EXIT THREAT AND STOCK LIQUIDITY: EVIDENCE FROM OPEN-ENDED PENSION FUNDS' REFORM IN POLAND

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Disclaimer: This is a very early draft of the paper and describes research at a very early stage. Not all parts of the manuscript have been completed, and some important elements are missing or incomplete.

Abstract: In the traditional view, stock liquidity serves as an efficient governance mechanism by facilitating the blockholders' exit and thus increasing the exit threat. This, in turn, mitigates agency problems. However, the literature suggests that the relationship between stock liquidity and corporate governance is likely to be endogenous due to the reverse causality. In this paper, we address this issue by investigating whether an increase in the blockholder exit threat improves stock liquidity. To this end, we utilise a difference-in-differences methodology and a quasi-natural experiment from the 2014 reform of Open-Ended Pension Funds' (OFEs) in Poland. The results suggest that subsequent to the reform, which increased the exit threat of OFEs, there was a decline in stock liquidity of the treated companies, although this decline was not statistically significant. This observation suggests that other factors may be confounding the results, and that further studies in this area are needed to disentangle the pure effect of an increased blockholder exit threat. Given the beneficial role of stock liquidity for capital market efficiency and development, our study may serve as a prompt for incorporating legal changes aimed at an improvement in corporate governance.

Keywords: corporate governance, governance through exit, exit threat, stock liquidity, open-ended pension funds, stock liquidity.

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1. Introduction

Market liquidity is widely recognised as integral to stock markets, shaping both investor behaviour and the overall market efficiency. Although the theoretical ideal envisions cost-free, instantaneous transactions, real-world conditions diverge significantly from this model. Consequently, investors face a choice between executing large orders immediately—thereby incurring higher transaction costs and price impact—or splitting orders into smaller trades, which introduces opportunity costs (Amihud & Mendelson, 1986; Huberman & Stanzl, 2005). Such constraints may deter frequent trading (Yang & Zhang, 2021) and lead to suboptimal portfolio holdings (Amihud, 2019; Constantinides, 1986). Ultimately, market participants bear both explicit expenses (e.g., spreads) and more intangible costs, such as reduced utility.

Building on the seminal work of Amihud and Mendelson (1986), extensive research has documented that stocks with lower liquidity often command higher expected returns—a so-called liquidity premium (Amihud, 2019; Amihud et al., 2015; Amihud & Mendelson, 2015; Amihud & Noh, 2021; Cakici & Zaremba, 2021; Chiang & Zheng, 2015; Guo et al., 2017; Hsieh & Nguyen, 2021; Huh, 2014). More recently, scholars have highlighted liquidity's broader role in corporate finance decisions. By influencing investors' required returns, liquidity affects a firm's cost of equity and thus the viability of its investment projects (Amihud & Levi, 2023; Becker-Blease & Paul, 2006). In addition, higher market liquidity helps mitigate information asymmetry, curbing both under- and overinvestment (Cheung et al., 2023; Xiong & Su, 2014) and thereby improving how capital is allocated. This, in turn, underpins more sustainable economic growth.

Nevertheless, the extent to which liquidity delivers these benefits also depends on corporate governance structures - both at the market and the firm level. Well-monitored and transparent firms, featuring robust board oversight, independent directors, thorough disclosure standards, and effective shareholder rights, tend to exhibit narrower bid-ask spreads and higher trading volumes (Ali et al., 2017). From a broader perspective, strong institutional frameworks and regulatory oversight further reinforce these positive effects by building investor confidence and reducing agency conflicts. Moreover, institutional investors often hold significant stakes and can discipline management through the credible threat of exit (Edmans, 2009), which stabilizes liquidity conditions by assuring potential buyers and sellers of sound governance practices. A thorough understanding of how liquidity and corporate governance interact—across both firm-specific and systemic dimensions - remains essential for shaping policies (or

deregulatory measures aimed at enhancing market efficiency and mitigating the adverse effects of illