				-.063*				-.066**				-.067**			
	(.035)				(.035)				(.034)				(.034)			
Closeness		.016				-.018				-.018				-.018		
		(.011)				(.012)				(.012)				(.012)		
Eigenvector			.083**				-.145***				-.111**				-.111**	
			(.039)				(.038)				(.045)				(.045)	
PCA				.017				-.03**				-.025*				-.025*
				(.014)				(.014)				(.014)				(.014)
ORACTA	.017**	.013	.017**	.017**	-.018**	-.017**	-.017**	-.017**	-.018**	-.015**	-.018**	-.018**	-.018**	-.015**	-.018**	-.018**
	(.008)	(.008)	(.008)	(.008)	(.007)	(.008)	(.007)	(.007)	(.007)	(.008)	(.007)	(.007)	(.007)	(.008)	(.007)	(.007)
N_ Analysts	.002	.005	.003	.003	.027*	.024	.027*	.024	.005	.002	.004	.003	.005	.002	.004	.003
	(.017)	(.017)	(.017)	(.017)	(.016)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)
Turnover	.015	.008	.008	.012	-.02	-.014	-.014	-.017	-.022	-.015	-.015	-.018	-.021	-.015	-.015	-.018
	(.017)	(.014)	(.015)	(.016)	(.017)	(.014)	(.015)	(.017)	(.017)	(.014)	(.015)	(.016)	(.017)	(.014)	(.015)	(.016)
Degree # ORACTA	-.001				-.002				-.003				-.003			
	(.006)				(.006)				(.005)				(.005)			
Degree # N_ Analysts	.007				.001				-.004				-.004			
	(.009)				(.008)				(.008)				(.008)			
Degree # Turnover	-.027*				.019				.022				.022			
	(.015)				(.015)				(.015)				(.015)			
Closeness # ORACTA		.048				.004				-.038				-.038		
		(.03)				(.033)				(.031)				(.031)		
Closeness # N_ Analysts		-.007				.014				.013				.013		
		(.017)				(.017)				(.017)				(.017)		
Closeness # Turnover		.003				.007				.002				.002		
		(.028)				(.031)				(.03)				(.03)		
Eigenvector # ORACTA			.001				0				0				0	
			(.005)				(.005)				(.005)				(.005)	
Eigenvector # N_ Analysts			.001				-.004				-.003				-.003	
			(.006)				(.006)				(.006)				(.006)	
Eigenvector # Turnover			-.009				.009				.009				.009	
			(.009)				(.007)				(.007)				(.007)	
PCA # ORACTA				.002				-.002				-.007				-.007
				(.009)				(.008)				(.008)				(.008)
PCA # N_ Analysts				.008				.004				-.002				-.002
				(.011)				(.011)				(.011)				(.011)
PCA # Turnover				-.026				.02				.022				.022
				(.02)				(.022)				(.021)				(.021)
Inst_ PCT	.115***	.115***	.116***	.115***	-.119***	-.12***	-.12***	-.119***	-.103***	-.104***	-.104***	-.103***	-.104***	-.104***	-.104***	-.104***
	(.013)	(.013)	(.013)	(.013)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.012)	(.012)	(.012)	(.012)	(.012)
Inst_ N	-.092***	-.092***	-.084***	-.095***	.054**	.063**	.046**	.065**	.078***	.081***	.069***	.085***	.079***	.083***	.07***	.086***
	(.023)	(.027)	(.022)	(.027)	(.023)	(.026)	(.022)	(.026)	(.023)	(.026)	(.022)	(.026)	(.023)	(.026)	(.022)	(.026)
Size	.02	.019	.015	.021	.016	.012	.021	.011	-.003	-.004	.002	-.006	-.003	-.004	.002	-.007
	(.021)	(.022)	(.02)	(.022)	(.021)	(.022)	(.02)	(.022)	(.021)	(.022)	(.02)	(.022)	(.021)	(.022)	(.02)	(.022)
Leverage	.002	.002	.002	.003	-.001	-.001	-.001	-.001	0	.001	.001	0	0	.001	.001	0
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.001	-.001	-.001	0	-.012	-.012	-.011	-.012	-.013	-.013	-.012	-.013	-.012	-.013	-.011	-.013
	(.01)	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Beta	-.052***	-.051***	-.052***	-.052***	.021**	.021**	.021**	.021**	.042***	.042***	.042***	.042***	.042***	.042***	.042***	.042***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	.009	.008	.009	.008	-.013	-.011	-.013	-.012	-.009	-.008	-.009	-.008	-.009	-.009	-.009	-.009
	(.01)	(.01)	(.01)	(.01)	(.01)	(.009)	(.01)	(.009)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
cons	-.733***	-.768***	-.75***	-.771***	.438***	.486***	.449***	.477***	.728***	.771***	.745***	.77***	.729***	.772***	.745***	.771***
	(.088)	(.087)	(.086)	(.086)	(.08)	(.079)	(.078)	(.078)	(.085)	(.084)	(.083)	(.083)	(.085)	(.085)	(.083)	(.083)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.104	.103	.103	.104	.11	.11	.11	.11	.103	.103	.103	.103	.104	.103	.103	.103

	(17) ICC_456	(18) ICC_456	(19) ICC_456	(20) ICC_456	(21) ICC_547	(22) ICC_547	(23) ICC_547	(24) ICC_547	(25) ICC_638	(26) ICC_638	(27) ICC_638	(28) ICC_638	(29) ICC_730	(30) ICC_730	(31) ICC_730	(32) ICC_730
Degree	-.059*				-.065*				-.059*				-.062*			
	(.035)				(.034)				(.034)				(.032)			

Closeness		-.016				-.019				-.015				-.013		
		(.013)				(.012)				(.012)				(.012)		
Eigenvector			-.157***				-.13***				-.141***				-.019	
			(.037)				(.04)				(.037)				(.073)	
PCA				-.03**				-.028*				-.027*				-.008
				(.014)				(.014)				(.014)				(.015)
ORACTA	-.017**	-.018**	-.017**	-.016**	-.018**	-.016**	-.018**	-.018**	-.017**	-.017**	-.017**	-.017**	-.018**	-.008	-.017**	-.018**
	(.008)	(.008)	(.008)	(.008)	(.007)	(.008)	(.007)	(.007)	(.007)	(.008)	(.007)	(.007)	(.009)	(.009)	(.008)	(.008)
N_ Analysts	.037**	.035**	.038**	.035**	.016	.013	.016	.014	.029*	.026*	.029*	.026*	-.042**	-.045***	-.045***	-.042**
	(.016)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)
Turnover	-.019	-.013	-.014	-.016	-.021	-.014	-.015	-.017	-.02	-.014	-.015	-.017	-.023	-.017	-.016	-.02
	(.018)	(.014)	(.015)	(.017)	(.017)	(.014)	(.015)	(.016)	(.018)	(.014)	(.015)	(.017)	(.016)	(.013)	(.014)	(.015)
Degree # ORACTA	-.001				-.002				-.002				-.006			
	(.006)				(.005)				(.005)				(.006)			
Degree # N_ Analysts	.003				-.001				.001				-.014			
	(.008)				(.008)				(.008)				(.009)			
Degree # Turnover	.017				.021				.018				.026*			
	(.015)				(.015)				(.015)				(.014)			
Closeness # ORACTA		.023				-.017				.004				-.125***		
		(.034)				(.032)				(.033)				(.035)		
Closeness # N_ Analysts		.014				.014				.014				.008		
		(.017)				(.017)				(.017)				(.018)		
Closeness # Turnover		.01				.004				.009				-.006		
		(.031)				(.03)				(.031)				(.029)		
Eigenvector # ORACTA			-.001				0				-.001				0	
			(.005)				(.005)				(.005)				(.005)	
Eigenvector # N_ Analysts			-.004				-.003				-.004				-.002	
			(.006)				(.006)				(.006)				(.007)	
Eigenvector # Turnover			.009				.009				.009				.006	
			(.007)				(.007)				(.007)				(.009)	
PCA # ORACTA				-.001				-.005				-.003				-.017*
				(.008)				(.008)				(.008)				(.009)
PCA # N_ Analysts				.007				.001				.004				-.016
				(.011)				(.011)				(.011)				(.012)
PCA # Turnover				.019				.021				.02				.024
				(.022)				(.021)				(.022)				(.02)
Inst_ PCT	-.123***	-.123***	-.123***	-.123***	-.113***	-.114***	-.114***	-.113***	-.114***	-.114***	-.114***	-.114***	-.05***	-.05***	-.051***	-.05***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)	(.013)	(.013)	(.013)	(.013)
Inst_ N	.039*	.05*	.031	.051**	.068***	.074***	.059***	.077***	.046**	.054**	.038*	.056**	.112***	.103***	.104***	.108***
	(.023)	(.026)	(.022)	(.026)	(.023)	(.026)	(.022)	(.026)	(.023)	(.026)	(.022)	(.026)	(.024)	(.027)	(.023)	(.027)
Size	.025	.019	.029	.019	.007	.004	.012	.003	.015	.012	.02	.011	-.047**	-.04*	-.042**	-.045**
	(.021)	(.022)	(.02)	(.022)	(.021)	(.022)	(.02)	(.022)	(.021)	(.022)	(.02)	(.022)	(.021)	(.022)	(.021)	(.022)
Leverage	-.001	-.001	-.001	-.001	0	0	0	-.001	0	0	0	0	.004	.005	.004	.004
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.013	-.013	-.012	-.013	-.012	-.012	-.011	-.012	-.015	-.015	-.014	-.016*	-.016	-.016	-.015	-.016
	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)
Beta	.01	.01	.01	.01	.032***	.031***	.031***	.032***	.019*	.019*	.019*	.019*	.082***	.082***	.082***	.082***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.011)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)
B/M	-.013	-.012	-.013	-.012	-.011	-.01	-.011	-.011	-.011	-.009	-.011	-.01	.002	.001	.001	.002
	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
cons	.308***	.356***	.316***	.345***	.579***	.626***	.594***	.62***	.453***	.497***	.462***	.49***	1.29***	1.313***	1.314***	1.33***
	(.079)	(.079)	(.078)	(.077)	(.082)	(.081)	(.08)	(.08)	(.078)	(.078)	(.077)	(.076)	(.115)	(.113)	(.113)	(.113)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.111	.111	.111	.112	.108	.107	.107	.107	.106	.106	.105	.106	.092	.092	.091	.092

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' small common ownership (less than 5%) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies between 2005 and 2021. Degree: shows the number of small co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 6 Common ownership marginal effects:

Panel A: Block Common Owners and the Term-Structure of Implied Cost of Capital -Predictive Margin Analysis-:										
			(1) ICC_91	(2) ICC_182	(3) ICC_273	(4) ICC_365	(5) ICC_456	(6) ICC_547	(7) ICC_638	(8) ICC_730
ORACTA	1._at	(p10)	-0.171***	0.166***	0.158***	0.157***	0.147***	0.147***	0.161***	0.0881***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)
	2._at	(p90)	-0.169***	0.164***	0.156***	0.156***	0.148***	0.145***	0.160***	0.0860***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)
N-Analysts	3._at	(p10)	-0.179***	0.157***	0.159***	0.158***	0.135***	0.145***	0.152***	0.102***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
	4._at	(p90)	-0.160***	0.173***	0.154***	0.155***	0.162***	0.147***	0.171***	0.0682***
			(0.004)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
Turnover	5._at	(p10)	-0.176***	0.171***	0.1573***	0.157***	0.147***	0.150***	0.167***	0.0898***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
	6._at	(p90)	-0.165***	0.156***	0.1572***	0.157***	0.147***	0.140***	0.152***	0.0830***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
N			20371	20371	20371	20371	20371	20371	20371	20371
Panel B: Small Common Owners and the Term-Structure of Implied Cost of Capital -Predictive Margin Analysis-:										
			(1) ICC_91	(2) ICC_182	(3) ICC_273	(4) ICC_365	(5) ICC_456	(6) ICC_547	(7) ICC_638	(8) ICC_730
ORACTA	1._at	(p10)	-0.171***	0.159***	0.159***	0.159***	0.147***	0.149***	0.157***	0.0902***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
	2._at	(p90)	-0.168***	0.158***	0.157***	0.156***	0.148***	0.145***	0.156***	0.0885***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
N-Analysts	3._at	(p10)	-0.180***	0.153***	0.162***	0.161***	0.137***	0.148***	0.150***	0.105***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
	4._at	(p90)	-0.156***	0.164***	0.152***	0.153***	0.159***	0.144***	0.163***	0.0706***
			(0.004)	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
Turnover	5._at	(p10)	-0.174***	0.166***	0.157***	0.157***	0.149***	0.152***	0.163***	0.0931***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
	6._at	(p90)	-0.163***	0.150***	0.158***	0.158***	0.146***	0.141***	0.147***	0.0843***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
N			20371	20371	20371	20371	20371	20371	20371	20371

This table shows the results of the predictive marginal analysis when we set the channels at their 10th and 90th percentiles and how the estimates of the response (ICCs). The dependent variables are the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days). Block common owners are mutual funds or EFT holding 5% or more of two or more firms in the same quarter. Small common owners are mutual or EFT holding less than 5% of two or more firms in the same quarter. The channels are: (1) N-Analysts is the number of analysts following a firm from I/B/E/S database. (2) ORACTA is the value of a company's other receivables divided by the value of all its assets. (3) Turnover is the trading volume divided by the shares outstanding. ∗, ∗∗, ∗∗∗ they indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses.

6. Subsampling Analyses

6.1. Passive versus Active Common Ownership and the Term Structure of ICC

Passive and active institutional shareholders may implement corporate governance differently. Thus, to exploit heterogeneity among common owners in our sample, we disentangle active and passive institutions by adopting the same methodology as in Appel *et al.* (2016) and Hshieh *et al.* (2021). Specifically, if the mutual fund name contains any of the following strings: Index, Idx, Indx, Ind_ (where _ indicates a space), Russell, S & P, S and P, S&P, SandP, SP, DOW, Dow, DJ, MSCI, Bloomberg, KBW, NASDAQ, NYSE, STOXX, FTSE, Wilshire, Morningstar, 100, 400, 500, 600, 900, 1000, 1500, 2000, and 5000, this institution will be classified as passive, and it will be classified as active otherwise. Then, we reconstruct the network and recalculate the network proxies to evaluate the relationship between ICCs and joint owners' network proxies after splitting the mutual funds (i.e. active versus passive). Our estimated results are provided in the tables 7, 8, 9, and 10 below. Table 7 and Table 8 show the results for passive block and small common owners, respectively, while Table 9 and Table 10 show the results for active block and small common owners, respectively.

The overall results in Table 7 suggest that, when common block owners are passive, they have weak monitoring incentives as indicated by the insignificant direct effects on the ICCs[15]. As passive index funds seek to mirror stock indices and reduce expenses, they have no financial incentive to influence portfolio company governance (Lund, 2017). The interaction terms between Degree and ORACTA resulted in increasing the ICCs (mostly significantly) which worsen the poor monitoring of passive common owners.

The interaction terms between all the network proxies and the N-Analysts show a negative relationship with the ICCs; as expected, the higher the disclosure, the lower the ICCs (albeit insignificant). These results show that the incentives for passive common owners to monitor increases with the increase in information availability. The free-ride problem is escalating in the index fund industry as institutional investors in a business share the costs associated with their engagement with the investee company. The interaction terms between the network proxies and the Turnover show a negative effect on the ICCs, albeit weak. Collectively, because they cannot threaten to leave a company if it is included in the index, the ability of passive funds to exert influence over the firms in their portfolios is limited.

In Table 8, the direct effects of small common owners on the ICCs are similar, albeit considerably weaker than the effects of the passive block common owners. Which further confirms the poor monitoring incentives of passive common owners.

[15] Note that we only have small number passive block mutual funds in our sample linking only 74 firms along the sample period, thus, the results should be handled with caution.

In Table 9, the direct effects of active block common owners confirm their superior monitoring incentives as the ICCs are reduced, indicating a support for the strong monitoring incentives of actively managed funds compared to index funds (Bebchuk and Hirst, 2019; Heath *et al.*, 2022). The interaction terms between ORACTA and N-Analysts and all the network measures using active block common owners, show that the incentives for active block common owners to monitor reduce significantly when considering high-tunnelling and high-information environments.

However, what stands out is the significant reductions in the ICCs as a result of increasing the stocks' liquidity (the interaction terms between the Turnover and the network measures). Turnover reduces the ICCs indicating a support to the governing through exit argument (e.g., Edmans, *et al.* 2019; Cvijanović *et al*., 2022) which drive the ICCs down as a results of agency cost's enhancement. In Table 10, the direct effects of small actively managed common owners are significantly weak, reflecting the poor monitoring incentives of small common owners.

6.2. Domestic versus Foreign Common Ownership and the Term Structure of ICC

Domestic and foreign institutional shareholders may oversee their portfolio firms differently based on the level of informational disadvantages they face.

Table 7 Passive block Common Owners and Their incentives to Monitor or Collude in different environments:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	ICC_91	ICC_91	ICC_91	ICC_91	ICC_182	ICC_182	ICC_182	ICC_182	ICC_273	ICC_273	ICC_273	ICC_273	ICC_365	ICC_365	ICC_365	ICC_365
Degree	-.002				.01				.007				.007			
	(.016)				(.018)				(.019)				(.019)			
Closeness		-.007				.013				.009				.009		
		(.012)				(.014)				(.016)				(.016)		
Eigenvector			-.008				.014				.01				.009	
			(.012)				(.014)				(.015)				(.016)	
PCA				-.006				.012				.009				.008
				(.013)				(.015)				(.017)				(.017)
ORACTA	0	-.003	-.002	-.002	-.006	-.003	-.004	-.004	-.013	-.011	-.011	-.012	-.013	-.011	-.011	-.012
	(.011)	(.011)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.01)	(.011)	(.01)	(.011)	(.011)	(.011)
N_ Analysts	.003	.002	.002	.003	.034*	.034*	.034*	.034*	.008	.008	.008	.008	.008	.008	.008	.008
	(.02)	(.02)	(.02)	(.02)	(.018)	(.018)	(.018)	(.018)	(.019)	(.019)	(.019)	(.019)	(.019)	(.019)	(.019)	(.019)
Turnover	.02	.02	.02	.02	-.028	-.029	-.029	-.029	-.027	-.028	-.028	-.028	-.027	-.028	-.028	-.027
	(.017)	(.017)	(.017)	(.017)	(.018)	(.018)	(.018)	(.018)	(.017)	(.017)	(.017)	(.017)	(.017)	(.017)	(.017)	(.017)
Degree # ORACTA	-.088*				.071				.016				.017			
	(.05)				(.047)				(.044)				(.044)			
Degree # N_ Analysts	.026				-.013				-.015				-.015			
	(.019)				(.02)				(.02)				(.02)			
Degree # Turnover	.009				-.007				-.005				-.005			
	(.006)				(.006)				(.006)				(.006)			
Closeness # ORACTA		-.128***				.102**				.042				.044		
		(.046)				(.045)				(.047)				(.048)		
Closeness # N_ Analysts		.024				-.011				-.017				-.017		
		(.017)				(.017)				(.019)				(.019)		
Closeness # Turnover		.015**				-.01*				-.008				-.008		
		(.006)				(.006)				(.006)				(.006)		
Eigenvector # ORACTA			-.116***				.094**				.038				.04	
			(.044)				(.043)				(.046)				(.046)	
Eigenvector # N_ Analysts			.021				-.009				-.016				-.016	
			(.017)				(.017)				(.019)				(.019)	
Eigenvector # Turnover			.013**				-.009				-.007				-.008	
			(.006)				(.005)				(.006)				(.006)	
PCA # ORACTA				-.113**				.09**				.032				.033
				(.048)				(.046)				(.047)				(.047)
PCA # N_ Analysts				.024				-.011				-.016				-.016
				(.018)				(.018)				(.019)				(.019)
PCA # Turnover				.013**				-.009				-.007				-.007
				(.006)				(.006)				(.006)				(.006)
Inst_ PCT	.124***	.119***	.122***	.121***	-.123***	-.118***	-.121***	-.121***	-.117***	-.114***	-.115***	-.115***	-.117***	-.114***	-.115***	-.116***
	(.018)	(.019)	(.019)	(.019)	(.017)	(.018)	(.017)	(.018)	(.017)	(.019)	(.018)	(.018)	(.017)	(.019)	(.018)	(.018)
Inst_ N	-.094***	-.091***	-.093***	-.093***	.072**	.069**	.071**	.071**	.091***	.09***	.091***	.091***	.092***	.091***	.091***	.091***
	(.029)	(.029)	(.029)	(.029)	(.03)	(.03)	(.03)	(.03)	(.029)	(.029)	(.029)	(.029)	(.029)	(.029)	(.029)	(.029)
Size	.042	.039	.041	.041	-.013	-.011	-.012	-.012	-.033	-.033	-.033	-.033	-.033	-.032	-.033	-.033
	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)
Leverage	.002	.002	.002	.002	0	0	0	0	.001	.001	.001	.001	.001	.001	.001	.001
	(.008)	(.008)	(.008)	(.008)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
ROA	-.003	-.003	-.003	-.003	-.012	-.013	-.013	-.013	-.011	-.011	-.011	-.011	-.011	-.011	-.011	-.011
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)
Beta	-.046***	-.046***	-.046***	-.046***	.014	.015	.015	.015	.035***	.035***	.035***	.035***	.036***	.036***	.036***	.036***
	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)
B/M	-.008	-.008	-.008	-.008	.001	.001	.001	.001	.007	.007	.007	.007	.007	.006	.006	.006
	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)
cons	-.495***	-.496***	-.495***	-.496***	.281***	.282***	.282***	.282***	.488***	.488***	.488***	.488***	.488***	.488***	.488***	.488***
	(.066)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)
Observations	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715
Pseudo R2	.098	.098	.098	.098	.102	.102	.102	.102	.095	.095	.095	.095	.095	.095	.095	.095
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
	ICC_456	ICC_456	ICC_456	ICC_456	ICC_547	ICC_547	ICC_547	ICC_547	ICC_638	ICC_638	ICC_638	ICC_638	ICC_730	ICC_730	ICC_730	ICC_730
Degree	.012				.008				.013				.004			
	(.018)				(.019)				(.017)				(.021)			

Closeness		.016				.011				.015				.003		
		(.013)				(.015)				(.013)				(.021)		
Eigenvector			.016				.011				.016				.001	
			(.013)				(.015)				(.013)				(.02)	
PCA				.015				.01				.015				.002
				(.014)				(.016)				(.014)				(.021)
ORACTA	-.003	-.001	-.002	-.002	-.009	-.007	-.007	-.008	-.007	-.005	-.006	-.006	-.028**	-.028**	-.027**	-.028**
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.013)	(.013)	(.013)	(.013)
N_ Analysts	.046**	.046**	.046**	.046**	.021	.021	.021	.021	.036*	.036**	.036**	.036*	-.047**	-.048**	-.048**	-.048**
	(.018)	(.018)	(.018)	(.018)	(.019)	(.019)	(.019)	(.019)	(.018)	(.018)	(.018)	(.018)	(.019)	(.019)	(.019)	(.019)
Turnover	-.029	-.029*	-.029	-.029	-.028	-.028	-.028	-.028	-.029	-.03*	-.029*	-.029*	-.023	-.023	-.023	-.023
	(.018)	(.018)	(.018)	(.018)	(.017)	(.017)	(.017)	(.017)	(.018)	(.018)	(.018)	(.018)	(.016)	(.016)	(.016)	(.016)
Degree # ORACTA	.088*				.047				.057				-.121***			
	(.046)				(.046)				(.042)				(.035)			
Degree # N_ Analysts	-.011				-.014				-.01				-.014			
	(.02)				(.02)				(.018)				(.022)			
Degree # Turnover	-.007				-.006				-.005				0			
	(.006)				(.006)				(.005)				(.005)			
Closeness # ORACTA		.119***				.077*				.082*				-.114**		
		(.043)				(.047)				(.042)				(.05)		
Closeness # N_ Analysts		-.007				-.014				-.009				-.026		
		(.017)				(.018)				(.016)				(.023)		
Closeness # Turnover		-.009*				-.009*				-.007				-.001		
		(.005)				(.006)				(.005)				(.006)		
Eigenvector # ORACTA			.109***				.07				.075*				-.105**	
			(.04)				(.045)				(.04)				(.05)	
Eigenvector # N_ Analysts			-.005				-.013				-.008				-.027	
			(.016)				(.018)				(.016)				(.023)	
Eigenvector # Turnover			-.008				-.009				-.006				-.002	
			(.005)				(.005)				(.005)				(.006)	
PCA # ORACTA				.107**				.066				.072*				-.117**
				(.044)				(.047)				(.042)				(.046)
PCA # N_ Analysts				-.008				-.014				-.009				-.022
				(.018)				(.019)				(.017)				(.023)
PCA # Turnover				-.008				-.008				-.006				0
				(.006)				(.006)				(.005)				(.006)
Inst_ PCT	-.123***	-.118***	-.12***	-.12***	-.121***	-.117***	-.119***	-.119***	-.119***	-.116***	-.117***	-.117***	-.085***	-.088***	-.085***	-.087***
	(.017)	(.018)	(.017)	(.018)	(.017)	(.018)	(.018)	(.018)	(.017)	(.018)	(.017)	(.017)	(.019)	(.021)	(.02)	(.02)
Inst_ N	.059**	.057*	.059**	.058*	.082***	.081***	.082***	.082***	.067**	.065**	.066**	.066**	.118***	.121***	.119***	.12***
	(.03)	(.03)	(.03)	(.03)	(.029)	(.03)	(.029)	(.029)	(.029)	(.03)	(.03)	(.03)	(.029)	(.03)	(.029)	(.029)
Size	-.005	-.003	-.004	-.004	-.022	-.021	-.022	-.022	-.016	-.015	-.015	-.015	-.077***	-.079***	-.077***	-.078***
	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)
Leverage	0	0	0	0	0	0	0	0	.001	.001	.001	.001	.005	.005	.005	.005
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
ROA	-.015	-.015	-.015	-.015	-.011	-.011	-.011	-.011	-.016	-.016	-.016	-.016	-.009	-.009	-.009	-.009
	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)
Beta	.004	.004	.004	.004	.025*	.025*	.025*	.025*	.013	.013	.013	.013	.075***	.075***	.075***	.075***
	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.012)	(.012)	(.012)	(.012)
B/M	-.001	-.001	-.001	-.001	.004	.003	.004	.004	.003	.003	.003	.003	.019***	.019***	.019***	.019***
	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.007)	(.007)	(.007)	(.007)
cons	.19***	.191***	.19***	.19***	.381***	.382***	.382***	.382***	.293***	.294***	.293***	.293***	.892***	.892***	.893***	.892***
	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.065)	(.064)	(.064)	(.064)	(.065)	(.065)	(.065)	(.065)
Observations	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715	13715
Pseudo R2	.103	.104	.103	.103	.099	.099	.099	.099	.098	.098	.098	.098	.086	.086	.086	.086

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' passive block common ownership (5% or more) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies between 2005 and 2021. Degree: shows the number of blocks co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 8 Passive small Common Owners and Their incentives to Monitor or Collude in different environments:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	ICC_91	ICC_91	ICC_91	ICC_91	ICC_182	ICC_182	ICC_182	ICC_182	ICC_273	ICC_273	ICC_273	ICC_273	ICC_365	ICC_365	ICC_365	ICC_365
Degree	.005				-.02				-.008				-.009			
	(.021)				(.022)				(.022)				(.022)			
Closeness		.012				-.013				-.01				-.01		
		(.009)				(.01)				(.01)				(.01)		
Eigenvector			.008				-.008				-.006				-.007	
			(.011)				(.013)				(.012)				(.012)	
PCA				.008				-.011				-.009				-.009
				(.01)				(.011)				(.011)				(.011)
ORACTA	.015*	.015*	.016*	.017**	-.016**	-.019**	-.021**	-.018**	-.018**	-.017**	-.018**	-.018**	-.018**	-.017**	-.018**	-.018**
	(.008)	(.008)	(.009)	(.008)	(.007)	(.008)	(.009)	(.007)	(.008)	(.008)	(.008)	(.007)	(.008)	(.008)	(.008)	(.007)
N_ Analysts	.001	.003	.003	.002	.021	.026*	.027*	.024	.002	.004	.004	.003	.002	.003	.004	.003
	(.017)	(.017)	(.017)	(.017)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)
Turnover	.008	.008	.008	.008	-.009	-.015	-.015	-.013	-.013	-.016	-.016	-.014	-.013	-.016	-.016	-.014
	(.017)	(.015)	(.015)	(.016)	(.016)	(.015)	(.015)	(.017)	(.016)	(.015)	(.015)	(.016)	(.016)	(.015)	(.015)	(.016)
Degree # ORACTA	-.008				.005				-.002				-.002			
	(.011)				(.011)				(.01)				(.01)			
Degree # N_ Analysts	.006				.014				.004				.004			
	(.013)				(.013)				(.013)				(.013)			
Degree # Turnover	.001				-.014				-.009				-.008			
	(.015)				(.013)				(.013)				(.013)			
Closeness # ORACTA		.019				.024				-.009				-.01		
		(.027)				(.033)				(.029)				(.029)		
Closeness # N_ Analysts		.007				-.003				.002				.002		
		(.017)				(.019)				(.019)				(.019)		
Closeness # Turnover		.004				.001				-.006				-.006		
		(.029)				(.032)				(.031)				(.031)		
Eigenvector # ORACTA			.014				.038				0				-.001	
			(.042)				(.052)				(.047)				(.047)	
Eigenvector # N_ Analysts			.006				-.001				.002				.002	
			(.019)				(.022)				(.022)				(.022)	
Eigenvector # Turnover			.009				-.01				-.012				-.012	
			(.027)				(.031)				(.03)				(.03)	
PCA # ORACTA				-.007				.025				-.005				-.005
				(.029)				(.029)				(.028)				(.028)
PCA # N_ Analysts				.01				.013				.007				.007
				(.018)				(.02)				(.02)				(.02)
PCA # Turnover				.007				-.02				-.016				-.016
				(.023)				(.025)				(.025)				(.025)
Inst_ PCT	.116***	.116***	.116***	.116***	-.12***	-.12***	-.12***	-.12***	-.104***	-.104***	-.104***	-.104***	-.104***	-.104***	-.104***	-.105***
	(.013)	(.013)	(.013)	(.013)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)
Inst_ N	-.084***	-.09***	-.085***	-.087***	.054**	.058**	.053**	.055**	.071***	.076***	.071***	.073***	.072***	.077***	.073***	.074***
	(.027)	(.027)	(.027)	(.027)	(.026)	(.026)	(.026)	(.026)	(.027)	(.026)	(.026)	(.026)	(.027)	(.026)	(.026)	(.026)
Size	.016	.018	.016	.017	.018	.014	.016	.016	.001	-.002	0	0	.001	-.002	0	-.001
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)
Leverage	.002	.002	.002	.002	-.001	-.001	-.001	-.001	.001	.001	.001	.001	.001	.001	.001	.001
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.001	-.001	-.001	-.001	-.011	-.012	-.012	-.012	-.012	-.013	-.012	-.012	-.011	-.012	-.012	-.012
	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Beta	-.051***	-.052***	-.052***	-.051***	.02*	.021**	.021**	.021**	.042***	.042***	.042***	.042***	.042***	.042***	.042***	.042***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	.008	.009	.009	.008	-.012	-.012	-.012	-.012	-.009	-.009	-.009	-.009	-.009	-.009	-.009	-.009
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
cons	-.755***	-.767***	-.765***	-.763***	.435***	.483***	.48***	.466***	.75***	.768***	.765***	.762***	.751***	.768***	.766***	.762***
	(.087)	(.087)	(.087)	(.087)	(.08)	(.079)	(.079)	(.079)	(.085)	(.084)	(.084)	(.084)	(.085)	(.084)	(.084)	(.084)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.103	.103	.103	.103	.11	.11	.11	.11	.103	.103	.103	.103	.103	.103	.103	.103
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
	ICC_456	ICC_456	ICC_456	ICC_456	ICC_547	ICC_547	ICC_547	ICC_547	ICC_638	ICC_638	ICC_638	ICC_638	ICC_730	ICC_730	ICC_730	ICC_730

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Degree	-.024				-.015				-.017				.022			
	(.022)				(.022)				(.022)				(.023)			
Closeness		-.014				-.012				-.011				-.001		
		(.01)				(.01)				(.01)				(.01)		
Eigenvector			-.008				-.008				-.006				.001	
			(.013)				(.013)				(.013)				(.012)	
PCA				-.011				-.01				-.01				-.001
				(.011)				(.011)				(.011)				(.011)
ORACTA	-.015**	-.02**	-.021**	-.017**	-.017**	-.018**	-.019**	-.018**	-.016**	-.019**	-.02**	-.017**	-.02**	-.01	-.01	-.016*
	(.007)	(.008)	(.009)	(.007)	(.007)	(.008)	(.009)	(.007)	(.007)	(.008)	(.009)	(.007)	(.009)	(.009)	(.009)	(.008)
N_ Analysts	.03*	.037**	.038**	.034**	.012	.015	.015	.014	.023	.028*	.029*	.026	-.038**	-.045***	-.044***	-.042**
	(.016)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.015)	(.016)	(.016)	(.017)	(.016)	(.016)	(.017)
Turnover	-.008	-.014	-.014	-.012	-.011	-.015	-.015	-.013	-.009	-.015	-.015	-.014	-.019	-.017	-.017	-.016
	(.016)	(.015)	(.015)	(.017)	(.016)	(.015)	(.015)	(.017)	(.016)	(.015)	(.015)	(.017)	(.015)	(.014)	(.014)	(.015)
Degree # ORACTA	.008				.002				.004				-.017			
	(.011)				(.01)				(.01)				(.011)			
Degree # N_ Analysts	.018				.009				.014				-.016			
	(.013)				(.013)				(.013)				(.013)			
Degree # Turnover	-.017				-.011				-.015				.004			
	(.014)				(.013)				(.013)				(.015)			
Closeness # ORACTA		.039				.008				.024				-.081**		
		(.036)				(.031)				(.033)				(.035)		
Closeness # N_ Analysts		-.007				0				-.005				.013		
		(.019)				(.019)				(.019)				(.02)		
Closeness # Turnover		.005				-.003				.004				-.016		
		(.032)				(.032)				(.033)				(.029)		
Eigenvector # ORACTA			.056				.02				.039				-.085*	
			(.054)				(.049)				(.052)				(.046)	
Eigenvector # N_ Analysts			-.003				.001				-.002				.008	
			(.022)				(.022)				(.022)				(.022)	
Eigenvector # Turnover			-.007				-.011				-.007				-.013	
			(.031)				(.03)				(.031)				(.028)	
PCA # ORACTA				.038				.011				.023				-.073***
				(.03)				(.028)				(.029)				(.028)
PCA # N_ Analysts				.016				.01				.013				-.008
				(.02)				(.02)				(.02)				(.02)
PCA # Turnover				-.021				-.018				-.019				-.005
				(.026)				(.025)				(.026)				(.025)
Inst_ PCT	-.123***	-.123***	-.123***	-.123***	-.114***	-.114***	-.114***	-.114***	-.114***	-.114***	-.114***	-.114***	-.051***	-.051***	-.051***	-.051***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)	(.013)	(.013)	(.013)	(.013)
Inst_ N	.041	.044*	.04	.042	.064**	.068***	.064**	.066**	.045*	.049*	.044*	.046*	.091***	.098***	.094***	.096***
	(.026)	(.026)	(.026)	(.026)	(.027)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.026)	(.028)	(.027)	(.027)	(.027)
Size	.026	.021	.023	.023	.01	.006	.009	.008	.018	.014	.016	.016	-.037	-.038*	-.036	-.037*
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.023)	(.022)	(.022)	(.022)
Leverage	-.001	-.001	-.001	-.001	0	0	0	0	0	0	0	0	.004	.005	.005	.005
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.012	-.013	-.013	-.013	-.011	-.012	-.011	-.011	-.014	-.015	-.015	-.015	-.014	-.015	-.014	-.015
	(.009)	(.01)	(.009)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)
Beta	.01	.01	.01	.01	.031***	.031***	.032***	.031***	.019*	.019*	.019*	.019*	.082***	.082***	.082***	.082***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	-.013	-.012	-.012	-.012	-.011	-.011	-.011	-.011	-.01	-.01	-.01	-.01	.001	.001	0	.001
	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
cons	.295***	.353***	.35***	.333***	.588***	.622***	.62***	.611***	.451***	.494***	.491***	.478***	1.366***	1.31***	1.309***	1.329***
	(.08)	(.079)	(.079)	(.078)	(.082)	(.081)	(.081)	(.081)	(.078)	(.078)	(.078)	(.077)	(.116)	(.113)	(.113)	(.113)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.111	.111	.111	.111	.107	.107	.107	.107	.106	.105	.105	.105	.092	.092	.092	.092

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' passive small common ownership (less than 5%) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies between 2005 and 2021. Degree: shows the number of small co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 9 Active block Common Owners and Their incentives to Monitor or Collude in different environments:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	ICC_91	ICC_91	ICC_91	ICC_91	ICC_182	ICC_182	ICC_182	ICC_182	ICC_273	ICC_273	ICC_273	ICC_273	ICC_365	ICC_365	ICC_365	ICC_365
Degree	.02				-.036**				-.034**				-.034**			
	(.014)				(.015)				(.015)				(.015)			
Closeness		.006				-.024*				-.023*				-.023		
		(.013)				(.014)				(.014)				(.014)		
Eigenvector			.016				-.026*				-.024*				-.024*	
			(.013)				(.014)				(.014)				(.014)	
PCA				.017				-.034**				-.032**				-.031**
				(.014)				(.014)				(.014)				(.014)
ORACTA	.015*	.015*	.016*	.015*	-.018**	-.016**	-.019**	-.017**	-.017**	-.016**	-.019**	-.017**	-.017**	-.016**	-.019**	-.017**
	(.008)	(.008)	(.009)	(.008)	(.008)	(.008)	(.009)	(.008)	(.008)	(.007)	(.008)	(.008)	(.008)	(.007)	(.008)	(.008)
N_ Analysts	.001	.002	.002	.002	.03**	.03*	.028*	.03*	.008	.007	.006	.007	.007	.007	.005	.007
	(.017)	(.017)	(.017)	(.017)	(.015)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)
Turnover	-.001	.002	-.003	-.002	-.006	-.01	-.003	-.005	-.007	-.01	-.004	-.006	-.006	-.01	-.004	-.006
	(.011)	(.011)	(.012)	(.011)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.011)	(.01)	(.01)	(.011)	(.011)	(.01)
Degree # ORACTA	-.011				-.005				.002				.002			
	(.014)				(.016)				(.016)				(.016)			
Degree # N_ Analysts	-.001				.013				.009				.009			
	(.011)				(.01)				(.01)				(.01)			
Degree # Turnover	.022***				-.021***				-.022***				-.021***			
	(.006)				(.007)				(.007)				(.007)			
Closeness # ORACTA		-.011				.002				.006				.006		
		(.008)				(.009)				(.009)				(.009)		
Closeness # N_ Analysts		-.009				.018				.015				.015		
		(.013)				(.012)				(.012)				(.012)		
Closeness # Turnover		.032***				-.028**				-.031***				-.031***		
		(.01)				(.012)				(.011)				(.011)		
Eigenvector # ORACTA			-.007				-.011				-.002				-.002	
			(.02)				(.024)				(.022)				(.022)	
Eigenvector # N_ Analysts			.003				.008				.004				.004	
			(.01)				(.01)				(.009)				(.009)	
Eigenvector # Turnover			.018***				-.019***				-.019***				-.019***	
			(.004)				(.004)				(.004)				(.004)	
PCA # ORACTA				-.012				-.004				.003				.003
				(.013)				(.015)				(.015)				(.015)
PCA # N_ Analysts				-.001				.013				.01				.009
				(.011)				(.01)				(.01)				(.01)
PCA # Turnover				.022***				-.022***				-.022***				-.022***
				(.005)				(.006)				(.005)				(.005)
Inst_ PCT	.106***	.111***	.11***	.107***	-.105***	-.108***	-.113***	-.106***	-.09***	-.093***	-.097***	-.09***	-.09***	-.093***	-.097***	-.091***
	(.014)	(.013)	(.014)	(.014)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.012)	(.012)	(.012)	(.011)	(.012)	(.012)
Inst_ N	-.076***	-.079***	-.078***	-.076***	.034	.036	.039*	.034	.058***	.059***	.062***	.058***	.059***	.06***	.063***	.059***
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)
Size	.011	.012	.012	.011	.026	.025	.025	.026	.006	.006	.006	.006	.006	.006	.005	.006
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Leverage	.002	.002	.002	.002	-.001	-.001	-.001	-.001	0	0	.001	0	0	0	0	0
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.002	-.002	-.003	-.002	-.011	-.011	-.01	-.011	-.012	-.012	-.011	-.012	-.012	-.011	-.01	-.011
	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Beta	-.052***	-.052***	-.052***	-.052***	.022**	.022**	.021**	.022**	.043***	.043***	.043***	.043***	.043***	.043***	.043***	.043***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	.01	.009	.01	.01	-.014	-.012	-.014	-.013	-.01	-.009	-.011	-.01	-.01	-.009	-.011	-.01
	(.01)	(.01)	(.01)	(.01)	(.01)	(.009)	(.01)	(.01)	(.01)	(.009)	(.01)	(.01)	(.01)	(.009)	(.01)	(.01)
cons	-.773***	-.773***	-.779***	-.776***	.477***	.474***	.486***	.479***	.769***	.766***	.778***	.771***	.769***	.767***	.778***	.772***
	(.085)	(.086)	(.085)	(.085)	(.078)	(.078)	(.079)	(.079)	(.082)	(.082)	(.083)	(.082)	(.082)	(.083)	(.083)	(.083)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.105	.105	.105	.105	.112	.112	.112	.112	.105	.104	.104	.105	.105	.105	.105	.105
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
	ICC_456	ICC_456	ICC_456	ICC_456	ICC_547	ICC_547	ICC_547	ICC_547	ICC_638	ICC_638	ICC_638	ICC_638	ICC_730	ICC_730	ICC_730	ICC_730
Degree	-.038***				-.035**				-.039***				-.027*			
	(.015)				(.015)				(.015)				(.015)			

Closeness		-.027*				-.023*				-.028**				-.02		
		(.014)				(.014)				(.014)				(.014)		
Eigenvector			-.028*				-.025*				-.028*				-.018	
			(.015)				(.014)				(.015)				(.014)	
PCA				-.036**				-.032**				-.037**				-.026*
				(.015)				(.014)				(.015)				(.015)
ORACTA	-.017**	-.015**	-.019**	-.017**	-.018**	-.016**	-.019**	-.017**	-.017**	-.015**	-.019**	-.017**	-.014	-.014*	-.014	-.013
	(.008)	(.008)	(.009)	(.008)	(.008)	(.007)	(.009)	(.008)	(.008)	(.007)	(.008)	(.008)	(.009)	(.008)	(.009)	(.009)
N_ Analysts	.041***	.041***	.039**	.041***	.019	.018	.017	.018	.032**	.032**	.03**	.032**	-.042**	-.043***	-.043***	-.042***
	(.015)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.015)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)
Turnover	-.006	-.01	-.002	-.005	-.006	-.01	-.003	-.005	-.006	-.01	-.003	-.005	-.007	-.009	-.006	-.006
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.012)	(.012)	(.012)	(.012)
Degree # ORACTA	-.008				-.002				-.005				.018			
	(.016)				(.016)				(.016)				(.016)			
Degree # N_ Analysts	.015				.011				.014				.002			
	(.01)				(.01)				(.01)				(.01)			
Degree # Turnover	-.021***				-.021***				-.022***				-.02***			
	(.007)				(.007)				(.007)				(.006)			
Closeness # ORACTA		.001				.004				.003				.015		
		(.009)				(.009)				(.009)				(.011)		
Closeness # N_ Analysts		.02*				.016				.02*				.008		
		(.012)				(.012)				(.012)				(.013)		
Closeness # Turnover		-.026**				-.029***				-.028**				-.034***		
		(.012)				(.011)				(.012)				(.009)		
Eigenvector # ORACTA			-.016				-.007				-.012				.019	
			(.024)				(.023)				(.024)				(.021)	
Eigenvector # N_ Analysts			.01				.006				.009				-.003	
			(.01)				(.01)				(.01)				(.01)	
Eigenvector # Turnover			-.02***				-.019***				-.02***				-.017***	
			(.004)				(.004)				(.004)				(.004)	
PCA # ORACTA				-.007				-.001				-.004				.019
				(.015)				(.015)				(.015)				(.016)
PCA # N_ Analysts				.016				.011				.015				.002
				(.01)				(.01)				(.01)				(.01)
PCA # Turnover				-.021***				-.022***				-.022***				-.021***
				(.006)				(.006)				(.006)				(.005)
Inst_ PCT	-.108***	-.11***	-.116***	-.108***	-.099***	-.102***	-.106***	-.1***	-.098***	-.101***	-.106***	-.099***	-.039***	-.041***	-.044***	-.039***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.012)	(.014)	(.013)	(.013)	(.014)
Inst_ N	.019	.02	.024	.019	.048**	.049**	.052**	.048**	.026	.027	.031	.026	.094***	.095***	.098***	.095***
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.023)	(.023)	(.023)	(.023)
Size	.034*	.033	.033	.034*	.017	.016	.016	.017	.025	.024	.024	.025	-.038*	-.037*	-.039*	-.037*
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.021)	(.021)	(.021)	(.021)
Leverage	-.001	-.001	-.001	-.001	0	0	0	0	0	0	0	0	.004	.004	.004	.004
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.013	-.012	-.011	-.012	-.011	-.011	-.009	-.011	-.015	-.014	-.013	-.014	-.016	-.015	-.014	-.015
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)
Beta	.011	.011	.011	.011	.032***	.032***	.032***	.032***	.02*	.02*	.02*	.02*	.083***	.083***	.083***	.083***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	-.014	-.013	-.014	-.014	-.012	-.011	-.013	-.012	-.012	-.01	-.012	-.011	0	.001	0	0
	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
cons	.345***	.341***	.354***	.347***	.62***	.617***	.629***	.622***	.489***	.485***	.499***	.491***	1.326***	1.324***	1.334***	1.329***
	(.078)	(.078)	(.079)	(.079)	(.08)	(.08)	(.081)	(.08)	(.077)	(.077)	(.078)	(.077)	(.11)	(.111)	(.11)	(.11)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.114	.113	.113	.114	.109	.109	.109	.109	.108	.107	.108	.108	.093	.094	.093	.094

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' active block common ownership (5% or more) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies between 2005 and 2021. Degree: shows the number of blocks co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 10 Active small Common Owners and Their incentives to Monitor or Collude in different environments:

	(1) ICC_91	(2) ICC_91	(3) ICC_91	(4) ICC_91	(5) ICC_182	(6) ICC_182	(7) ICC_182	(8) ICC_182	(9) ICC_273	(10) ICC_273	(11) ICC_273	(12) ICC_273	(13) ICC_365	(14) ICC_365	(15) ICC_365	(16) ICC_365
Degree	-.015				-.017				.006				.006			
	(.025)				(.025)				(.025)				(.025)			
Closeness		-.019				.01				.013				.013		
		(.015)				(.014)				(.014)				(.014)		
Eigenvector			-.009				.001				.004				.003	
			(.015)				(.015)				(.015)				(.015)	
PCA				-.013				.001				.006				.006
				(.015)				(.015)				(.014)				(.014)
ORACTA	.015**	.02*	.017*	.017**	-.016**	-.023**	-.022**	-.018**	-.018**	-.02**	-.018**	-.018**	-.018**	-.02**	-.018**	-.018**
	(.008)	(.01)	(.01)	(.008)	(.007)	(.009)	(.009)	(.007)	(.007)	(.009)	(.009)	(.007)	(.007)	(.009)	(.009)	(.007)
N_ Analysts	.001	.001	.002	.001	.021	.026*	.026*	.024	.003	.006	.005	.005	.003	.005	.005	.004
	(.017)	(.017)	(.017)	(.017)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)
Turnover	.009	.011	.01	.01	-.011	-.016	-.016	-.016	-.014	-.018	-.018	-.017	-.014	-.018	-.018	-.017
	(.016)	(.016)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)
Degree # ORACTA	-.009				.006				-.002				-.002			
	(.012)				(.012)				(.011)				(.011)			
Degree # N_ Analysts	.004				.016				.005				.005			
	(.013)				(.013)				(.013)				(.013)			
Degree # Turnover	.002				-.014				-.009				-.009			
	(.014)				(.013)				(.012)				(.012)			
Closeness # ORACTA		-.031				.068				.021				.021		
		(.048)				(.042)				(.04)				(.041)		
Closeness # N_ Analysts		-.004				.011				.007				.007		
		(.009)				(.009)				(.009)				(.009)		
Closeness # Turnover		.006				-.003				-.007				-.007		
		(.016)				(.017)				(.016)				(.016)		
Eigenvector # ORACTA			-.002				.05				-.003				-.003	
			(.044)				(.04)				(.038)				(.038)	
Eigenvector # N_ Analysts			-.003				.008				.004				.004	
			(.009)				(.009)				(.009)				(.009)	
Eigenvector # Turnover			.006				-.005				-.009				-.01	
			(.017)				(.018)				(.017)				(.017)	
PCA # ORACTA				-.021				.031				0				0
				(.033)				(.029)				(.029)				(.029)
PCA # N_ Analysts				.001				.018				.008				.007
				(.012)				(.012)				(.012)				(.012)
PCA # Turnover				.005				-.011				-.011				-.011
				(.014)				(.015)				(.015)				(.015)
Inst_ PCT	.115***	.115***	.115***	.115***	-.12***	-.12***	-.12***	-.12***	-.104***	-.103***	-.103***	-.103***	-.104***	-.104***	-.104***	-.104***
	(.013)	(.013)	(.013)	(.013)	(.012)	(.012)	(.012)	(.012)	(.011)	(.012)	(.012)	(.011)	(.012)	(.012)	(.012)	(.012)
Inst_ N	-.074**	-.071**	-.075**	-.072**	.056*	.049*	.053*	.052*	.065**	.06**	.063**	.062**	.066**	.061**	.064**	.063**
	(.032)	(.031)	(.031)	(.031)	(.031)	(.03)	(.03)	(.031)	(.031)	(.03)	(.031)	(.031)	(.031)	(.03)	(.031)	(.031)
Size	.011	.009	.01	.01	.017	.018	.016	.017	.004	.005	.004	.005	.004	.005	.004	.005
	(.024)	(.023)	(.024)	(.024)	(.023)	(.023)	(.023)	(.023)	(.024)	(.023)	(.023)	(.023)	(.024)	(.023)	(.023)	(.023)
Leverage	.002	.002	.002	.002	-.001	-.001	-.001	-.001	.001	.001	.001	.001	.001	.001	.001	.001
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.002	-.003	-.003	-.003	-.01	-.01	-.011	-.01	-.011	-.01	-.011	-.01	-.01	-.01	-.01	-.01
	(.01)	(.01)	(.01)	(.01)	(.009)	(.01)	(.01)	(.01)	(.009)	(.01)	(.01)	(.01)	(.009)	(.01)	(.01)	(.01)
Beta	-.051***	-.052***	-.052***	-.052***	.02**	.021**	.021**	.021**	.042***	.042***	.042***	.042***	.042***	.042***	.042***	.042***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	.009	.01	.01	.01	-.012	-.012	-.012	-.012	-.009	-.01	-.01	-.01	-.01	-.01	-.01	-.01
	(.011)	(.011)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
cons	-.772***	-.756***	-.759***	-.757***	.442***	.474***	.477***	.465***	.765***	.758***	.76***	.76***	.765***	.759***	.761***	.76***
	(.086)	(.087)	(.088)	(.087)	(.078)	(.079)	(.079)	(.078)	(.084)	(.084)	(.084)	(.084)	(.084)	(.084)	(.085)	(.084)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.103	.103	.103	.103	.11	.11	.11	.11	.103	.103	.103	.103	.103	.103	.103	.103
	(17) ICC_456	(18) ICC_456	(19) ICC_456	(20) ICC_456	(21) ICC_547	(22) ICC_547	(23) ICC_547	(24) ICC_547	(25) ICC_638	(26) ICC_638	(27) ICC_638	(28) ICC_638	(29) ICC_730	(30) ICC_730	(31) ICC_730	(32) ICC_730

Degree	-.025				-.007				-.012				.061**			
	(.025)				(.025)				(.024)				(.028)			
Closeness		.009				.011				.012				.02		
		(.014)				(.014)				(.014)				(.014)		
Eigenvector			.001				.002				.004				.011	
			(.016)				(.015)				(.015)				(.015)	
PCA				-.001				.003				.003				.021
				(.015)				(.015)				(.015)				(.015)
ORACTA	-.015**	-.023***	-.023**	-.017**	-.017**	-.022**	-.02**	-.018**	-.016**	-.022***	-.021**	-.017**	-.021**	-.01	-.006	-.017*
	(.007)	(.009)	(.009)	(.007)	(.007)	(.009)	(.009)	(.007)	(.007)	(.008)	(.009)	(.007)	(.009)	(.009)	(.009)	(.008)
N_ Analysts	.029*	.036**	.036**	.033**	.012	.016	.016	.014	.022	.028*	.028*	.026*	-.034**	-.038**	-.039**	-.036**
	(.016)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)	(.015)	(.015)	(.015)	(.017)	(.016)	(.016)	(.016)
Turnover	-.01	-.015	-.015	-.015	-.013	-.017	-.017	-.017	-.012	-.016	-.016	-.016	-.019	-.021	-.021	-.019
	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.014)	(.015)	(.015)	(.014)
Degree # ORACTA	.009				.002				.005				-.02*			
	(.012)				(.012)				(.011)				(.012)			
Degree # N_ Analysts	.021				.011				.016				-.018			
	(.013)				(.013)				(.013)				(.013)			
Degree # Turnover	-.017				-.012				-.015				.001			
	(.013)				(.012)				(.012)				(.014)			
Closeness # ORACTA		.086**				.046				.063				-.089**		
		(.041)				(.042)				(.039)				(.037)		
Closeness # N_ Analysts		.013				.009				.012				-.003		
		(.009)				(.009)				(.009)				(.011)		
Closeness # Turnover		0				-.005				-.001				-.013		
		(.017)				(.017)				(.017)				(.016)		
Eigenvector # ORACTA			.071*				.025				.046				-.123***	
			(.041)				(.039)				(.038)				(.034)	
Eigenvector # N_ Analysts			.009				.006				.008				-.004	
			(.009)				(.009)				(.009)				(.01)	
Eigenvector # Turnover			-.002				-.008				-.003				-.016	
			(.018)				(.018)				(.018)				(.017)	
PCA # ORACTA				.043				.017				.027				-.071**
				(.028)				(.029)				(.027)				(.029)
PCA # N_ Analysts				.023*				.013				.019				-.016
				(.012)				(.012)				(.012)				(.013)
PCA # Turnover				-.01				-.011				-.01				-.009
				(.015)				(.015)				(.015)				(.015)
Inst_ PCT	-.123***	-.123***	-.123***	-.123***	-.114***	-.113***	-.113***	-.113***	-.114***	-.114***	-.114***	-.114***	-.05***	-.05***	-.049***	-.05***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)	(.013)	(.013)	(.013)	(.013)
Inst_ N	.046	.039	.043	.043	.062**	.057*	.06**	.059*	.046	.04	.043	.043	.067**	.068**	.069**	.067**
	(.031)	(.03)	(.03)	(.03)	(.031)	(.03)	(.031)	(.031)	(.031)	(.03)	(.03)	(.03)	(.032)	(.03)	(.031)	(.031)
Size	.023	.023	.022	.022	.011	.012	.01	.011	.017	.018	.016	.017	-.025	-.023	-.023	-.023
	(.023)	(.023)	(.023)	(.023)	(.024)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.024)	(.023)	(.024)	(.023)
Leverage	-.001	-.001	-.001	-.001	0	0	0	0	0	0	0	0	.004	.004	.005	.004
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.011	-.012	-.012	-.011	-.01	-.01	-.01	-.009	-.013	-.014	-.014	-.013	-.014	-.013	-.013	-.013
	(.009)	(.01)	(.01)	(.01)	(.009)	(.01)	(.009)	(.01)	(.009)	(.01)	(.009)	(.01)	(.011)	(.011)	(.011)	(.011)
Beta	.01	.01	.01	.01	.031***	.032***	.032***	.031***	.019*	.019*	.019*	.019*	.082***	.082***	.082***	.082***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	-.012	-.012	-.012	-.012	-.011	-.011	-.011	-.011	-.01	-.01	-.01	-.01	-.001	-.002	-.002	-.001
	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)
cons	.298***	.345***	.348***	.332***	.599***	.613***	.616***	.609***	.459***	.485***	.488***	.478***	1.397***	1.3***	1.301***	1.327***
	(.078)	(.079)	(.079)	(.078)	(.08)	(.081)	(.081)	(.08)	(.077)	(.078)	(.078)	(.077)	(.115)	(.113)	(.113)	(.113)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
Pseudo R2	.111	.111	.111	.111	.107	.107	.107	.107	.106	.106	.105	.105	.092	.092	.093	.093

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' active small common ownership (less than 5%) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies between 2005 and 2021. Degree: shows the number of small co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

This paper examines the differences between foreign and domestic mutual funds' common owners' effects on the cost of financing. We first considered the nationality of the institution. Domestic mutual funds' common owners are all mutual funds domiciled in the United States, holding shares of two or more U.S. companies simultaneously. Foreign mutual common owners are all mutual funds domiciled outside the United States and hold shares of two or more U.S. companies simultaneously. Next, after splitting mutual funds investors into domestic and foreign investors, we reconstructed the network and recalculated the network measures using these classifications, and present the results in tables 11, 12, 13, and 14 below. Table 11 and Table 12 show the results for domestic block and small common owners, respectively, while Table 13 and Table 14 show the results for foreign block and small common owners, respectively.

The overall results show that the direct negative effects of domestic block common owners on the ICCs in Table 11 and that of domestic small common owners on the ICCs in Table 12 indicate that the presence of domestic common owners decreased the ICCs. This might be attributed to their excellent governance activities. On the other hand, the direct effects of foreign block and small common owners on the ICCs are mostly of positive sign and weaker magnitude as in Table 13 and Table 14, respectively, indicating the weaker governance practices of foreign compared to domestic common owners. This might be attributed to the informational disadvantages faced by the foreign investors (Choe *et al.*, 2005), which weakens their monitoring compared to their domestic counterpart. These effects increase with the size of holdings, for example, a significant foreign holding may be related to substantial information asymmetries, that is, a positive association between foreign equity ownership and information inequalities followed by a rise in financing costs.

For domestic common owners in Table 11 and Table 12, we found that the incentive to monitor minimises as the ORACTA level increases, indicating that the monitoring incentives for domestic block common owners weakens in a high tunnelling-environment. The weakened monitoring incentive of common owners in a high-informational as measured by the interaction terms of N-Analysts and the network proxies continue to exist when considering domestic common owners. Moreover, we also find a negative effect of the interaction terms between the Turnover and the network proxies in the ICCs. This indicates that whenever those domestic common owners are dissatisfied with the management, they vote with their feet and exit/ threaten to exit the firms, which reduces financing costs as governance has enhanced. However, we did not find any significant association between the foreign block investors and our interactions channels in Table 13 as they might not interfere with the management. [16]

The direct effects of foreign small common owners on the ICCs in Table 14 are consistent with those of foreign block common owners. Lastly, our findings indicate that governance via exit significantly worsens the governance of a firm and increases its financing costs. In line with the results of David *et al.* (2010), and Ahmadjian and Robbins (2005), international investors are significantly more active in trading shares. They would quickly sell a stock if they were dissatisfied. However, this trading sends a negative signal about the company which increases its uncertainty and results in higher cost of capital.

6.3. The Effects of Common Ownership and the Term Structure of ICC during Crises versus Normal Time

According to Bekaert *et al*. (2009), the global financial crisis increased information asymmetries and diminished the quality of information observed by market participants, increasing risk aversion. During a financial crisis, shareholders seek to minimise investments that adversely affect asset liquidity and prices (Easley and O'Hara, 2010), thereby making it

[16] Note because we only used mutual funds and EFT as a representative of common institutional investors, our data only contain small number of foreign block common owners that linked only 6 firms throughout the sample period. Thus, there is no sufficient data to draw a valid conclusion for the role of foreign block common owners on the ICCs.

more challenging to acquire funds. Because a financial crisis is linked to heightened macroeconomic ambiguity and information asymmetry, agency costs are likely to rise when a company's financial condition is uncertain (Beck *et al.*, 2008; Bekaert *et al.*, 2009; Easley and O'Hara, 2010; Yazdanfar *et al.*, 2019), which will be priced in the financing cost.

This section investigates the effect of the global financial crisis between the first quarter of 2007 and the fourth quarter of 2009 on the informational risk of companies, and the role played by common ownership in enhancing/worsening this effect. The aim is to determine whether the magnitude of the effects of common ownership networks on the cost of capital changed throughout the financial crisis. We re-ran the analysis after splitting the data into two periods: the Global Financial Crisis (GFC); between the first quarter of 2007 and the fourth quarter of 2009, which we will call the Crisis time, and the remaining samples we will call normal times. Table 15 and Table 16 below show the estimation results for block and small common ownership during the GFC, respectively. While Table 17 and Table 18 show the results for block and small common ownership during normal times, respectively.

The results show that there is a significant reduction in the direct effects of block common owners during the GFC in Table 15, as the effects are weakly negative during the GFC compared to that during normal time in Table 17. This might be attributed to the lack of information during the GFC and during this time. On the other hand, we found that the direct effects of small common owners on the ICCs during the GFC increases the ICCs in Table 16. While during normal times, the presence of small common owners reduces the ICCs in Table 18. That might be attributed to the poor monitoring incentives for small common owners. In addition, multiple block holdings offer institutional investors greater skills and incentives to oversee company management because governance-related information and monitoring expertise from several block holdings minimise supervising expenses and information inaccuracies related to monitoring (e.g., Cronqvist and Fahlenbrach, 2009).

Table 11 Domestic block Common Owners and Their incentives to Monitor or Collude in different environments:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	ICC_91	ICC_91	ICC_91	ICC_91	ICC_182	ICC_182	ICC_182	ICC_182	ICC_273	ICC_273	ICC_273	ICC_273	ICC_365	ICC_365	ICC_365	ICC_365
Degree	.027				-.038**				-.039**				-.039**			
	(.018)				(.018)				(.018)				(.018)			
Closeness		.01				-.024*				-.024*				-.024*		
		(.012)				(.013)				(.013)				(.013)		
Eigenvector			.01				-.027*				-.02				-.019	
			(.014)				(.016)				(.016)				(.016)	
PCA				.03				-.042**				-.043**				-.042**
				(.019)				(.018)				(.019)				(.019)
ORACTA	.014*	.017**	.016**	.014*	-.017**	-.019**	-.017**	-.017**	-.017**	-.019**	-.017**	-.017**	-.017**	-.019**	-.017**	-.017**
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.007)	(.008)	(.008)	(.008)	(.007)	(.008)
N_ Analysts	.001	.003	.003	.001	.03*	.028*	.028*	.03*	.008	.005	.005	.008	.007	.005	.005	.007
	(.017)	(.017)	(.017)	(.017)	(.016)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)
Turnover	.008	.003	.007	.008	-.015	-.01	-.014	-.015	-.016	-.01	-.015	-.016	-.016	-.01	-.015	-.016
	(.015)	(.013)	(.014)	(.015)	(.015)	(.013)	(.014)	(.015)	(.015)	(.013)	(.014)	(.015)	(.015)	(.013)	(.014)	(.015)
Degree # ORACTA	-.019				-.002				.003				.003			
	(.018)				(.019)				(.02)				(.02)			
Degree # N_ Analysts	-.007				.016				.021				.021			
	(.015)				(.014)				(.014)				(.014)			
Degree # Turnover	.042*				-.023				-.032				-.032			
	(.024)				(.021)				(.022)				(.022)			
Closeness # ORACTA		-.001				-.014				-.01				-.01		
		(.012)				(.013)				(.014)				(.014)		
Closeness # N_ Analysts		.006				.007				.002				.002		
		(.013)				(.011)				(.012)				(.012)		
Closeness # Turnover		.013***				-.013**				-.013***				-.013***		
		(.005)				(.005)				(.005)				(.005)		
Eigenvector # ORACTA			-.007				.009				.008				.008	
			(.012)				(.014)				(.013)				(.013)	
Eigenvector # N_ Analysts			-.001				.011				.005				.005	
			(.012)				(.013)				(.013)				(.013)	
Eigenvector # Turnover			.008				-.011				-.01				-.01	
			(.019)				(.021)				(.021)				(.021)	
PCA # ORACTA				-.019				-.001				.003				.003
				(.018)				(.018)				(.019)				(.019)
PCA # N_ Analysts				-.004				.014				.018				.018
				(.016)				(.014)				(.015)				(.015)
PCA # Turnover				.04*				-.02				-.029				-.029
				(.024)				(.021)				(.022)				(.022)
Inst_ PCT	.11***	.113***	.114***	.11***	-.113***	-.113***	-.117***	-.112***	-.096***	-.097***	-.101***	-.096***	-.097***	-.098***	-.102***	-.097***
	(.014)	(.013)	(.013)	(.014)	(.012)	(.011)	(.012)	(.012)	(.012)	(.011)	(.011)	(.012)	(.012)	(.011)	(.011)	(.012)
Inst_ N	-.081***	-.08***	-.082***	-.08***	.042*	.039*	.042*	.041*	.065***	.062***	.066***	.064***	.066***	.063***	.067***	.065***
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)
Size	.016	.013	.014	.016	.02	.023	.023	.02	.001	.004	.004	.001	.001	.004	.004	.001
	(.021)	(.02)	(.02)	(.021)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Leverage	.002	.002	.002	.002	-.001	-.001	-.001	-.001	.001	.001	.001	.001	.001	.001	.001	.001
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	0	-.002	-.002	0	-.013	-.011	-.011	-.013	-.014	-.011	-.012	-.014	-.014	-.011	-.011	-.014
	(.01)	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.01)	(.01)	(.009)	(.009)	(.009)	(.01)	(.009)	(.009)	(.01)
Beta	-.052***	-.052***	-.052***	-.052***	.021**	.021**	.021**	.021**	.042***	.043***	.042***	.042***	.043***	.043***	.042***	.043***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	.009	.009	.009	.009	-.012	-.013	-.013	-.012	-.009	-.009	-.009	-.009	-.009	-.009	-.01	-.009
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
_cons	-.773***	-.767***	-.762***	-.776***	.477***	.47***	.467***	.479***	.767***	.761***	.758***	.769***	.768***	.761***	.759***	.77***
	(.085)	(.086)	(.086)	(.085)	(.079)	(.078)	(.078)	(.079)	(.083)	(.083)	(.083)	(.083)	(.083)	(.083)	(.083)	(.083)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
R	.104	.104	.103	.104	.111	.111	.11	.111	.104	.104	.103	.104	.104	.104	.103	.104
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
	ICC_456	ICC_456	ICC_456	ICC_456	ICC_547	ICC_547	ICC_547	ICC_547	ICC_638	ICC_638	ICC_638	ICC_638	ICC_730	ICC_730	ICC_730	ICC_730
Degree	-.039**				-.038**				-.041**				-.039**			
	(.018)				(.018)				(.018)				(.019)			

Closeness		-.025*				-.023*				-.027**				-.024*		
		(.013)				(.013)				(.013)				(.013)		
Eigenvector			-.03*				-.023				-.028*				-.003	
			(.016)				(.016)				(.016)				(.015)	
PCA				-.042**				-.042**				-.045**				-.041**
				(.018)				(.019)				(.019)				(.02)
ORACTA	-.017**	-.018**	-.016**	-.017**	-.018**	-.019**	-.017**	-.018**	-.017**	-.018**	-.016**	-.017**	-.015	-.016*	-.016**	-.015
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.007)	(.008)	(.008)	(.008)	(.007)	(.008)	(.009)	(.009)	(.008)	(.009)
N_ Analysts	.041***	.039**	.038**	.041***	.019	.017	.016	.019	.032**	.03**	.029*	.032**	-.042**	-.044***	-.044***	-.042**
	(.015)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.015)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)
Turnover	-.015	-.01	-.013	-.015	-.016	-.01	-.014	-.016	-.016	-.01	-.014	-.016	-.016	-.011	-.015	-.016
	(.015)	(.013)	(.014)	(.015)	(.015)	(.013)	(.014)	(.015)	(.015)	(.013)	(.014)	(.015)	(.014)	(.013)	(.013)	(.014)
Degree # ORACTA	-.004				0				-.001				.014			
	(.018)				(.019)				(.019)				(.023)			
Degree # N_ Analysts	.016				.018				.021				.033**			
	(.014)				(.014)				(.014)				(.014)			
Degree # Turnover	-.018				-.028				-.022				-.046*			
	(.021)				(.022)				(.021)				(.024)			
Closeness # ORACTA		-.015				-.012				-.014				0		
		(.013)				(.014)				(.014)				(.016)		
Closeness # N_ Analysts		.01				.004				.009				-.006		
		(.011)				(.012)				(.011)				(.012)		
Closeness # Turnover		-.012**				-.013***				-.013**				-.012**		
		(.005)				(.005)				(.005)				(.005)		
Eigenvector # ORACTA			.009				.008				.009				.006	
			(.015)				(.014)				(.015)				(.011)	
Eigenvector # N_ Analysts			.014				.008				.012				-.009	
			(.013)				(.013)				(.013)				(.012)	
Eigenvector # Turnover			-.013				-.01				-.013				-.007	
			(.021)				(.021)				(.021)				(.019)	
PCA # ORACTA				-.003				.001				0				.013
				(.018)				(.019)				(.019)				(.023)
PCA # N_ Analysts				.014				.015				.018				.029*
				(.014)				(.015)				(.014)				(.015)
PCA # Turnover				-.015				-.025				-.019				-.044*
				(.02)				(.021)				(.02)				(.023)
Inst_ PCT	-.116***	-.116***	-.12***	-.116***	-.107***	-.107***	-.111***	-.106***	-.107***	-.106***	-.111***	-.106***	-.043***	-.044***	-.05***	-.043***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.012)	(.011)	(.011)	(.011)	(.011)	(.013)	(.013)	(.013)	(.013)
Inst_ N	.027	.024	.027	.026	.055**	.052**	.056**	.054**	.034	.031	.034	.033	.1***	.098***	.102***	.099***
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.023)	(.023)	(.023)	(.023)
Size	.028	.031	.032	.028	.011	.014	.014	.011	.019	.022	.022	.019	-.042**	-.04*	-.041**	-.042**
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.021)	(.021)	(.021)	(.021)
Leverage	-.001	-.001	-.001	-.001	0	0	0	0	0	0	0	0	.004	.004	.004	.004
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.014	-.012	-.012	-.014	-.013	-.01	-.01	-.013	-.017*	-.014	-.014	-.016*	-.019*	-.015	-.015	-.018*
	(.01)	(.009)	(.009)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)
Beta	.01	.011	.01	.01	.032***	.032***	.032***	.032***	.02*	.02*	.019*	.02*	.083***	.083***	.082***	.083***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	-.013	-.013	-.013	-.013	-.011	-.011	-.012	-.011	-.01	-.01	-.011	-.01	.002	.001	.001	.002
	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
_cons	.345***	.338***	.335***	.346***	.619***	.612***	.609***	.621***	.488***	.481***	.479***	.489***	1.32***	1.316***	1.316***	1.323***
	(.079)	(.078)	(.077)	(.079)	(.08)	(.08)	(.08)	(.08)	(.077)	(.077)	(.076)	(.078)	(.109)	(.111)	(.112)	(.109)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
R	.112	.112	.112	.112	.108	.108	.107	.108	.107	.106	.106	.107	.094	.092	.092	.093

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' domestic block common ownership (5% or more) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies between 2005 and 2021. Degree: shows the number of blocks co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 12 Domestic small Common Owners and Their incentives to Monitor or Collude in different environments:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	ICC_91	ICC_91	ICC_91	ICC_91	ICC_182	ICC_182	ICC_182	ICC_182	ICC_273	ICC_273	ICC_273	ICC_273	ICC_365	ICC_365	ICC_365	ICC_365
Degree	.011				-.043*				-.023				-.024			
	(.025)				(.025)				(.024)				(.024)			
Closeness		.021*				-.02*				-.019*				-.019*		
		(.012)				(.012)				(.011)				(.011)		
Eigenvector			.02				-.022				-.021*				-.022*	
			(.013)				(.013)				(.013)				(.013)	
PCA				.014				-.02				-.017				-.018
				(.013)				(.013)				(.013)				(.013)
ORACTA	.016**	.01	.01	.016**	-.016**	-.016**	-.017**	-.017**	-.018**	-.013*	-.013*	-.017**	-.018**	-.013*	-.013*	-.017**
	(.008)	(.008)	(.008)	(.008)	(.007)	(.007)	(.008)	(.007)	(.008)	(.007)	(.007)	(.007)	(.008)	(.007)	(.007)	(.007)
N_ Analysts	.002	.003	.003	.003	.019	.025	.025	.022	.001	.004	.004	.002	.001	.003	.003	.002
	(.017)	(.017)	(.017)	(.017)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)
Turnover	.008	.01	.009	.008	-.008	-.016	-.015	-.013	-.012	-.018	-.016	-.015	-.012	-.018	-.016	-.015
	(.016)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)
Degree # ORACTA	-.006				.004				-.004				-.004			
	(.011)				(.011)				(.011)				(.011)			
Degree # N_ Analysts	.005				.016				.006				.006			
	(.012)				(.012)				(.012)				(.012)			
Degree # Turnover	.002				-.016				-.01				-.009			
	(.015)				(.013)				(.013)				(.013)			
Closeness # ORACTA		.086***				-.006				-.062***				-.062***		
		(.022)				(.023)				(.021)				(.022)		
Closeness # N_ Analysts		-.001				.014				.009				.01		
		(.007)				(.008)				(.008)				(.008)		
Closeness # Turnover		.017				-.017				-.016				-.017		
		(.015)				(.015)				(.014)				(.014)		
Eigenvector # ORACTA			.077***				.006				-.061***				-.061***	
			(.019)				(.021)				(.019)				(.019)	
Eigenvector # N_ Analysts			-.002				.012*				.008				.008	
			(.006)				(.007)				(.006)				(.006)	
Eigenvector # Turnover			.021				-.027*				-.024*				-.024*	
			(.013)				(.014)				(.013)				(.013)	
PCA # ORACTA				.026				.007				-.037				-.037
				(.025)				(.023)				(.023)				(.023)
PCA # N_ Analysts				.004				.02*				.01				.01
				(.01)				(.011)				(.01)				(.01)
PCA # Turnover				.015				-.031*				-.023				-.023
				(.014)				(.016)				(.014)				(.014)
Inst_ PCT	.116***	.115***	.116***	.116***	-.12***	-.12***	-.12***	-.12***	-.104***	-.104***	-.104***	-.104***	-.105***	-.104***	-.104***	-.105***
	(.013)	(.013)	(.013)	(.013)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.012)	(.012)	(.012)	(.012)	(.012)
Inst_ N	-.087***	-.087***	-.086***	-.087***	.07**	.066**	.066**	.066**	.08**	.077**	.077**	.078**	.081**	.078**	.078**	.079**
	(.033)	(.033)	(.033)	(.033)	(.032)	(.032)	(.032)	(.032)	(.033)	(.032)	(.032)	(.032)	(.033)	(.032)	(.032)	(.032)
Size	.017	.016	.015	.016	.009	.009	.009	.009	-.004	-.003	-.003	-.003	-.004	-.003	-.003	-.003
	(.025)	(.025)	(.025)	(.025)	(.025)	(.024)	(.025)	(.025)	(.025)	(.025)	(.025)	(.025)	(.025)	(.025)	(.025)	(.025)
Leverage	.002	.002	.002	.002	-.001	-.001	-.001	-.001	.001	.001	.001	.001	.001	.001	.001	.001
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.001	-.001	-.001	-.001	-.012	-.012	-.012	-.011	-.012	-.013	-.013	-.012	-.012	-.012	-.012	-.012
	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Beta	-.051***	-.051***	-.051***	-.051***	.02*	.02*	.021**	.021**	.042***	.041***	.041***	.042***	.042***	.042***	.042***	.042***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	.008	.009	.009	.008	-.011	-.011	-.011	-.011	-.008	-.009	-.009	-.008	-.008	-.009	-.009	-.009
	(.01)	(.01)	(.011)	(.01)	(.01)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
_cons	-.75***	-.766***	-.766***	-.767***	.414***	.489***	.487***	.473***	.737***	.77***	.769***	.769***	.737***	.77***	.77***	.77***
	(.086)	(.089)	(.088)	(.087)	(.078)	(.08)	(.08)	(.079)	(.083)	(.085)	(.085)	(.084)	(.083)	(.086)	(.085)	(.084)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
R	.103	.104	.104	.103	.11	.11	.11	.11	.103	.103	.103	.103	.103	.103	.103	.103
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
	ICC_456	ICC_456	ICC_456	ICC_456	ICC_547	ICC_547	ICC_547	ICC_547	ICC_638	ICC_638	ICC_638	ICC_638	ICC_730	ICC_730	ICC_730	ICC_730

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Degree	-.049**				-.035				-.038				.028			
	(.025)				(.024)				(.025)				(.027)			
Closeness		-.019				-.02*				-.017				-.012		
		(.012)				(.012)				(.011)				(.012)		
Eigenvector			-.02				-.022*				-.019				-.016	
			(.013)				(.013)				(.013)				(.013)	
PCA				-.02				-.019				-.018				-.008
				(.013)				(.013)				(.013)				(.013)
ORACTA	-.014*	-.018**	-.019**	-.016**	-.017**	-.015**	-.015**	-.017**	-.016**	-.016**	-.017**	-.016**	-.021**	-.002	0	-.016*
	(.008)	(.008)	(.008)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)	(.009)	(.008)	(.009)	(.008)
N_ Analysts	.027*	.035**	.035**	.032**	.01	.014	.014	.012	.02	.027*	.027*	.024	-.036**	-.042**	-.042**	-.04**
	(.016)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)	(.015)	(.015)	(.015)	(.017)	(.016)	(.016)	(.016)
Turnover	-.007	-.016	-.015	-.013	-.01	-.017	-.016	-.014	-.009	-.017	-.016	-.014	-.019	-.018	-.017	-.017
	(.015)	(.016)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.016)	(.015)	(.015)	(.015)	(.015)	(.014)	(.014)
Degree # ORACTA	.007				.001				.003				-.022*			
	(.011)				(.011)				(.01)				(.011)			
Degree # N_ Analysts	.021*				.011				.016				-.017			
	(.012)				(.012)				(.012)				(.013)			
Degree # Turnover	-.02				-.013				-.018				.005			
	(.013)				(.013)				(.013)				(.015)			
Closeness # ORACTA		.019				-.033				-.006				-.176***		
		(.023)				(.022)				(.022)				(.025)		
Closeness # N_ Analysts		.015*				.012				.013				-.003		
		(.009)				(.008)				(.008)				(.01)		
Closeness # Turnover		-.017				-.017				-.015				-.01		
		(.015)				(.014)				(.014)				(.013)		
Eigenvector # ORACTA			.036				-.026				.005				-.201***	
			(.022)				(.02)				(.02)				(.028)	
Eigenvector # N_ Analysts			.013*				.01				.012*				-.001	
			(.007)				(.007)				(.007)				(.008)	
Eigenvector # Turnover			-.028*				-.026*				-.025*				-.013	
			(.015)				(.014)				(.014)				(.012)	
PCA # ORACTA				.026				-.014				.004				-.133***
				(.023)				(.023)				(.022)				(.026)
PCA # N_ Analysts				.025**				.015				.02*				-.014
				(.011)				(.011)				(.011)				(.011)
PCA # Turnover				-.034**				-.027*				-.031**				-.003
				(.016)				(.015)				(.016)				(.015)
Inst_ PCT	-.124***	-.124***	-.124***	-.124***	-.114***	-.114***	-.114***	-.114***	-.115***	-.114***	-.115***	-.115***	-.05***	-.05***	-.05***	-.05***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)	(.013)	(.013)	(.013)	(.013)
Inst_ N	.059*	.055*	.055*	.055*	.077**	.074**	.074**	.074**	.059*	.055*	.055*	.056*	.083**	.084***	.083***	.083**
	(.032)	(.032)	(.032)	(.032)	(.033)	(.032)	(.032)	(.032)	(.032)	(.032)	(.032)	(.032)	(.033)	(.032)	(.032)	(.032)
Size	.015	.015	.014	.014	.003	.003	.003	.003	.01	.009	.009	.009	-.031	-.028	-.027	-.028
	(.025)	(.024)	(.024)	(.025)	(.025)	(.025)	(.025)	(.025)	(.025)	(.024)	(.024)	(.025)	(.025)	(.024)	(.025)	(.025)
Leverage	-.001	-.001	-.001	-.001	0	0	0	0	0	0	0	0	.004	.005	.005	.005
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.013	-.013	-.013	-.012	-.011	-.012	-.012	-.011	-.015	-.015	-.015	-.014	-.014	-.015	-.015	-.015
	(.009)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.01)	(.011)	(.01)	(.011)
Beta	.01	.01	.01	.01	.031***	.031***	.031***	.031***	.019*	.019*	.019*	.019*	.082***	.081***	.081***	.082***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	-.011	-.011	-.011	-.011	-.01	-.01	-.01	-.01	-.009	-.009	-.009	-.009	0	-.001	-.001	-.001
	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)
_cons	.272***	.36***	.358***	.338***	.571***	.626***	.626***	.618***	.432***	.499***	.497***	.484***	1.372***	1.302***	1.304***	1.337***
	(.078)	(.079)	(.079)	(.078)	(.079)	(.082)	(.082)	(.081)	(.076)	(.079)	(.078)	(.077)	(.115)	(.114)	(.114)	(.114)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
R	.112	.111	.111	.112	.107	.107	.107	.107	.106	.106	.106	.106	.092	.093	.093	.093

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' domestic small common ownership (less than 5%) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies between 2005 and 2021. Degree: shows the number of small co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 13 Foreign block Common Owners and Their incentives to Monitor or Collude in different environments:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	ICC_91	ICC_91	ICC_91	ICC_91	ICC_182	ICC_182	ICC_182	ICC_182	ICC_273	ICC_273	ICC_273	ICC_273	ICC_365	ICC_365	ICC_365	ICC_365
Degree	-.162				.072				.158				.159			
	(.232)				(.216)				(.228)				(.228)			
Closeness		-.162				.072				.158				.159		
		(.232)				(.216)				(.228)				(.228)		
Eigenvector			-.162				.072				.158				.159	
			(.232)				(.216)				(.228)				(.228)	
PCA				-.162				.072				.158				.159
				(.232)				(.216)				(.228)				(.228)
ORACTA	.016*	.016*	.016*	.016*	-.017**	-.017**	-.017**	-.017**	-.017**	-.017**	-.017**	-.017**	-.017**	-.017**	-.017**	-.017**
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)
N_ Analysts	.003	.003	.003	.003	.028*	.028*	.028*	.028*	.005	.005	.005	.005	.004	.004	.004	.004
	(.017)	(.017)	(.017)	(.017)	(.015)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)
Turnover	.008	.008	.008	.008	-.015	-.015	-.015	-.015	-.016	-.016	-.016	-.016	-.016	-.016	-.016	-.016
	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)
Degree # ORACTA	-.509				.208				.446				.448			
	(.686)				(.638)				(.67)				(.671)			
Degree # N_ Analysts	.003				-.004				-.002				-.002			
	(.019)				(.018)				(.019)				(.019)			
Degree # Turnover	.099				-.062				-.063				-.063			
	(.191)				(.188)				(.199)				(.199)			
Closeness # ORACTA		-.509				.208				.446				.448		
		(.686)				(.638)				(.67)				(.671)		
Closeness # N_ Analysts		.003				-.004				-.002				-.002		
		(.019)				(.018)				(.019)				(.019)		
Closeness # Turnover		.099				-.062				-.063				-.063		
		(.191)				(.188)				(.199)				(.199)		
Eigenvector # ORACTA			-.509				.208				.446				.448	
			(.686)				(.638)				(.67)				(.671)	
Eigenvector # N_ Analysts			.003				-.004				-.002				-.002	
			(.019)				(.018)				(.019)				(.019)	
Eigenvector # Turnover			.099				-.062				-.063				-.063	
			(.191)				(.188)				(.199)				(.199)	
PCA # ORACTA				-.509				.208				.446				.448
				(.686)				(.638)				(.67)				(.671)
PCA # N_ Analysts				.003				-.004				-.002				-.002
				(.019)				(.018)				(.019)				(.019)
PCA # Turnover				.099				-.062				-.063				-.063
				(.191)				(.188)				(.199)				(.199)
Inst_ PCT	.115***	.115***	.115***	.115***	-.12***	-.12***	-.12***	-.12***	-.104***	-.104***	-.104***	-.104***	-.104***	-.104***	-.104***	-.104***
	(.013)	(.013)	(.013)	(.013)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)	(.012)	(.012)	(.012)	(.012)
Inst_ N	-.083***	-.083***	-.083***	-.083***	.045**	.045**	.045**	.045**	.068***	.068***	.068***	.068***	.069***	.069***	.069***	.069***
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)
Size	.014	.014	.014	.014	.021	.021	.021	.021	.002	.002	.002	.002	.002	.002	.002	.002
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Leverage	.002	.002	.002	.002	-.001	-.001	-.001	-.001	.001	.001	.001	.001	.001	.001	.001	.001
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.002	-.002	-.002	-.002	-.011	-.011	-.011	-.011	-.012	-.012	-.012	-.012	-.011	-.011	-.011	-.011
	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Beta	-.052***	-.052***	-.052***	-.052***	.021**	.021**	.021**	.021**	.042***	.042***	.042***	.042***	.042***	.042***	.042***	.042***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	.009	.009	.009	.009	-.013	-.013	-.013	-.013	-.009	-.009	-.009	-.009	-.009	-.009	-.009	-.009
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
_cons	-.77***	-.77***	-.77***	-.77***	.476***	.476***	.476***	.476***	.768***	.768***	.768***	.768***	.769***	.769***	.769***	.769***
	(.087)	(.087)	(.087)	(.087)	(.079)	(.079)	(.079)	(.079)	(.084)	(.084)	(.084)	(.084)	(.084)	(.084)	(.084)	(.084)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
R	.103	.103	.103	.103	.11	.11	.11	.11	.103	.103	.103	.103	.103	.103	.103	.103
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
	ICC_456	ICC_456	ICC_456	ICC_456	ICC_547	ICC_547	ICC_547	ICC_547	ICC_638	ICC_638	ICC_638	ICC_638	ICC_730	ICC_730	ICC_730	ICC_730
Degree	.031				.115				.069				.323			
	(.212)				(.221)				(.214)				(.268)			

Closeness		.031				.115				.069				.323		
		(.212)				(.221)				(.214)				(.268)		
Eigenvector			.031				.115				.069				.323	
			(.212)				(.221)				(.214)				(.268)	
PCA				.031				.115				.069				.323
				(.212)				(.221)				(.214)				(.268)
ORACTA	-.016**	-.016**	-.016**	-.016**	-.017**	-.017**	-.017**	-.017**	-.016**	-.016**	-.016**	-.016**	-.015*	-.015*	-.015*	-.015*
	(.008)	(.008)	(.008)	(.008)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)	(.007)	(.008)	(.008)	(.008)	(.008)
N_ Analysts	.039**	.039**	.039**	.039**	.016	.016	.016	.016	.029*	.029*	.029*	.029*	-.044***	-.044***	-.044***	-.044***
	(.015)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.015)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)
Turnover	-.015	-.015	-.015	-.015	-.016	-.016	-.016	-.016	-.016	-.016	-.016	-.016	-.016	-.016	-.016	-.016
	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.015)	(.014)	(.014)	(.014)	(.014)
Degree # ORACTA	.094				.327				.201				.907			
	(.625)				(.653)				(.631)				(.766)			
Degree # N_ Analysts	-.004				-.003				-.004				.001			
	(.019)				(.018)				(.018)				(.023)			
Degree # Turnover	-.063				-.062				-.067				-.063			
	(.189)				(.191)				(.189)				(.27)			
Closeness # ORACTA		.094				.327				.201				.907		
		(.625)				(.653)				(.631)				(.766)		
Closeness # N_ Analysts		-.004				-.003				-.004				.001		
		(.019)				(.018)				(.018)				(.023)		
Closeness # Turnover		-.063				-.062				-.067				-.063		
		(.189)				(.191)				(.189)				(.27)		
Eigenvector # ORACTA			.094				.327				.201				.907	
			(.625)				(.653)				(.631)				(.766)	
Eigenvector # N_ Analysts			-.004				-.003				-.004				.001	
			(.019)				(.018)				(.018)				(.023)	
Eigenvector # Turnover			-.063				-.062				-.067				-.063	
			(.189)				(.191)				(.189)				(.27)	
PCA # ORACTA				.094				.327				.201				.907
				(.625)				(.653)				(.631)				(.766)
PCA # N_ Analysts				-.004				-.003				-.004				.001
				(.019)				(.018)				(.018)				(.023)
PCA # Turnover				-.063				-.062				-.067				-.063
				(.189)				(.191)				(.189)				(.27)
Inst_ PCT	-.123***	-.123***	-.123***	-.123***	-.113***	-.113***	-.113***	-.113***	-.114***	-.114***	-.114***	-.114***	-.051***	-.051***	-.051***	-.051***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)	(.013)	(.013)	(.013)	(.013)
Inst_ N	.03	.03	.03	.03	.058***	.058***	.058***	.058***	.037*	.037*	.037*	.037*	.104***	.104***	.104***	.104***
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.023)	(.023)	(.023)	(.023)
Size	.029	.029	.029	.029	.012	.012	.012	.012	.02	.02	.02	.02	-.041**	-.041**	-.041**	-.041**
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.021)	(.021)	(.021)	(.021)
Leverage	-.001	-.001	-.001	-.001	0	0	0	0	0	0	0	0	.004	.004	.004	.004
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.012	-.012	-.012	-.012	-.01	-.01	-.01	-.01	-.014	-.014	-.014	-.014	-.015	-.015	-.015	-.015
	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)
Beta	.01	.01	.01	.01	.032***	.032***	.032***	.032***	.019*	.019*	.019*	.019*	.082***	.082***	.082***	.082***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.011)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)
B/M	-.013	-.013	-.013	-.013	-.012	-.012	-.012	-.012	-.011	-.011	-.011	-.011	.001	.001	.001	.001
	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
_cons	.344***	.344***	.344***	.344***	.619***	.619***	.619***	.619***	.489***	.489***	.489***	.489***	1.326***	1.326***	1.326***	1.326***
	(.078)	(.078)	(.078)	(.078)	(.08)	(.08)	(.08)	(.08)	(.077)	(.077)	(.077)	(.077)	(.113)	(.113)	(.113)	(.113)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
R	.111	.111	.111	.111	.107	.107	.107	.107	.105	.105	.105	.105	.092	.092	.092	.092

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' foreign block common ownership (5% or more) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies between 2005 and 2021. Degree: shows the number of blocks co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 14 foreign small Common Owners and Their incentives to Monitor or Collude in different environments:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	ICC_91	ICC_91	ICC_91	ICC_91	ICC_182	ICC_182	ICC_182	ICC_182	ICC_273	ICC_273	ICC_273	ICC_273	ICC_365	ICC_365	ICC_365	ICC_365
Degree	-.006				-.001				-.002				-.003			
	(.026)				(.024)				(.024)				(.024)			
Closeness		-.026				.009				.015				.015		
		(.022)				(.02)				(.02)				(.02)		
Eigenvector			-.026				.01				.015				.015	
			(.023)				(.022)				(.022)				(.022)	
PCA				-.021				.009				.011				.011
				(.022)				(.021)				(.02)				(.021)
ORACTA	.016**	.019**	.017**	.018**	-.017**	-.019**	-.018**	-.018**	-.019**	-.02**	-.019**	-.018**	-.019**	-.02**	-.019**	-.019**
	(.008)	(.009)	(.009)	(.008)	(.007)	(.009)	(.008)	(.008)	(.007)	(.008)	(.008)	(.007)	(.007)	(.008)	(.008)	(.007)
N_ Analysts	.005	.008	.007	.009	.02	.021	.022	.02	0	-.001	0	-.002	-.001	-.001	-.001	-.003
	(.017)	(.017)	(.017)	(.017)	(.016)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)
Turnover	.001	-.003	-.004	-.003	-.006	0	0	-.001	-.008	-.003	-.002	-.003	-.008	-.003	-.002	-.003
	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)
Degree # ORACTA	-.01				.005				0				0			
	(.013)				(.012)				(.012)				(.012)			
Degree # N_ Analysts	-.003				.017				.01				.01			
	(.013)				(.013)				(.013)				(.013)			
Degree # Turnover	-.016***				.018***				.017***				.017***			
	(.004)				(.004)				(.005)				(.005)			
Closeness # ORACTA		-.018				.018				.017				.017		
		(.037)				(.038)				(.036)				(.036)		
Closeness # N_ Analysts		-.031*				.026				.028*				.028		
		(.018)				(.016)				(.017)				(.017)		
Closeness # Turnover		-.015***				.018***				.017***				.017***		
		(.004)				(.004)				(.004)				(.004)		
Eigenvector # ORACTA			-.003				.007				.008				.007	
			(.026)				(.027)				(.027)				(.027)	
Eigenvector # N_ Analysts			-.035*				.026				.029*				.029*	
			(.018)				(.016)				(.017)				(.017)	
Eigenvector # Turnover			-.011***				.014***				.013***				.013***	
			(.003)				(.003)				(.003)				(.003)	
PCA # ORACTA				-.014				.01				.005				.005
				(.025)				(.025)				(.023)				(.023)
PCA # N_ Analysts				-.024				.028*				.025				.025
				(.017)				(.016)				(.016)				(.016)
PCA # Turnover				-.013***				.016***				.014***				.014***
				(.003)				(.003)				(.003)				(.003)
Inst_ PCT	.115***	.115***	.115***	.115***	-.118***	-.119***	-.118***	-.118***	-.103***	-.103***	-.103***	-.103***	-.103***	-.103***	-.103***	-.103***
	(.013)	(.013)	(.013)	(.013)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)
Inst_ N	-.083***	-.075***	-.074***	-.078***	.051**	.047*	.045*	.048*	.073***	.067**	.066**	.069***	.074***	.068***	.067***	.07***
	(.026)	(.027)	(.027)	(.026)	(.025)	(.026)	(.026)	(.026)	(.025)	(.026)	(.026)	(.026)	(.025)	(.026)	(.026)	(.026)
Size	.012	.007	.006	.008	.023	.024	.026	.025	.004	.007	.008	.007	.003	.007	.007	.007
	(.021)	(.022)	(.022)	(.022)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)
Leverage	.002	.002	.002	.002	-.001	-.001	-.001	-.001	.001	.001	.001	.001	.001	.001	.001	.001
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.003	-.003	-.004	-.003	-.009	-.009	-.009	-.009	-.011	-.01	-.01	-.01	-.01	-.01	-.01	-.01
	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Beta	-.052***	-.052***	-.052***	-.052***	.021**	.021**	.021**	.021**	.043***	.042***	.042***	.042***	.043***	.042***	.042***	.043***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	.011	.011	.011	.011	-.015	-.014	-.014	-.015	-.011	-.011	-.011	-.011	-.011	-.011	-.011	-.012
	(.011)	(.011)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
_cons	-.77***	-.763***	-.761***	-.765***	.47***	.475***	.478***	.475***	.765***	.764***	.766***	.766***	.765***	.764***	.766***	.767***
	(.088)	(.086)	(.087)	(.086)	(.08)	(.079)	(.08)	(.078)	(.085)	(.084)	(.085)	(.083)	(.085)	(.084)	(.085)	(.083)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
R	.104	.104	.104	.104	.111	.111	.111	.111	.104	.104	.104	.104	.104	.104	.104	.104
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
	ICC_456	ICC_456	ICC_456	ICC_456	ICC_547	ICC_547	ICC_547	ICC_547	ICC_638	ICC_638	ICC_638	ICC_638	ICC_730	ICC_730	ICC_730	ICC_730

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Degree	.002				-.002				.002				-.003			
	(.024)				(.024)				(.023)				(.026)			
Closeness		.007				.012				.011				.028		
		(.02)				(.02)				(.02)				(.02)		
Eigenvector			.008				.012				.012				.026	
			(.021)				(.022)				(.021)				(.021)	
PCA				.01				.01				.011				.015
				(.02)				(.021)				(.02)				(.02)
ORACTA	-.016**	-.019**	-.018**	-.017**	-.018**	-.02**	-.019**	-.018**	-.017**	-.019**	-.018**	-.018**	-.019**	-.018*	-.018*	-.017**
	(.007)	(.009)	(.008)	(.008)	(.007)	(.009)	(.008)	(.007)	(.007)	(.008)	(.008)	(.007)	(.009)	(.01)	(.01)	(.008)
N_ Analysts	.03*	.032**	.033**	.03*	.01	.01	.011	.009	.022	.023	.024	.021	-.044***	-.048***	-.049***	-.049***
	(.016)	(.015)	(.015)	(.015)	(.016)	(.016)	(.016)	(.016)	(.016)	(.015)	(.015)	(.015)	(.017)	(.016)	(.016)	(.016)
Turnover	-.006	.001	.001	0	-.007	-.001	-.001	-.002	-.007	0	0	-.001	-.01	-.007	-.006	-.007
	(.01)	(.011)	(.011)	(.01)	(.011)	(.011)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)	(.012)	(.012)	(.012)	(.012)
Degree # ORACTA	.007				.003				.005				-.013			
	(.012)				(.012)				(.012)				(.013)			
Degree # N_ Analysts	.02				.014				.018				-.006			
	(.013)				(.013)				(.013)				(.014)			
Degree # Turnover	.018***				.017***				.018***				.014***			
	(.005)				(.004)				(.005)				(.005)			
Closeness # ORACTA		.019				.017				.02				.015		
		(.04)				(.036)				(.038)				(.046)		
Closeness # N_ Analysts		.025				.027				.026*				.029		
		(.015)				(.016)				(.015)				(.02)		
Closeness # Turnover		.019***				.017***				.019***				.012**		
		(.004)				(.004)				(.004)				(.005)		
Eigenvector # ORACTA			.007				.007				.009				.01	
			(.028)				(.026)				(.027)				(.039)	
Eigenvector # N_ Analysts			.024				.027*				.026*				.033*	
			(.016)				(.016)				(.016)				(.018)	
Eigenvector # Turnover			.015***				.014***				.015***				.01***	
			(.003)				(.003)				(.003)				(.003)	
PCA # ORACTA				.013				.008				.011				-.006
				(.026)				(.024)				(.024)				(.03)
PCA # N_ Analysts				.029*				.026*				.028*				.017
				(.015)				(.016)				(.015)				(.018)
PCA # Turnover				.016***				.015***				.016***				.011***
				(.003)				(.003)				(.003)				(.003)
Inst_ PCT	-.122***	-.122***	-.122***	-.121***	-.112***	-.112***	-.112***	-.112***	-.113***	-.113***	-.113***	-.113***	-.051***	-.05***	-.05***	-.05***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)	(.013)	(.013)	(.013)	(.013)
Inst_ N	.036	.034	.031	.033	.064**	.059**	.057**	.06**	.042*	.039	.037	.039	.105***	.093***	.095***	.098***
	(.025)	(.026)	(.026)	(.026)	(.025)	(.026)	(.026)	(.026)	(.025)	(.026)	(.025)	(.025)	(.027)	(.027)	(.027)	(.027)
Size	.032	.032	.033	.033	.014	.016	.017	.016	.023	.024	.025	.025	-.041*	-.034	-.034	-.036*
	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.022)	(.022)	(.022)	(.022)
Leverage	-.001	-.001	-.001	-.001	0	0	0	0	0	0	0	0	.004	.004	.004	.004
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.01	-.011	-.01	-.01	-.009	-.009	-.009	-.009	-.012	-.013	-.012	-.012	-.015	-.014	-.013	-.014
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.01)	(.01)	(.01)	(.01)
Beta	.011	.01	.01	.011	.032***	.032***	.032***	.032***	.02*	.019*	.019*	.02*	.083***	.082***	.082***	.083***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
B/M	-.016	-.015	-.015	-.015	-.014	-.013	-.013	-.014	-.013	-.012	-.012	-.013	0	-.001	0	-.001
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
_cons	.338***	.344***	.348***	.343***	.614***	.616***	.619***	.617***	.486***	.487***	.49***	.487***	1.334***	1.315***	1.314***	1.323***
	(.079)	(.078)	(.079)	(.078)	(.082)	(.08)	(.082)	(.08)	(.078)	(.077)	(.078)	(.077)	(.116)	(.112)	(.113)	(.112)
Observations	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371	20371
R	.112	.113	.113	.113	.108	.108	.108	.108	.107	.107	.107	.107	.092	.092	.092	.092

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' foreign small common ownership (less than 5%) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies between 2005 and 2021. Degree: shows the number of small co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Moreover, we noticed a statistical difference in the direct effect of ORACTA on the ICCs between the GFC and normal times, as the effects mostly disappeared during the GFC. This might be attributed to the fact that during high uncertainty, there is more tendency to cut investments that adversely affect asset liquidity and prices (Easley and O'Hara, 2010). The interaction terms between the network measurements (degree, closeness, eigenvector, and the PCA) as proxies for the common ownership and the tunnelling incentives show the incentives that engage in tunnelling have weak effects on the ICCs during the GFC, regardless of the percentage held by common owners (block holdings versus minor holdings). This is consistent with the model presented by Friedman *et al.* (2003), which states that when a moderately negative shock occurs, it is preferable for controlling stockholders to prop (i.e. the opposite of tunnelling). Tunnelling is favoured by controlling owners if there is no or minimal disruption. That is, in our case because the adverse effect of the GFC was severe, the incentive to tunnel diminished.

The interaction terms with Turnover during the GFC indicates that exit was not useful as a tool of governance during the GFC as it increases the ICCs. This might be attributed to the low level of liquidity available during GFC which diminished the effectiveness of threatening management during this time.

Another promising finding is that the closeness remains dominant in explaining the effects of common ownership governance on the ICCs during the GFC in the case of block common owners. If firms were closer to each other, they have faster access to information. In times with the manifested uncertainty, how fast and efficiently firms could get information by being close to other firms was crucial in explaining the effects of common ownership in the ICC.

7. Robustness Checks.

7.1. Fixed Effects

A potential issue related to identification is that the presence of omitted variables may bias the observed relation between common ownership and the implied cost of capital. To address this issue, we control for industry and quarter fixed effects in the previous sections. Therefore, we conclude that our findings on the association between common ownership and the implied cost of capital are not driven by omitted variables.

7.2. Propensity Score Matching (PSM) and Difference in Difference (DID)

The best way to solve this problem would be to use an instrument for the network measures. Because the positions of companies in the network are not chosen at random, as indicated by Jackson and Rogers (2007), it is difficult to identify this type of instrument. To develop a credible alternative, we employed a combination of the Propensity Score Matching (PSM) method and a difference-in-differences (DID) analysis based on a quasi-natural experiment of the shared ownership of institutional investors. The DID allowed us to manage this endogeneity. The credibility of the DID estimator depends fundamentally on the assumption that, in the absence of treatment, average outcomes for treated and control groups would have mirrored parallel trends over time (Flammer, 2021). To tackle this issue and identify a more suitable control sample, we employed a PSM methodology to reduce selection bias in the control and treatment groups. In other words, it allowed us to match each treated company with a similar control company. Specifically, we employed nearest-neighbour matching, selecting the firms whose (predicted) likelihood of being treated is closest to the control firms (Flammer, 2021).

The PSM was designed by Rosenbaum and Rubin (1983) to ensure that the propensity assessments of the treatment and control groups are identical. This is performed so that immediate comparisons of observations are more informative when the groups are balanced on the covariates, which reduces the estimate bias due to inconsistent covariate 's effects (Cochran and Rubin, 1973; Rubin, 1979). The propensity score is the likelihood of a unit (firm) being allocated to a specific group (treatment vs control) given a set of identified covariates (Gu and Rosenbaum, 1993).

Rosenbaum and Rubin (1983) defined a propensity score for the *ith* case as follows:

$$p(X_i) = \text{Pr}\ (Treatment_i = 1|X_i) \tag{20}$$

Where X_i denotes the vector of covariates for a particular firm, $Treatment_i$ is a binary variable indicating whether the firm is treated ($Treatment_i$=1) or control ($Treatment_i$=0). The propensity score, $p(X_i)$, is the conditional probability (Pr) of exposure given the covariates X_i; that is, $p(X_i) = Pr\ (T_i = 1|X_i)$. Treated and control firms selected to have the same value of $p(X_i)$ will have the same distributions of X_i; formally, $Treatment_i$ and X_i are conditionally independent given $p(X_i)$. Therefore, exact matching on $p(X_i)$ wil tend to balance the X_i distributions in the treated and control groups.

The PSM employs multiple matching strategies such as, (a) nearest neighbour matching (Rosenbaum and Rubin, 1985), which couples each treatment subject with the untreated subject whose propensity scores are the closest to one another; (b) caliper matching (Cochran and Rubin, 1973), which compares each treatment subject with the untreated subject within a predetermined band, known as a calliper; (c) Mahalanobis metric matching involving propensity score (Rosenbaum and Rubin, 1985), which aligns each treatment subject with an untreated subject with the shortest Mahalanobis distance depending on the covariates' proximity; (d) stratification (or subclassification) (Rosenbaum and Rubin, 1985), which sorts all of the subjects into different groups based on the percentile number of their propensity scores.

We used the nearest neighbour matching within a caliper of (0.1) for the following reasons: Cochran and Rubin (1973) suggested as early as the 1970s that caliper pairing could eliminate approximately 90% of grouping selection bias. Cochran and Rubin (1973) demonstrated that matching on a normally distributed confounding variable with calipers of these widths removes roughly 90% to 99% of the bias due to this confounding variable. Later, Gu and Rosenbaum (1993) and Gu (1992) discovered that closest neighbour matching fails to minimise the distance between matched pairs, while caliper matching can. Recent research by Guo, Barth, and Gibbons (2006) suggests that Mahalanobis PSM should not be utilised due to its poor performance. Literature has not yet proposed an accepted approach to selecting the optimal number of distinct neighbours to use when implementing PSM. There is a trade-off between dispersion (limited by a larger number of neighbours) and bias (perhaps exacerbated by the selection of inferior candidates; Caliendo and Kopeinig, 2008). Additionally, Wang *et al*, (2013) stated that, “regardless of the pre-matching ratio of subjects, using a caliper width of 0.1 of the pooled standard deviation of the logit of the propensity score resulted in the lowest bias”; thus, we opted for a caliper of 0.1 to keep variance relatively low.

We adhered to the literature's recommendations in selecting covariates and employed multiple matching criteria. First, we eliminated from our sample all firms with common ownership throughout the entire period, i.e. firms with block common ownership[17] for every quarter between 2005 and 2021. For the remaining companies, only those with block common proprietors were considered. Second, we required that the control and treated firms operated in the same Fama-French 48 industries. Thirdly, we selected our closest neighbour based on firm-level characteristics: size, Tobin's Q and leverage. In finance literature, such characteristics are the norm for constructing a set of similar companies (e.g., Almeida *et al.*, 2012; Frésard

[17] We failed to do the same procedure using the small holdings (less than 5%); because that would result in only two observations.

and Valta, 2016; Flammer, 2021)[18]. Therefore, this matching procedure aims to ensure that control firms are extremely similar to treated firms prior to the experiment. Specifically, utilising metrics of firm value (Tobin's Q) eliminates worries that the treated companies may be more profitable or have greater growth prospects. Using size and leverage tackles the likelihood that treated companies may have greater access to capital markets. In addition, matching firms by industry ensures that treated and matched control firms experience identical business environment conditions (including economic, regulatory, and other conditions) (Flammer, 2021).

To demonstrate the similarity between treated and control firms, Panel A of Table 19 below provides descriptive statistics for the matching characteristics before and after sample matching. The table provides means and standard deviations for each characteristic for the treated and control firms. In addition, the table offers the t-statistic and p-value of the difference-in-means test. The hypothesis that the difference in covariate means between treated firms and controls cannot be rejected (with p-values between 0.47 and 0.92), demonstrating that treated and control firms are remarkably comparable across all of these characteristics and that their covariate distributions are identical to the treated group, thus backing the DID analysis's requirement of a common trend assumption. This matching will likely deliver a credible counterfactual for estimating the effects of shared ownership on the term structure of ICCs.

7.2.1. Difference-in-Difference Analysis

Because the firms in our sample experienced the presence of common ownership at various times, we can observe the same firms' common ownership effects on their ICCs before and after this event (the presence of common ownership). These DID estimates help to establish a

[18] In addition to the ROA that commonly used in the literature. However, we find using the ROA for matching, increases the bias as the difference between the means of treatment and control group is statistically significant.

causal relation between common ownership incentives to monitor or collude and the firms' ICCs. If common owners implement monitoring of their portfolio's firms, then we expect lower ICCs due to reduced agency cost among the treatment group after the occurrence of common ownership. We used the following difference-in-difference specification:

$$\begin{aligned} Cost\ of\ Capital_{i,t} \\ &= \beta_1 Treatment \times Time + Treatment + Time + \text{Controls}_{\ i,t} \qquad (31) \\ &+ \alpha_{\ i} + \theta_{\ t} + \varepsilon_{i,t} \end{aligned}$$

The dependent variable is $Cost\ of\ Capital_{i,t}$**.** The term structure of implied cost of equity follows Callen and Lyle's (2020) model. The primary test variable ($Treatment \times Time$) reflects the interaction term between the $Treatment$ and $Time$. $Treatment$ is an indicator variable that equals one for treatment firms and zero for control firms. The treatment firms are those co-blockheld by mutual funds. $Time$ is a dummy variable that equals one for the second year after the firms share block common owners with other firms and zero for other quarters. $Controls_{\ i,t}$ reflects the same set of control variables (Inst-PCT, Inst-N, Size, Leverage, ROA, Beta, and B/M). $\alpha_{\ i}\ and\ \theta_{\ t}$ are the industry and quarter fixed effects. $\varepsilon_{i,t}$ is the error term. Continuous variables are winsorized at 1% and 99%. The results are presented in the following table:

The treatment firms experienced common ownerships at various times during our sample period, and these events mitigate the concern that confounding events surrounding any specific common ownership drive our results. We started by excluding all the firms in our sample that have common ownership throughout the period, i.e., firms that have block common ownership for every quarter between 2005-2021. For the remaining firms, we construct a (treatment) dummy that takes the value of 1 if a firm has a block common owner and zero otherwise. Then, we construct the post) dummy variable which takes the value of 1 for the second year after the year in which the firms experienced common ownership. The results are presented in Panel B in Table 19. The results indicate that compared to the controlled group, the treatment firms experience a significant reduction in their ICCs after the presence of common ownership.

8. Conclusion

In this research, we investigated whether the features of companies' network connectivity as a result of mutual fund common ownership affect the monitoring/ collusion incentives of those common owners. The aggregate findings indicate that when mutual funds co-owned non-financial firms across industries, they are more likely to monitor than to conspire. However, the effects of block common ownership are stronger than the effects of small common owners. Active (domestic) common owners are more active in monitoring compared to their passive (foreign) counterparts.

Table 15 Block Common Owners and Their incentives to Monitor or Collude During the Global Financial Crisis:

	(1) ICC_91	(2) ICC_91	(3) ICC_91	(4) ICC_91	(5) ICC_182	(6) ICC_182	(7) ICC_182	(8) ICC_182	(9) ICC_273	(10) ICC_273	(11) ICC_273	(12) ICC_273	(13) ICC_365	(14) ICC_365	(15) ICC_365	(16) ICC_365
Degree	.03				-.044				-.044				-.044			
	(.032)				(.033)				(.034)				(.034)			
Closeness		.067				-.089**				-.087*				-.086*		
		(.043)				(.045)				(.045)				(.045)		
Eigenvector			.015				-.027				-.026				-.026	
			(.034)				(.037)				(.038)				(.038)	
PCA				.036				-.055				-.053				-.053
				(.033)				(.035)				(.035)				(.035)
ORACTA	.031*	.032*	.033*	.03*	-.024	-.025	-.029	-.024	-.023	-.024	-.028	-.023	-.023	-.024	-.029	-.023
	(.017)	(.017)	(.018)	(.017)	(.016)	(.016)	(.018)	(.016)	(.016)	(.016)	(.018)	(.016)	(.016)	(.016)	(.018)	(.016)
N_ Analysts	.023	.023	.025	.022	-.03	-.03	-.032	-.029	-.039	-.039	-.042	-.038	-.039	-.039	-.042	-.038
	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)
Turnover	.02	.017	.023	.021	0	-.001	-.001	-.001	.003	.004	.002	.003	.003	.004	.002	.002
	(.071)	(.071)	(.07)	(.071)	(.054)	(.053)	(.053)	(.053)	(.056)	(.056)	(.056)	(.056)	(.057)	(.056)	(.056)	(.056)
Degree # ORACTA	-.024				.012				.011				.011			
	(.023)				(.024)				(.025)				(.025)			
Degree # N_ Analysts	-.042*				.054**				.055**				.054**			
	(.024)				(.027)				(.026)				(.026)			
Degree # Turnover	.051				-.031				-.039				-.039			
	(.044)				(.041)				(.041)				(.041)			
Closeness # ORACTA		-.023				.013				.016				.016		
		(.017)				(.018)				(.018)				(.018)		
Closeness # N_ Analysts		.004				-.003				-.006				-.006		
		(.038)				(.04)				(.04)				(.04)		
Closeness # Turnover		.058				-.013				-.029				-.029		
		(.049)				(.041)				(.042)				(.042)		
Eigenvector # ORACTA			-.001				-.02				-.022				-.022	
			(.055)				(.058)				(.064)				(.064)	
Eigenvector # N_ Analysts			-.043*				.055**				.056**				.056**	
			(.022)				(.026)				(.025)				(.025)	
Eigenvector # Turnover			.038				-.042				-.042				-.042	
			(.046)				(.047)				(.048)				(.048)	
PCA # ORACTA				-.024				.009				.011				.011
				(.025)				(.027)				(.028)				(.028)
PCA # N_ Analysts				-.039				.049*				.049*				.049*
				(.024)				(.026)				(.026)				(.026)
PCA # Turnover				.064				-.035				-.046				-.046
				(.049)				(.044)				(.045)				(.045)
Inst_ PCT	.113**	.092*	.131***	.108**	-.124***	-.106**	-.145***	-.118**	-.104**	-.086**	-.127***	-.099**	-.104**	-.086**	-.127***	-.099**
	(.051)	(.047)	(.05)	(.05)	(.046)	(.043)	(.046)	(.046)	(.045)	(.041)	(.046)	(.044)	(.045)	(.042)	(.046)	(.045)
Inst_ N	-.065	-.046	-.076	-.061	-.022	-.041	-.01	-.026	.02	.001	.034	.016	.022	.002	.035	.018
	(.074)	(.074)	(.073)	(.074)	(.065)	(.065)	(.064)	(.065)	(.067)	(.068)	(.066)	(.067)	(.068)	(.068)	(.066)	(.067)
Size	-.046	-.053	-.042	-.047	.113*	.12**	.11*	.114*	.087	.095	.083	.089	.087	.095	.083	.089
	(.062)	(.062)	(.062)	(.062)	(.06)	(.061)	(.06)	(.06)	(.06)	(.061)	(.06)	(.06)	(.06)	(.061)	(.06)	(.06)
Leverage	.009	.007	.011	.008	-.005	-.005	-.007	-.005	-.01	-.009	-.012	-.01	-.01	-.009	-.012	-.01
	(.014)	(.014)	(.015)	(.014)	(.011)	(.011)	(.011)	(.011)	(.013)	(.014)	(.014)	(.013)	(.013)	(.014)	(.014)	(.013)
ROA	.041*	.035*	.038*	.04*	-.038*	-.032	-.035*	-.036*	-.046**	-.04*	-.043**	-.045**	-.046**	-.04*	-.043**	-.045**
	(.022)	(.021)	(.021)	(.022)	(.021)	(.021)	(.021)	(.021)	(.022)	(.021)	(.021)	(.022)	(.022)	(.021)	(.021)	(.022)
Beta	-.054**	-.055**	-.052**	-.055**	.026	.026	.025	.026	.048**	.049**	.047**	.049**	.049**	.049**	.047**	.049**
	(.023)	(.023)	(.023)	(.023)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.023)	(.022)	(.022)	(.022)	(.023)	(.022)
B/M	.055*	.053*	.056*	.054*	-.041	-.04	-.042	-.04	-.045	-.045	-.047*	-.045	-.046*	-.045	-.047*	-.045
	(.031)	(.03)	(.031)	(.03)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)
_cons	-.038	-.048	-.028	-.043	-.032	-.028	-.039	-.028	-.006	-.001	-.016	-.003	-.006	0	-.015	-.002
	(.156)	(.156)	(.157)	(.156)	(.168)	(.168)	(.168)	(.168)	(.169)	(.169)	(.17)	(.169)	(.169)	(.169)	(.17)	(.169)
Observations	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880
R	.149	.152	.146	.15	.161	.161	.158	.161	.156	.157	.153	.157	.156	.157	.153	.157

	(17) ICC_456	(18) ICC_456	(19) ICC_456	(20) ICC_456	(21) ICC_547	(22) ICC_547	(23) ICC_547	(24) ICC_547	(25) ICC_638	(26) ICC_638	(27) ICC_638	(28) ICC_638	(29) ICC_730	(30) ICC_730	(31) ICC_730	(32) ICC_730
Degree	-.046				-.044				-.049				-.043			
	(.034)				(.034)				(.034)				(.034)			

Closeness		-.092**				-.087*				-.095**				-.078*		
		(.046)				(.045)				(.046)				(.042)		
Eigenvector			-.028				-.026				-.03				-.025	
			(.037)				(.037)				(.038)				(.038)	
PCA				-.058*				-.054				-.061*				-.048
				(.035)				(.035)				(.035)				(.035)
ORACTA	-.024	-.025	-.029	-.024	-.024	-.025	-.029	-.024	-.023	-.024	-.028	-.023	-.016	-.018	-.022	-.016
	(.017)	(.017)	(.018)	(.017)	(.016)	(.016)	(.018)	(.016)	(.016)	(.016)	(.018)	(.016)	(.018)	(.018)	(.021)	(.018)
N_ Analysts	-.026	-.026	-.027	-.025	-.034	-.034	-.037	-.033	-.031	-.031	-.032	-.029	-.055	-.055	-.058	-.054
	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)	(.047)
Turnover	.001	0	.001	0	0	0	-.001	-.001	.006	.006	.006	.006	.018	.021	.016	.017
	(.051)	(.05)	(.05)	(.05)	(.056)	(.055)	(.055)	(.056)	(.05)	(.049)	(.05)	(.05)	(.055)	(.055)	(.055)	(.055)
Degree # ORACTA	.012				.011				.012				.008			
	(.024)				(.024)				(.024)				(.029)			
Degree # N_ Analysts	.054**				.054**				.056**				.052**			
	(.027)				(.026)				(.027)				(.025)			
Degree # Turnover	-.027				-.035				-.031				-.053			
	(.04)				(.041)				(.041)				(.04)			
Closeness # ORACTA		.012				.014				.013				.019		
		(.018)				(.018)				(.018)				(.019)		
Closeness # N_ Analysts		-.002				-.004				-.003				-.011		
		(.041)				(.04)				(.041)				(.038)		
Closeness # Turnover		-.004				-.022				-.009				-.055		
		(.039)				(.042)				(.04)				(.039)		
Eigenvector # ORACTA			-.018				-.021				-.02				-.025	
			(.057)				(.061)				(.06)				(.077)	
Eigenvector # N_ Analysts			.055**				.055**				.057**				.053**	
			(.027)				(.026)				(.027)				(.023)	
Eigenvector # Turnover			-.043				-.041				-.045				-.041	
			(.047)				(.047)				(.048)				(.048)	
PCA # ORACTA				.009				.01				.009				.012
				(.027)				(.027)				(.027)				(.032)
PCA # N_ Analysts				.049*				.049*				.051*				.046*
				(.027)				(.026)				(.027)				(.025)
PCA # Turnover				-.029				-.041				-.034				-.065
				(.043)				(.044)				(.043)				(.043)
Inst_ PCT	-.13***	-.111**	-.151***	-.123***	-.116**	-.097**	-.137***	-.11**	-.12***	-.101**	-.142***	-.113**	-.043	-.028	-.067	-.039
	(.047)	(.044)	(.046)	(.046)	(.046)	(.042)	(.046)	(.045)	(.045)	(.042)	(.045)	(.044)	(.05)	(.047)	(.051)	(.05)
Inst_ N	-.045	-.064	-.033	-.05	0	-.019	.013	-.004	-.031	-.05	-.017	-.035	.103	.085	.117	.1
	(.063)	(.064)	(.062)	(.063)	(.066)	(.067)	(.065)	(.066)	(.063)	(.064)	(.062)	(.063)	(.073)	(.073)	(.072)	(.072)
Size	.123**	.13**	.12**	.125**	.101*	.108*	.097	.102*	.112*	.12**	.109*	.114*	.019	.027	.015	.021
	(.06)	(.061)	(.06)	(.06)	(.06)	(.061)	(.06)	(.06)	(.06)	(.06)	(.059)	(.06)	(.06)	(.061)	(.06)	(.06)
Leverage	-.002	-.002	-.004	-.002	-.008	-.007	-.01	-.008	-.004	-.004	-.006	-.004	-.018	-.017	-.021	-.018
	(.01)	(.01)	(.011)	(.01)	(.012)	(.012)	(.013)	(.012)	(.011)	(.011)	(.011)	(.011)	(.021)	(.021)	(.021)	(.021)
ROA	-.035	-.029	-.032	-.033	-.042*	-.036*	-.038*	-.04*	-.04*	-.034	-.037*	-.039*	-.061**	-.055**	-.058**	-.06**
	(.022)	(.021)	(.021)	(.022)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.027)	(.026)	(.026)	(.026)
Beta	.015	.016	.014	.015	.037*	.038*	.036	.037*	.025	.026	.024	.025	.092***	.092***	.09***	.092***
	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.023)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)	(.022)
B/M	-.037	-.037	-.038	-.036	-.044	-.043	-.045	-.043	-.038	-.037	-.039	-.037	-.047	-.045	-.048*	-.046
	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.027)	(.027)	(.027)	(.027)	(.028)	(.028)	(.029)	(.028)
_cons	-.045	-.043	-.051	-.042	-.018	-.014	-.027	-.015	-.036	-.034	-.043	-.032	.046	.055	.034	.05
	(.168)	(.167)	(.168)	(.167)	(.168)	(.168)	(.169)	(.168)	(.169)	(.169)	(.169)	(.169)	(.171)	(.17)	(.171)	(.171)
Observations	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880
R	.161	.161	.158	.161	.159	.16	.156	.16	.157	.158	.155	.158	.144	.145	.139	.144

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' block common ownership (5% or more) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies during the Global Financial Crisis (GFC) between March 2007 and December 2009. Degree: shows the number of blocks co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 16 Small Common Owners and Their incentives to Monitor or Collude During the Global Financial Crisis:

	(1) ICC_91	(2) ICC_91	(3) ICC_91	(4) ICC_91	(5) ICC_182	(6) ICC_182	(7) ICC_182	(8) ICC_182	(9) ICC_273	(10) ICC_273	(11) ICC_273	(12) ICC_273	(13) ICC_365	(14) ICC_365	(15) ICC_365	(16) ICC_365
Degree	.047				-.036				-.053				-.053			
	(.056)				(.06)				(.056)				(.056)			
Closeness		-.099				.075				.095				.095		
		(.119)				(.114)				(.113)				(.113)		
Eigenvector			-.596				.755				.739				.742	
			(.543)				(.467)				(.478)				(.479)	
PCA				-.034				.022				.026				.026
				(.056)				(.054)				(.055)				(.055)
ORACTA	.04**	.066	.034**	.041**	-.036*	-.06	-.028*	-.036*	-.032*	-.055	-.027*	-.033*	-.032*	-.055	-.027*	-.033*
	(.019)	(.051)	(.017)	(.019)	(.019)	(.045)	(.016)	(.018)	(.018)	(.043)	(.016)	(.018)	(.018)	(.043)	(.016)	(.018)
N_ Analysts	.028	.027	.022	.024	-.03	-.035	-.028	-.028	-.043	-.043	-.037	-.039	-.043	-.044	-.037	-.039
	(.046)	(.046)	(.048)	(.048)	(.046)	(.046)	(.048)	(.048)	(.046)	(.046)	(.048)	(.048)	(.046)	(.046)	(.048)	(.048)
Turnover	.001	-.017	.024	.012	.015	.038	.001	.009	.02	.04	.003	.011	.019	.04	.002	.01
	(.069)	(.057)	(.072)	(.072)	(.053)	(.05)	(.055)	(.055)	(.055)	(.051)	(.058)	(.058)	(.056)	(.051)	(.058)	(.058)
Degree # ORACTA	.005				-.007				-.004				-.004			
	(.006)				(.005)				(.006)				(.006)			
Degree # N_ Analysts	.004				0				-.003				-.003			
	(.014)				(.013)				(.013)				(.014)			
Degree # Turnover	-.022				.015				.016				.016			
	(.025)				(.019)				(.02)				(.02)			
Closeness # ORACTA		-.233				.232				.196				.197		
		(.371)				(.322)				(.303)				(.305)		
Closeness # N_ Analysts		-.086				.085				.089				.09		
		(.06)				(.054)				(.056)				(.056)		
Closeness # Turnover		.291				-.282				-.272				-.277		
		(.274)				(.26)				(.26)				(.26)		
Eigenvector # ORACTA			.003				-.004				-.004				-.004	
			(.008)				(.008)				(.008)				(.008)	
Eigenvector # N_ Analysts			.002				-.001				-.002				-.002	
			(.009)				(.009)				(.009)				(.009)	
Eigenvector # Turnover			-.008				.002				.004				.004	
			(.016)				(.013)				(.014)				(.014)	
PCA # ORACTA				.009				-.009				-.007				-.007
				(.01)				(.009)				(.009)				(.009)
PCA # N_ Analysts				.004				.002				-.002				-.002
				(.019)				(.018)				(.018)				(.018)
PCA # Turnover				-.017				.013				.011				.011
				(.035)				(.027)				(.028)				(.028)
Inst_ PCT	.139***	.141***	.139***	.139***	-.158***	-.159***	-.158***	-.158***	-.139***	-.141***	-.139***	-.139***	-.139***	-.141***	-.139***	-.139***
	(.048)	(.048)	(.048)	(.048)	(.044)	(.044)	(.044)	(.044)	(.044)	(.044)	(.044)	(.044)	(.044)	(.044)	(.044)	(.044)
Inst_ N	-.077	-.04	-.071	-.068	-.008	-.037	-.017	-.014	.036	-.001	.027	.028	.037	0	.028	.029
	(.074)	(.083)	(.076)	(.078)	(.064)	(.074)	(.067)	(.069)	(.067)	(.075)	(.069)	(.071)	(.067)	(.075)	(.069)	(.071)
Size	-.042	-.065	-.044	-.047	.111*	.128**	.114*	.114*	.084	.106*	.088	.088	.084	.106*	.088	.088
	(.062)	(.067)	(.063)	(.064)	(.061)	(.065)	(.061)	(.063)	(.06)	(.065)	(.061)	(.062)	(.06)	(.065)	(.061)	(.062)
Leverage	.012	.01	.012	.013	-.008	-.006	-.008	-.009	-.013	-.012	-.013	-.014	-.013	-.012	-.013	-.014
	(.015)	(.014)	(.015)	(.015)	(.012)	(.011)	(.012)	(.012)	(.015)	(.013)	(.014)	(.014)	(.015)	(.014)	(.014)	(.015)
ROA	.034	.033	.034	.034	-.03	-.03	-.03	-.031	-.039*	-.038*	-.038*	-.039*	-.038*	-.037*	-.038*	-.039*
	(.021)	(.021)	(.021)	(.021)	(.021)	(.02)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)
Beta	-.049**	-.049**	-.051**	-.051**	.021	.021	.022	.022	.043*	.043*	.045*	.045*	.044*	.043*	.045**	.045**
	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)
B/M	.056*	.061*	.056*	.057*	-.042	-.046	-.043	-.043	-.047*	-.051*	-.047*	-.048*	-.047*	-.051*	-.048*	-.048*
	(.031)	(.031)	(.031)	(.031)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)
_cons	-.001	-.007	-.123	-.033	-.062	-.057	.081	-.037	-.047	-.037	.102	-.013	-.046	-.036	.103	-.013
	(.157)	(.158)	(.166)	(.154)	(.168)	(.17)	(.166)	(.165)	(.17)	(.172)	(.169)	(.167)	(.17)	(.172)	(.169)	(.167)
Observations	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880
R	.143	.144	.142	.142	.153	.153	.152	.152	.147	.148	.147	.147	.148	.149	.147	.147
	(17) ICC_456	(18) ICC_456	(19) ICC_456	(20) ICC_456	(21) ICC_547	(22) ICC_547	(23) ICC_547	(24) ICC_547	(25) ICC_638	(26) ICC_638	(27) ICC_638	(28) ICC_638	(29) ICC_730	(30) ICC_730	(31) ICC_730	(32) ICC_730

Degree	-.029				-.045				-.036				-.081			
	(.062)				(.058)				(.06)				(.051)			
Closeness		.07				.084				.084				.135		
		(.113)				(.114)				(.112)				(.109)		
Eigenvector			.739				.756				.724				.583	
			(.459)				(.473)				(.449)				(.558)	
PCA				.021				.024				.024				.033
				(.053)				(.054)				(.053)				(.061)
ORACTA	-.037*	-.06	-.028*	-.036*	-.034*	-.058	-.028*	-.035*	-.035*	-.057	-.027*	-.035*	-.019	-.034	-.021	-.023
	(.019)	(.045)	(.017)	(.019)	(.018)	(.045)	(.016)	(.018)	(.018)	(.043)	(.016)	(.018)	(.019)	(.035)	(.018)	(.019)
N_ Analysts	-.025	-.031	-.024	-.023	-.036	-.039	-.033	-.033	-.031	-.035	-.029	-.029	-.065	-.056	-.053	-.059
	(.046)	(.046)	(.048)	(.048)	(.046)	(.046)	(.048)	(.048)	(.046)	(.046)	(.048)	(.048)	(.047)	(.046)	(.048)	(.048)
Turnover	.016	.038	.003	.011	.016	.039	0	.009	.022	.04	.008	.016	.033	.041	.016	.021
	(.05)	(.049)	(.052)	(.052)	(.055)	(.051)	(.057)	(.057)	(.05)	(.049)	(.051)	(.052)	(.055)	(.052)	(.056)	(.057)
Degree # ORACTA	-.007				-.005				-.007				.001			
	(.005)				(.006)				(.005)				(.007)			
Degree # N_ Analysts	.002				-.001				.001				-.009			
	(.013)				(.013)				(.013)				(.014)			
Degree # Turnover	.014				.016				.014				.015			
	(.018)				(.02)				(.018)				(.02)			
Closeness # ORACTA		.24				.218				.218				.079		
		(.32)				(.317)				(.302)				(.25)		
Closeness # N_ Analysts		.08				.089				.079				.079		
		(.053)				(.055)				(.054)				(.062)		
Closeness # Turnover		-.265				-.286				-.244				-.183		
		(.26)				(.26)				(.258)				(.264)		
Eigenvector # ORACTA			-.005				-.004				-.004				-.002	
			(.008)				(.008)				(.008)				(.008)	
Eigenvector # N_ Analysts			0				-.002				-.001				-.004	
			(.009)				(.009)				(.009)				(.01)	
Eigenvector # Turnover			.001				.003				.001				.006	
			(.012)				(.013)				(.012)				(.015)	
PCA # ORACTA				-.01				-.008				-.009				-.001
				(.009)				(.009)				(.008)				(.01)
PCA # N_ Analysts				.003				0				.002				-.009
				(.018)				(.018)				(.018)				(.019)
PCA # Turnover				.013				.012				.013				.006
				(.025)				(.028)				(.025)				(.028)
Inst_ PCT	-.164***	-.165***	-.164***	-.164***	-.149***	-.151***	-.15***	-.149***	-.156***	-.157***	-.156***	-.156***	-.079	-.081	-.079	-.079
	(.045)	(.044)	(.045)	(.045)	(.044)	(.044)	(.044)	(.044)	(.043)	(.043)	(.043)	(.043)	(.05)	(.05)	(.05)	(.05)
Inst_ N	-.032	-.056	-.04	-.037	.015	-.018	.006	.008	-.016	-.044	-.024	-.022	.121*	.071	.112	.109
	(.063)	(.072)	(.065)	(.068)	(.066)	(.075)	(.068)	(.071)	(.063)	(.071)	(.065)	(.068)	(.072)	(.078)	(.075)	(.075)
Size	.121**	.136**	.125**	.124*	.098	.118*	.102*	.102	.11*	.127**	.113*	.113*	.014	.044	.018	.021
	(.061)	(.065)	(.061)	(.063)	(.06)	(.065)	(.061)	(.063)	(.06)	(.064)	(.061)	(.063)	(.061)	(.064)	(.062)	(.062)
Leverage	-.005	-.004	-.005	-.006	-.011	-.009	-.01	-.011	-.007	-.006	-.007	-.008	-.021	-.021	-.021	-.023
	(.011)	(.011)	(.011)	(.011)	(.013)	(.012)	(.013)	(.013)	(.012)	(.011)	(.012)	(.012)	(.022)	(.021)	(.022)	(.022)
ROA	-.027	-.027	-.027	-.027	-.034*	-.033	-.034	-.034*	-.032	-.031	-.032	-.032	-.053**	-.052**	-.053**	-.054**
	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.02)	(.02)	(.02)	(.02)	(.026)	(.026)	(.027)	(.027)
Beta	.01	.01	.011	.011	.032	.032	.033	.033	.02	.02	.021	.021	.086***	.086***	.087***	.088***
	(.022)	(.023)	(.023)	(.022)	(.023)	(.023)	(.023)	(.023)	(.022)	(.023)	(.023)	(.023)	(.022)	(.022)	(.023)	(.023)
B/M	-.038	-.041	-.039	-.039	-.045	-.049*	-.046	-.046*	-.039	-.042	-.04	-.04	-.048*	-.053*	-.048*	-.049*
	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.028)	(.027)	(.027)	(.027)	(.027)	(.029)	(.029)	(.029)	(.029)
_cons	-.07	-.069	.065	-.05	-.054	-.046	.094	-.025	-.067	-.063	.07	-.042	-.013	.007	.127	.037
	(.168)	(.17)	(.165)	(.164)	(.169)	(.171)	(.168)	(.166)	(.169)	(.171)	(.165)	(.166)	(.172)	(.173)	(.178)	(.169)
Observations	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880
R	.152	.153	.152	.152	.151	.152	.151	.151	.148	.149	.148	.148	.135	.137	.134	.134

This table shows the results of Regressions with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' small common ownership (less than 5%) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies during the Global Financial Crisis (GFC) between March 2007 and December 2009. Degree: shows the number of co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 17 Block Common Owners and Their incentives to Monitor or Collude During Normal Times:

	(1) ICC_91	(2) ICC_91	(3) ICC_91	(4) ICC_91	(5) ICC_182	(6) ICC_182	(7) ICC_182	(8) ICC_182	(9) ICC_273	(10) ICC_273	(11) ICC_273	(12) ICC_273	(13) ICC_365	(14) ICC_365	(15) ICC_365	(16) ICC_365
Degree	.012				-.03*				-.026				-.025			
	(.015)				(.016)				(.016)				(.016)			
Closeness		-.007				-.014				-.012				-.012		
		(.014)				(.015)				(.015)				(.015)		
Eigenvector			.012				-.021				-.018				-.018	
			(.014)				(.015)				(.015)				(.015)	
PCA				.008				-.026*				-.022				-.022
				(.015)				(.016)				(.015)				(.015)
ORACTA	.011	.012	.012	.011	-.017*	-.014*	-.017*	-.016*	-.016*	-.015*	-.016*	-.015*	-.016*	-.015*	-.016*	-.016*
	(.01)	(.009)	(.01)	(.009)	(.009)	(.008)	(.01)	(.009)	(.009)	(.008)	(.009)	(.009)	(.009)	(.008)	(.009)	(.009)
N_ Analysts	-.002	-.001	-.002	-.002	.037**	.036**	.035**	.036**	.013	.012	.011	.012	.012	.012	.011	.012
	(.018)	(.018)	(.018)	(.018)	(.016)	(.016)	(.016)	(.016)	(.017)	(.017)	(.016)	(.017)	(.017)	(.017)	(.016)	(.017)
Turnover	-.004	.001	-.006	-.004	-.005	-.011	-.002	-.005	-.006	-.011	-.004	-.006	-.006	-.011	-.004	-.006
	(.011)	(.011)	(.011)	(.011)	(.01)	(.011)	(.01)	(.01)	(.01)	(.011)	(.01)	(.01)	(.01)	(.011)	(.01)	(.01)
Degree # ORACTA	-.01				-.009				.001				.001			
	(.017)				(.021)				(.02)				(.02)			
Degree # N_ Analysts	.005				.007				.002				.002			
	(.011)				(.011)				(.01)				(.01)			
Degree # Turnover	.021***				-.021***				-.021***				-.021***			
	(.006)				(.007)				(.007)				(.007)			
Closeness # ORACTA		-.009				0				.004				.004		
		(.01)				(.01)				(.011)				(.011)		
Closeness # N_ Analysts		-.005				.015				.012				.011		
		(.014)				(.013)				(.013)				(.013)		
Closeness # Turnover		.024**				-.024*				-.028**				-.028**		
		(.012)				(.014)				(.012)				(.012)		
Eigenvector # ORACTA			-.009				-.009				.003				.003	
			(.021)				(.025)				(.022)				(.022)	
Eigenvector # N_ Analysts			.009				.001				-.003				-.003	
			(.011)				(.01)				(.01)				(.01)	
Eigenvector # Turnover			.018***				-.019***				-.019***				-.019***	
			(.004)				(.005)				(.005)				(.005)	
PCA # ORACTA				-.011				-.006				.002				.002
				(.015)				(.018)				(.017)				(.017)
PCA # N_ Analysts				.005				.007				.003				.002
				(.011)				(.011)				(.011)				(.011)
PCA # Turnover				.021***				-.021***				-.021***				-.021***
				(.006)				(.006)				(.006)				(.006)
Inst_ PCT	.108***	.115***	.109***	.11***	-.105***	-.11***	-.111***	-.106***	-.09***	-.095***	-.096***	-.092***	-.091***	-.096***	-.096***	-.092***
	(.014)	(.014)	(.014)	(.014)	(.013)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)
Inst_ N	-.076***	-.083***	-.077***	-.078***	.041*	.044*	.045*	.041*	.062***	.065***	.065***	.062***	.063***	.066***	.066***	.063***
	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)
Size	.021	.023	.022	.022	.013	.011	.012	.013	-.007	-.008	-.008	-.007	-.007	-.008	-.008	-.007
	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)
Leverage	.002	.002	.002	.002	0	0	0	0	.001	.001	.001	.001	.001	.001	.001	.001
	(.008)	(.008)	(.008)	(.008)	(.009)	(.009)	(.009)	(.009)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
ROA	-.01	-.01	-.011	-.011	-.007	-.008	-.006	-.007	-.007	-.007	-.006	-.006	-.006	-.006	-.005	-.006
	(.011)	(.011)	(.011)	(.011)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Beta	-.053***	-.052***	-.053***	-.053***	.021*	.021*	.022*	.022*	.042***	.042***	.042***	.042***	.043***	.042***	.043***	.043***
	(.011)	(.011)	(.011)	(.011)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)
B/M	.004	.003	.004	.004	-.01	-.009	-.011	-.01	-.005	-.004	-.006	-.005	-.006	-.004	-.006	-.005
	(.009)	(.008)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.008)	(.009)	(.009)	(.009)	(.008)	(.009)	(.009)
_cons	-.774***	-.773***	-.78***	-.776***	.488***	.485***	.497***	.49***	.776***	.773***	.785***	.779***	.777***	.774***	.786***	.779***
	(.085)	(.087)	(.085)	(.086)	(.079)	(.079)	(.08)	(.079)	(.082)	(.082)	(.083)	(.082)	(.082)	(.083)	(.083)	(.082)
Observations	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491
R	.101	.1	.101	.101	.108	.107	.108	.108	.1	.099	.1	.1	.101	.1	.101	.1
	(17) ICC_456	(18) ICC_456	(19) ICC_456	(20) ICC_456	(21) ICC_547	(22) ICC_547	(23) ICC_547	(24) ICC_547	(25) ICC_638	(26) ICC_638	(27) ICC_638	(28) ICC_638	(29) ICC_730	(30) ICC_730	(31) ICC_730	(32) ICC_730
Degree	-.032**				-.028*				-.032**				-.015			
	(.016)				(.016)				(.016)				(.016)			

Closeness		-.016				-.012				-.017				-.01		
		(.015)				(.015)				(.015)				(.015)		
Eigenvector			-.023				-.019				-.022				-.01	
			(.015)				(.015)				(.015)				(.015)	
PCA				-.028*				-.024				-.028*				-.014
				(.016)				(.015)				(.016)				(.016)
ORACTA	-.017*	-.014*	-.017*	-.016*	-.016*	-.015*	-.017*	-.016*	-.016*	-.014*	-.017*	-.016*	-.011	-.013	-.011	-.012
	(.009)	(.008)	(.01)	(.009)	(.009)	(.008)	(.009)	(.009)	(.009)	(.008)	(.009)	(.009)	(.01)	(.009)	(.01)	(.01)
N_ Analysts	.048***	.048***	.047***	.048***	.025	.024	.023	.024	.039**	.038**	.037**	.038**	-.04**	-.041**	-.041**	-.041**
	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.016)	(.017)	(.017)	(.017)	(.017)
Turnover	-.005	-.011	-.002	-.005	-.006	-.011	-.003	-.005	-.006	-.012	-.003	-.006	-.009	-.012	-.007	-.008
	(.01)	(.011)	(.01)	(.01)	(.01)	(.011)	(.01)	(.01)	(.01)	(.011)	(.01)	(.01)	(.012)	(.012)	(.012)	(.012)
Degree # ORACTA	-.013				-.004				-.009				.023			
	(.021)				(.02)				(.021)				(.018)			
Degree # N_ Analysts	.01				.004				.008				-.008			
	(.011)				(.011)				(.011)				(.01)			
Degree # Turnover	-.021***				-.021***				-.021***				-.019***			
	(.007)				(.007)				(.007)				(.006)			
Closeness # ORACTA		-.001				.002				.001				.012		
		(.01)				(.011)				(.011)				(.013)		
Closeness # N_ Analysts		.017				.013				.017				.004		
		(.013)				(.013)				(.013)				(.014)		
Closeness # Turnover		-.022				-.026**				-.024*				-.033***		
		(.014)				(.013)				(.014)				(.01)		
Eigenvector # ORACTA			-.014				-.003				-.009				.027	
			(.026)				(.024)				(.025)				(.019)	
Eigenvector # N_ Analysts			.004				-.001				.002				-.01	
			(.01)				(.01)				(.01)				(.01)	
Eigenvector # Turnover			-.02***				-.019***				-.02***				-.016***	
			(.005)				(.005)				(.005)				(.004)	
PCA # ORACTA				-.01				-.002				-.006				.021
				(.018)				(.017)				(.018)				(.017)
PCA # N_ Analysts				.01				.005				.009				-.006
				(.011)				(.011)				(.011)				(.011)
PCA # Turnover				-.021***				-.021***				-.022***				-.02***
				(.007)				(.006)				(.007)				(.005)
Inst_ PCT	-.107***	-.112***	-.114***	-.109***	-.1***	-.105***	-.105***	-.101***	-.098***	-.103***	-.105***	-.099***	-.041***	-.044***	-.045***	-.042***
	(.013)	(.012)	(.012)	(.013)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.014)	(.014)	(.014)	(.014)
Inst_ N	.027	.03	.031	.027	.053**	.056**	.057**	.054**	.032	.035	.037	.033	.093***	.095***	.095***	.093***
	(.023)	(.024)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.023)	(.024)	(.024)	(.024)	(.024)
Size	.021	.019	.02	.021	.004	.002	.003	.003	.012	.01	.011	.012	-.049**	-.049**	-.05**	-.049**
	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.022)	(.022)	(.022)	(.022)
Leverage	-.001	-.001	0	-.001	0	0	0	0	.001	.001	.001	.001	.005	.005	.005	.005
	(.009)	(.009)	(.009)	(.009)	(.009)	(.008)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.008)	(.008)	(.008)	(.008)
ROA	-.01	-.01	-.008	-.009	-.006	-.006	-.005	-.006	-.011	-.012	-.01	-.011	-.008	-.008	-.007	-.008
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.011)	(.011)	(.011)	(.011)
Beta	.011	.011	.011	.011	.032***	.032***	.032***	.032***	.02*	.019*	.02*	.02*	.081***	.081***	.081***	.081***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)
B/M	-.011	-.01	-.012	-.011	-.008	-.007	-.009	-.008	-.008	-.007	-.009	-.008	.007	.008	.007	.007
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.008)	(.008)	(.008)	(.008)	(.008)	(.007)	(.008)	(.008)
_cons	.358***	.354***	.367***	.36***	.629***	.626***	.638***	.631***	.501***	.496***	.51***	.503***	1.326***	1.323***	1.334***	1.329***
	(.079)	(.078)	(.08)	(.079)	(.08)	(.08)	(.081)	(.08)	(.077)	(.077)	(.078)	(.077)	(.109)	(.109)	(.109)	(.109)
Observations	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491
R	.109	.108	.109	.109	.105	.104	.105	.105	.104	.103	.104	.103	.089	.089	.089	.089

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' block common ownership (5% or more) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies during normal times. Degree: shows the number of blocks co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 18 Small Common Owners and Their incentives to Monitor or Collude During Normal Times:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	ICC_91	ICC_91	ICC_91	ICC_91	ICC_182	ICC_182	ICC_182	ICC_182	ICC_273	ICC_273	ICC_273	ICC_273	ICC_365	ICC_365	ICC_365	ICC_365
Degree	.063				-.075*				-.072*				-.073*			
	(.043)				(.042)				(.041)				(.041)			
Closeness		.016				-.021				-.02*				-.02*		
		(.012)				(.013)				(.012)				(.012)		
Eigenvector			.102***				-.168***				-.134***				-.134***	
			(.033)				(.037)				(.035)				(.035)	
PCA				.02				-.035**				-.028*				-.029*
				(.015)				(.015)				(.015)				(.015)
ORACTA	.013	.011	.013	.013	-.015*	-.015*	-.015*	-.015*	-.016**	-.014*	-.016**	-.015*	-.016**	-.014*	-.016**	-.015*
	(.009)	(.009)	(.009)	(.009)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
N_ Analysts	-.003	.001	-.001	-.002	.035**	.03*	.034**	.031*	.012	.007	.01	.009	.012	.006	.01	.009
	(.018)	(.018)	(.018)	(.018)	(.017)	(.016)	(.016)	(.017)	(.017)	(.017)	(.017)	(.017)	(.017)	(.017)	(.017)	(.017)
Turnover	.016	.005	.005	.01	-.023	-.013	-.014	-.019	-.027	-.015	-.015	-.021	-.026	-.015	-.015	-.021
	(.019)	(.014)	(.015)	(.018)	(.02)	(.014)	(.016)	(.019)	(.019)	(.014)	(.016)	(.018)	(.019)	(.014)	(.016)	(.018)
Degree # ORACTA	-.002				0				-.005				-.004			
	(.011)				(.01)				(.01)				(.01)			
Degree # N_ Analysts	.009				-.002				-.007				-.007			
	(.01)				(.01)				(.01)				(.01)			
Degree # Turnover	-.028*				.024				.029				.029			
	(.017)				(.02)				(.018)				(.018)			
Closeness # ORACTA		.042				.008				-.033				-.033		
		(.03)				(.034)				(.032)				(.032)		
Closeness # N_ Analysts		-.014				.021				.02				.02		
		(.018)				(.019)				(.019)				(.019)		
Closeness # Turnover		-.001				.008				.003				.003		
		(.028)				(.03)				(.03)				(.03)		
Eigenvector # ORACTA			-.002				.002				.002				.002	
			(.005)				(.005)				(.005)				(.005)	
Eigenvector # N_ Analysts			.001				-.002				-.002				-.002	
			(.009)				(.009)				(.009)				(.009)	
Eigenvector # Turnover			-.011				.013				.011				.011	
			(.011)				(.009)				(.009)				(.009)	
PCA # ORACTA				.004				-.001				-.011				-.011
				(.014)				(.014)				(.013)				(.013)
PCA # N_ Analysts				.009				0				-.005				-.005
				(.013)				(.013)				(.013)				(.013)
PCA # Turnover				-.026				.024				.028				.028
				(.024)				(.028)				(.027)				(.027)
Inst_ PCT	.114***	.114***	.114***	.114***	-.117***	-.117***	-.117***	-.117***	-.101***	-.102***	-.102***	-.102***	-.102***	-.102***	-.102***	-.102***
	(.014)	(.014)	(.014)	(.014)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)
Inst_ N	-.093***	-.095***	-.083***	-.097***	.063**	.075***	.052**	.076***	.083***	.089***	.072***	.091***	.084***	.091***	.073***	.093***
	(.025)	(.028)	(.023)	(.028)	(.025)	(.028)	(.023)	(.028)	(.025)	(.028)	(.023)	(.028)	(.025)	(.028)	(.023)	(.028)
Size	.031	.03	.025	.032	.001	-.004	.008	-.005	-.018	-.02	-.011	-.021	-.018	-.02	-.011	-.021
	(.022)	(.023)	(.021)	(.023)	(.022)	(.023)	(.021)	(.023)	(.022)	(.023)	(.021)	(.023)	(.022)	(.023)	(.021)	(.023)
Leverage	.002	.002	.002	.002	0	0	0	0	.001	.001	.001	.001	.001	.001	.001	.001
	(.008)	(.008)	(.008)	(.008)	(.009)	(.009)	(.009)	(.009)	(.008)	(.009)	(.008)	(.009)	(.008)	(.008)	(.008)	(.008)
ROA	-.007	-.007	-.008	-.007	-.01	-.011	-.009	-.011	-.01	-.01	-.008	-.01	-.009	-.009	-.008	-.01
	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)
Beta	-.052***	-.052***	-.052***	-.052***	.021*	.021*	.021*	.021*	.042***	.041***	.042***	.042***	.042***	.042***	.042***	.042***
	(.011)	(.011)	(.011)	(.011)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)
B/M	.002	.002	.002	.002	-.009	-.007	-.009	-.008	-.004	-.003	-.004	-.003	-.004	-.003	-.004	-.003
	(.008)	(.008)	(.009)	(.008)	(.009)	(.009)	(.009)	(.009)	(.009)	(.008)	(.009)	(.008)	(.009)	(.009)	(.009)	(.008)
_cons	-.73***	-.77***	-.746***	-.771***	.441***	.5***	.456***	.487***	.733***	.781***	.747***	.778***	.734***	.781***	.748***	.779***
	(.089)	(.087)	(.086)	(.086)	(.081)	(.08)	(.078)	(.078)	(.086)	(.084)	(.083)	(.083)	(.086)	(.084)	(.083)	(.083)
Observations	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491
R	.1	.1	.1	.1	.106	.106	.106	.106	.099	.099	.098	.099	.099	.099	.099	.099
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
	ICC_456	ICC_456	ICC_456	ICC_456	ICC_547	ICC_547	ICC_547	ICC_547	ICC_638	ICC_638	ICC_638	ICC_638	ICC_730	ICC_730	ICC_730	ICC_730

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Degree	-.073*				-.075*				-.07*				-.052			
	(.043)				(.042)				(.042)				(.039)			
Closeness		-.02				-.021*				-.018				-.013		
		(.013)				(.013)				(.013)				(.012)		
Eigenvector			-.18***				-.153***				-.163***				-.036	
			(.04)				(.035)				(.036)				(.056)	
PCA				-.036**				-.032**				-.032**				-.007
				(.015)				(.015)				(.015)				(.016)
ORACTA	-.015*	-.016*	-.014*	-.015*	-.016*	-.015*	-.016*	-.015*	-.015*	-.015*	-.015*	-.015*	-.015*	-.009	-.015*	-.013
	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.009)	(.009)	(.009)	(.009)
N_ Analysts	.045***	.041**	.046***	.042**	.023	.018	.022	.02	.037**	.032**	.036**	.034**	-.038**	-.043**	-.043**	-.038**
	(.016)	(.016)	(.016)	(.016)	(.017)	(.016)	(.016)	(.017)	(.016)	(.016)	(.016)	(.016)	(.017)	(.017)	(.017)	(.018)
Turnover	-.022	-.013	-.013	-.018	-.025	-.014	-.014	-.02	-.025	-.014	-.015	-.02	-.032*	-.019	-.018	-.025
	(.021)	(.014)	(.016)	(.019)	(.02)	(.014)	(.016)	(.019)	(.021)	(.014)	(.016)	(.019)	(.017)	(.014)	(.015)	(.016)
Degree # ORACTA	.001				-.002				-.001				-.014			
	(.01)				(.01)				(.01)				(.01)			
Degree # N_ Analysts	-.001				-.004				-.003				-.015			
	(.01)				(.01)				(.01)				(.01)			
Degree # Turnover	.022				.026				.025				.037**			
	(.021)				(.019)				(.02)				(.016)			
Closeness # ORACTA		.026				-.012				.007				-.119***		
		(.035)				(.033)				(.034)				(.035)		
Closeness # N_ Analysts		.021				.021				.021				.016		
		(.019)				(.019)				(.019)				(.019)		
Closeness # Turnover		.011				.005				.01				-.006		
		(.03)				(.03)				(.031)				(.028)		
Eigenvector # ORACTA			.002				.002				.002				.001	
			(.006)				(.005)				(.005)				(.007)	
Eigenvector # N_ Analysts			-.002				-.002				-.002				-.001	
			(.009)				(.009)				(.009)				(.01)	
Eigenvector # Turnover			.014				.012				.013				.003	
			(.009)				(.009)				(.008)				(.011)	
PCA # ORACTA				.004				-.005				-.001				-.032**
				(.014)				(.014)				(.013)				(.015)
PCA # N_ Analysts				.002				-.003				-.001				-.017
				(.013)				(.013)				(.013)				(.014)
PCA # Turnover				.023				.026				.026				.033
				(.029)				(.027)				(.029)				(.023)
Inst_ PCT	-.12***	-.12***	-.12***	-.12***	-.111***	-.111***	-.111***	-.111***	-.111***	-.111***	-.111***	-.111***	-.049***	-.049***	-.05***	-.049***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.014)	(.014)	(.014)	(.014)
Inst_ N	.049*	.062**	.038	.063**	.075***	.084***	.063***	.086***	.054**	.065**	.044*	.066**	.109***	.102***	.101***	.105***
	(.025)	(.028)	(.023)	(.028)	(.025)	(.028)	(.023)	(.028)	(.025)	(.028)	(.023)	(.028)	(.026)	(.029)	(.024)	(.029)
Size	.009	.003	.015	.003	-.008	-.012	-.001	-.013	0	-.004	.006	-.005	-.059***	-.053**	-.053**	-.056**
	(.022)	(.023)	(.021)	(.023)	(.022)	(.023)	(.021)	(.023)	(.022)	(.023)	(.021)	(.023)	(.022)	(.023)	(.022)	(.023)
Leverage	0	-.001	0	-.001	0	0	.001	0	.001	.001	.001	0	.005	.005	.005	.005
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.008)	(.008)	(.008)	(.008)
ROA	-.012	-.013	-.011	-.013	-.009	-.009	-.008	-.01	-.014	-.014	-.013	-.015	-.011	-.01	-.009	-.01
	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)	(.011)
Beta	.011	.01	.01	.01	.032***	.031***	.031***	.032***	.02*	.019	.019	.019	.082***	.08***	.081***	.081***
	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.012)	(.011)	(.011)	(.011)	(.011)
B/M	-.01	-.008	-.01	-.009	-.007	-.005	-.007	-.006	-.007	-.005	-.007	-.006	.008	.008	.008	.008
	(.009)	(.008)	(.009)	(.008)	(.009)	(.009)	(.009)	(.009)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)	(.008)
_cons	.311***	.372***	.325***	.356***	.583***	.637***	.598***	.629***	.457***	.511***	.469***	.501***	1.301***	1.312***	1.309***	1.334***
	(.081)	(.079)	(.078)	(.078)	(.083)	(.081)	(.08)	(.08)	(.08)	(.078)	(.077)	(.077)	(.114)	(.111)	(.111)	(.111)
Observations	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491	17491
R	.108	.108	.107	.108	.104	.103	.103	.103	.102	.102	.102	.102	.089	.088	.088	.088

This table shows the results of the Regression with Newey–West Standard Errors that accounts for autocorrelation and heteroskedasticity of mutual funds' small common ownership (less than 5%) on the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days) of S&P500 non-financial companies during normal times. Degree: shows the number of co-owners the firm shares with other firms in the same quarter. Closeness: this shows the centrality of a firm in the network to other firms. Eigenvector measures a node's importance while considering the importance of its neighbours. PCA is the Principal Component Analysis of network measures. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets. Turnover is the trading volume divided by the shares outstanding. Continuous variables are winsorised at the 1% and 99% levels and are defined in Appendix A. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors are in parentheses. All variables in the table are quarterly.

Table 19 Propensity Score Matching and Difference-in-difference analyses:

Panel A: Descriptive Statistics for the criteria's variables used to define control and treatment groups:

	Before Matching						**After Matching**					
Variable	**Untreated Group**		**Treated Group**		**Difference in Mean (t-test)**		**Control Group**		**Treated Group**		**Difference in Mean (t-test)**	
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**t**	**p>|t|**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**t**	**p>|t|**
Size	8.972	1.461	8.218	1.445	23.856***	0.000***	8.21	1.393	8.239	1.418	0.38	0.704
Leverage	-0.57	31.30	0.004	12.258	-1.512	0.131	-.247	21.42	.005	12.283	0.10	0.923
Tobin's Q	2.148	2.472	2.263	2.882	-1.868	0.062	2.21	2.231	2.267	2.886	-0.71	0.479
Obs.	11231		2600				2570		2570			

Panel B: Difference- in-difference analysis (DID):

	(1) ICC_91	(2) ICC_182	(3) ICC_273	(4) ICC_365	(5) ICC_456	(6) ICC_547	(7) ICC_638	(8) ICC_730
Treatment	-.16***	.088**	.088**	.091**	.077*	.093**	.068	.059
	(.042)	(.041)	(.042)	(.042)	(.041)	(.042)	(.042)	(.042)
Time [+2]	-.118*	.042	.04	.042	.035	.045	.025	.014
	(.064)	(.066)	(.066)	(.066)	(.066)	(.066)	(.066)	(.066)
Treatment # Time	.296***	-.232***	-.246***	-.249***	-.214***	-.244***	-.212***	-.228***
	(.075)	(.078)	(.079)	(.079)	(.078)	(.078)	(.079)	(.079)
Inst-PCT	.15***	-.154***	-.117***	-.118***	-.163***	-.139***	-.141***	-.009
	(.011)	(.011)	(.01)	(.01)	(.011)	(.011)	(.01)	(.01)
Inst-N	-.099***	.06**	.075**	.076***	.048*	.07**	.051*	.09***
	(.03)	(.029)	(.03)	(.03)	(.029)	(.029)	(.029)	(.031)
Size	.04	-.027	-.039	-.038	-.023	-.032	-.032	-.065*
	(.033)	(.032)	(.032)	(.032)	(.032)	(.032)	(.032)	(.033)
Leverage	-.048	.062	.06	.059	.064	.061	.065	.05
	(.043)	(.045)	(.045)	(.045)	(.045)	(.045)	(.046)	(.039)
ROA	-.021	.015	.012	.012	.015	.014	.012	0
	(.014)	(.014)	(.014)	(.014)	(.015)	(.014)	(.014)	(.015)
Beta	-.031	-.001	.019	.019	-.012	.01	-.005	.057***
	(.02)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.02)
B/M	.115***	-.095***	-.102***	-.103***	-.087***	-.1***	-.088***	-.098***
	(.027)	(.025)	(.025)	(.025)	(.025)	(.025)	(.025)	(.026)
_cons	-.721***	.551***	.788***	.789***	.443**	.667***	.563***	1.225***
	(.228)	(.183)	(.182)	(.182)	(.18)	(.184)	(.179)	(.164)
Observations	4772	4772	4772	4772	4772	4772	4772	4772
R-squared	.131	.121	.114	.114	.122	.118	.115	.112

This table presents the estimation results for PSM and DID. Panel A shows descriptive statistics comparing treated and control firms. The last column reports the p-value of the difference-in-means. Panel B repots difference-in-differences (DID) regressions that examine the effects of common ownership in the term structure of ICCs ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days). Treatment is an indicator variable that equals one for treatment firms and zero for control firms. The treatment firms are those co-blockheld by mutual funds, excluding firms that have common ownership throughout the period. Time is a dummy variable that equals one for two-year after the treatment firms share block common owners with other firms. Size is the log of total assets. Leverage is total debt/ total equity. Tobin's Q is the market value of a company divided by its assets' replacement cost. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. Continuous variables are winsorized at the 1% and 99% levels. Standard errors are robust. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

The appendix:
Appendix A:

1- Industries Distribution in the sample:

Table 1 Frequency of industries in the sample between 2005-2021

# Fama-French 48 Classification	Industry name	Frequency
1	Agriculture	11
2	Food Products	991
3	Candy & Soda	136
4	Beer & Liquor	272
5	Tobacco Products	124
6	Recreation	93
7	Entertainment	274
8	Printing and Publishing	53
9	Consumer Goods	478
10	Apparel	136
11	Health Care	251
12	Medical Equipment	1010
13	Pharmaceutical Products	1558
14	Chemical	844
15	Rubber and Plastic Products	68
17	Construction Materials	407
18	Construction	340
19	Steel Works Etc.	136
21	Machinery	892
22	Electrical Equipment	184
23	Automobiles and Trucks	235
24	Aircraft	468
25	Shipbuilding	68
26	Defense	68
27	Precious Materials	68
28	Metallic and Industrial Metal Mining	272
30	Petroleum and Natural Gas	1575
31	Utilities	2327
32	Communication	773
33	Personal Services	204
34	Business Services	974
35	Computers	536
36	Electronic Equipment	3010
37	Measuring and Control Equipment	1757
38	Business Supplies	1083
39	Shipping Containers	272
40	Transportation	231
41	Wholesale	981
42	Retail	979
43	Restaurants, Hotels, Motels	1386
44	Banking	506

2. **Definitions of the Variables:**

Table 2 Definitions of the Variables:

Variables	Definition	Source
Dependent Variable:		
ICC_91	One quarter ahead implied cost of capital	Author's calculation as described in Callen and Lyle (2020)
ICC_182	Two quarters ahead implied cost of capital	Author's calculation as described in Callen and Lyle (2020)
ICC_273	Three quarters ahead implied cost of capital	Author's calculation as described in Callen and Lyle (2020)
ICC_365	Four quarters ahead implied cost of capital	Author's calculation as described in Callen and Lyle (2020)
ICC_456	Five quarters ahead implied cost of capital	Author's calculation as described in Callen and Lyle (2020)
ICC_547	Six quarters ahead implied cost of capital	Author's calculation as described in Callen and Lyle (2020)
ICC_638	Seven quarters ahead implied cost of capital	Author's calculation as described in Callen and Lyle (2020)
ICC_730	Eight quarters ahead implied cost of capital	Author's calculation as described in Callen and Lyle (2020)
Independent Variables:		
Degree	**Degree:** shows the number of links (common owners) the node (firm) shares with other (nodes) firms in the same quarter. ● In cases of Block common owners, the degree shows the number block common owners (holdings 5 percent or more). ● In cases of Small common owners, the degree shows the number small common owners (holdings less than 5 percent).	Author's calculation using Gephi software.
Closeness	**Closeness:** shows the centrality of node (firm) in the network to other (nodes) firms. ● In cases of Block common owners, the closeness shows the farness of firms sharing block common owners (holdings 5 percent or more). ● In cases of Small common owners, the closeness shows the farness of firms share small common owners (holdings less than 5 percent).	Author's calculation using Gephi software.
Eigenvector	**Eigenvector**: measures a node's importance while considering the importance of its neighbours. ● In cases of Block common owners, the eigenvector shows the importance of firms sharing block common owners (holdings 5 percent or more). ● In cases of Small common owners, the eigenvector shows the importance of firms share small common owners (holdings less than 5 percent).	Author's calculation using Gephi software.
PCA	PCA is the Principal Component Analysis of network measures Degree, Closeness, and Eigenvector.	Author's calculation
Control Variables:		
Inst-PCT	The total of the percentages of all institutional owners in firm i at the end of quarter t.	Author's calculation
Inst-N	The total of the number of all institutional owners in firm i at the end of quarter t.	Author's calculation
Size	The natural logarithm of total assets at the end of quarter t	Author's calculation
Leverage	calculated by dividing the total debt by the total equity.	Author's calculation
B/M	Book to market ratio: book price per share/market price per share.	Author's calculation
Beta	Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years (with at least three years of data).	Author's calculation
ROA	ROA is the return on assets.	Compustat.
N-Analysts	Is the number of analysts following a firm.	I/B/E/S database
ORACTA	Is the value of a company's other receivables divided by the value of all its assets.	Author's calculation
Turnover	Is the trading volume divided by the shares outstanding	Author's calculation

3. Descriptive Statistics:

Table 3 Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.
ICC_91	20371	.08	.006
ICC_182	20371	.07	.005
ICC_273	20371	.078	.006
ICC_365	20371	.082	.008
ICC_456	20371	.082	.005
ICC_547	20371	.081	.006
ICC_638	20371	.087	.005
ICC_730	20371	.1	.011
Degree_Block	20371	.444	1.486
Degree_Small	20371	5.89	.332
Closeness_Block	20371	.103	.288
Closeness_Small	20371	.997	.021
Eigenvector_Block	20371	.032	.151
Eigenvector_Small	20371	.297	1.80
B/M	20371	.353	.406
Size	20371	9.168	1.516
Leverage	20371	-.159	26.463
Inst-PCT	20371	37.318	15.579
ROA	20371	.015	.031
Beta	20371	.237	.471
Inst-N	20371	6.52	.9
N-Analysts	20371	29.31	19.24
ORACTA	20371	.012	.039
Turnover	20371	.211	.266

This table presents the descriptive statistics of the variables used in this paper. ICC_91, ICC_182, ICC_273, ICC_365, ICC_456, ICC_547, ICC_638, and ICC_730 are the term structure of implied cost of capital ranging from one-quarter ahead (91 days) up to eight-quarters ahead (730 days). Degree: shows the number of co-owners the firm shares with other firms in the same quarter. Degree_Small shows the degree for common owners holding less than 5%. Degree_Block shows the degree for common owners holding 5% or more. Closeness: this shows the centrality of a firm in the network to other firms. Closeness_Small shows the closeness for common owners holding less than 5%. Closeness_Block shows the closeness for common owners holding 5% or more. Eigenvector measures a node's importance while considering the importance of its neighbours. Eigenvector_Small shows the eigenvector for common owners holding less than 5%. Eigenvector_Block shows the eigenvector for common owners holding 5% or more. Size is the log of total assets. Leverage is total debt/ total equity. B/M is the book value of equity/market value of equity. Beta is the coefficient of regressing companies' stock returns on the S&P500 returns over the past three years. ROA is the return on assets. Inst-PCT is the percentage of shares held by all institutional investors. Inst-N is the number of all institutional investors in the firm. N-Analysts is the number of analysts following a firm from I/B/E/S database. ORACTA is the value of a company's other receivables divided by the value of all its assets.

4. The setup:

4.1. Unit Root Test:

We began our examination by determining if the data series was stationary using the Phillips-Perron test. The following table presents the unit root tests. The null hypothesis is that the variable has a unit root, while the alternative is that a stationary process forms the variable. The Phillips–Perron (1988) test employs Newey–West (1987) standard errors to account for serial correlation. The results suggest that the data are stationary.

4.2. Breusch and Pagan Lagrangian Multiplier Test:

We further used the Breusch and Pagan (1980) Lagrange multiplier test for random effects, a test that Var(v_i) =0. Moreover, the results indicate the Pooled OLS regression is preferable.

4.3. Serial Autocorrelation Test:

In this paper, we tested for the presence of serial autocorrelation using the Wooldridge test (Wooldridge, 2002). According to Drukker (2003), the Wooldridge autocorrelation test may be used to imbalanced panel data with or without observational gaps. In addition, this test is more efficient since it relaxes several specification requirements, such as unobserved individual fixed effects, heteroskedasticity, and the need for non-stochastic regressors (Drukker, 2003). The null hypothesis of these tests is that there is no serial correlation in the data set. The results show the p-value is less than 0.05, which states that the data shows serial correlation.

4.4.Heteroskedasticity:

We further tested for the presence of heteroskedasticity by implementing the Breusch-Pagan (1979) and Cook-Weisberg (1983) (Breusch–Pagan/Cook–Weisberg) test. The test detects any linear form of heteroskedasticity. Moreover, the results show that there is heteroskedasticity.

4.5.Regression Using Newey –West Standard Errors:

Due to the presence of the autocorrelation and the heteroskedasticity and the nature of our data N =385> T=68, we used the Newey-West (1978) standard errors for coefficients estimated by OLS regression. In determining the maximum lag order of autocorrelation, we followed the rule of thumb described in Greene's (2018) textbook, as follows:

$$m = int(T^{\frac{1}{4}})$$

Solving the problem gives as the lag order of (2).

Appendix B:

5. Constructing the Term Structure of Implied Cost of Capital:

We calculate the implied costs of equity using Callen and Lyle 2020 model which built on the multi-period pricing model of Ang and Liu (2004) in which discount rates are permitted to fluctuate over time. First, we compute the $ICC_{t,t+T}$ by stating that the market value of the company's equity can be expressed as:

$$S_t = \frac{E_t[D_{t+1} + S_{t+1}]}{ICC_{t,t+1}}$$

So that:

$$ICC_{t,t+1} = \frac{E_t[D_{t+1} + S_{t+1}]}{S_t}$$

After estimating $ICC_{t,t+1}$, we solve for $ICC_{t,t+2}$:

$$ICC_{t,t+2} = \frac{E_t[D_{t+2} + S_{t+2}]}{\frac{S_t - E_t[D_{t+1}]}{ICC_{t,t+1}}}$$

Detail description of how we construct the term structure of implied cost of equity capital following the paper: "The term structure of implied cost of equity capital":

A: We collect the data From the OptionMetric database provided by WRDS as follows:

(1) From the OptionMetric, the data for the volatility surface for the S&P500 companies have been collected for the period 2005-2021.

(2) From the OptionMetric, the data for the security prices for the S&P500 companies have been collected for the period 2005-2021.
(3) From the OptionMetric, the data for the option contract on the S&P500 index have been collected for the period 2005-2021.
(4) From the OptionMetric, the data for the dividend's projections for the S&P500 companies have been collected for the period 2005-2021.
(5) From the OptionMetric, the data for the zero-coupon interest rate have been collected for the period 2005-2021.

B: The utilisation of the collected data:

B.1. Synthesis Futures contracts and calculating the ICC:

(1) From the OptionMetrics volatility surface file, for each company, we identify the call and put that have the same maturity and strike price.
(2) For those collected puts and calls, we collect their implied volatility from the same file and use those volatility to calculate the corresponding European options using the Black-Scholes option pricing. In doing so, we use the continuous compounding interest rates in OptionMtrics zero-coupon bond file and we account for early exercise premium.
(3) We then use those resulting options to synthesis futures contracts using the following equation:

$$F_{t,t+T} = \left[C_{t+T}^{bs}\left(\sigma_c^{iv}(t,t+T)\right) - P_{t+T}^{bs}\left(\sigma_p^{iv}(t,t+T)\right)\right] Rf_{t,t+T} + K$$

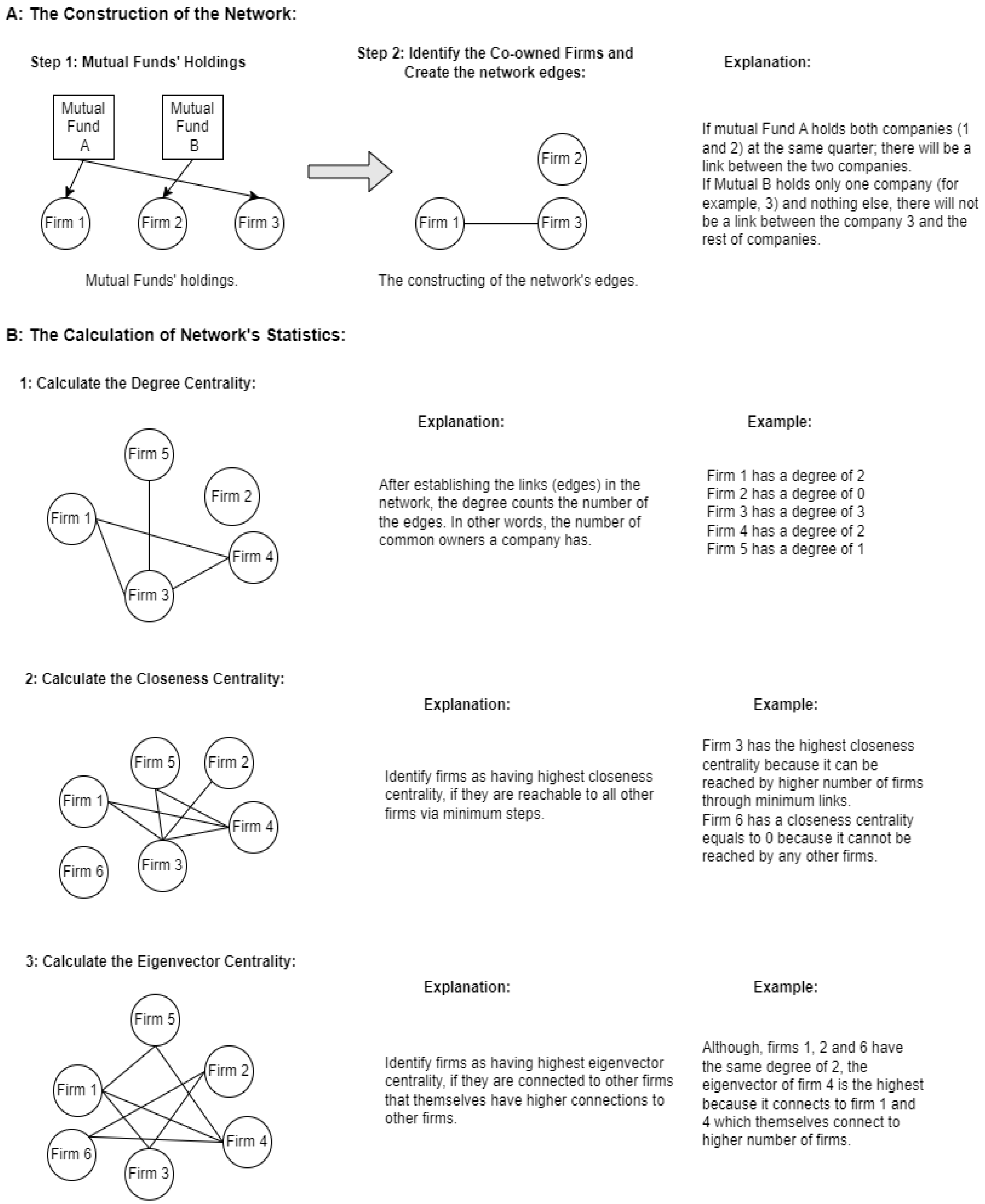
where $\sigma_c^{iv}(t,t+T)$ and $\sigma_p^{iv}(t,t+T)$ denote the implied volatilities of call and put at time $t+T$ (evaluated at time t), respectively. $Rf_{t,t+T}$is the risk-free rate. K is the strike price.

(4) We then used those futures to calculate the ICC using the following equation:

$$ICC_{t,t+T} = \begin{cases} \dfrac{F_{t,t+1} + E_t[D_{t+1}]}{S_t} + Rf_{t,t+T} Corr_t\left(R_{t,t+1}^M, \dfrac{S_{t+1}}{S_t}\right) \sigma_{t,t+1}^M \sigma_{t,t+1}^S & T = 1 \\ \dfrac{F_{t,t+T} + E_t[D_{t+T}]}{S_t - \sum_{i=1}^{T-1} ICC_{t,t+i}^{-1} E_t[D_{t+i}]} + \dfrac{S_t Rf_{t,t+T} Corr_t\left(R_{t,t+T}^M, \dfrac{S_{t+T}}{S_t}\right) \sigma_{t,t+T}^M \sigma_{t,t+T}^S}{S_t - \sum_{i=1}^{T-1} ICC_{t,t+i}^{-1} E_t[D_{t+i}]} & T > 1 \end{cases}$$

Where S_t Is the market value of the company's equity at time t. $ICC_{t,t+T}$ Indicate the discount rate at time t for predicted cash flows to be paid out to stockholders at time $t+T$. E_t Is the conditional time t expectations operator and D_{t+1} represents dividends paid out in cash at time $t+T$. $Rf_{t,t+T}$ Is the return at time t on a risk-free bond that will be obtained at time $t+T$. $Corr_t\left(R_{t,t+T}^M, \frac{S_{t+T}}{S_t}\right)$ represents the conditional correlation (at time t) between the market portfolio's return and the company equity's return throughout the period t to $t+T$, $\sigma_{t,t+T}^M$ represents the conditional volatility (at time t) of the market portfolio's return throughout the period t to $t+T$, and $\sigma_{t,t+T}^S$Denote the conditional volatility (at time t) of firm equity's return throughout the period t to $t + T$. $F_{t,t+1}$ are the synthesised futures contracts from call and put options using the put-call parity.

6. Construct the Network Analysis:



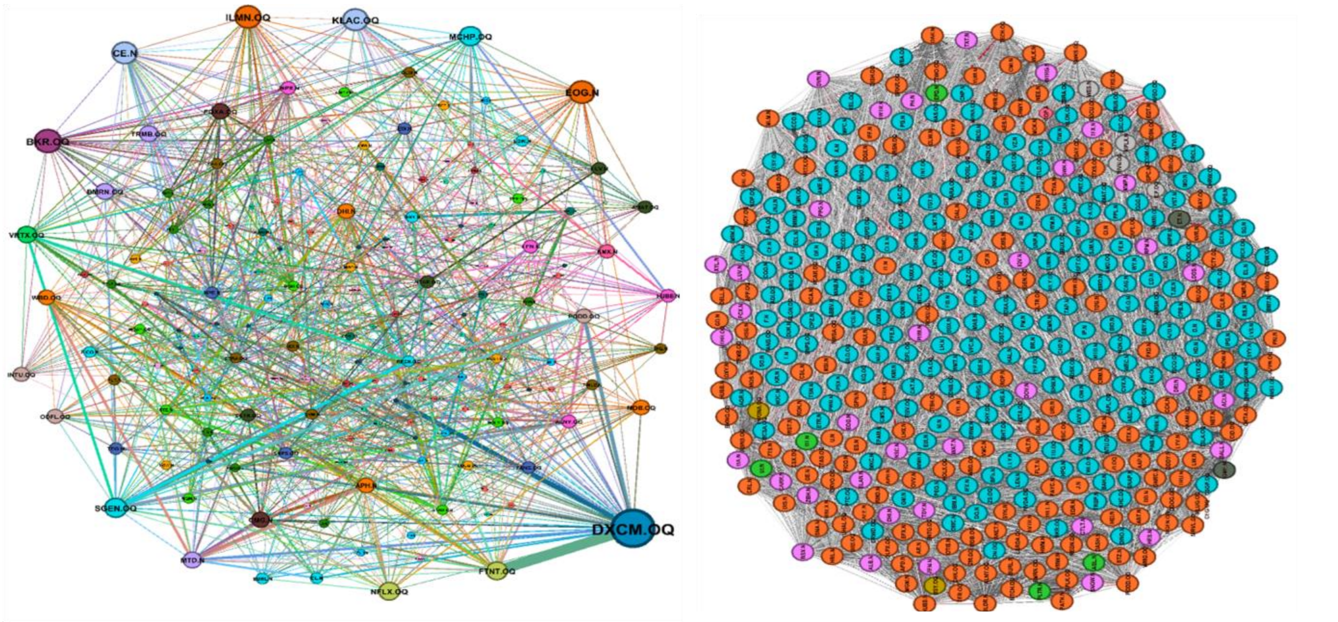


Figure A: Block Common Mutual Funds.

Figure B: Small Common Mutual Funds.

Figure 1 Visualisations of the networks formed by Block common mutual funds and Small common mutual funds. This figure illustrates the degree of the firms in the network formed by mutual funds' common ownership. It shows that the ties between firms become intense in the case of small common owners compared to block common owners, indicating that firms in the former case are closer to each other and have advantages in transferring information.

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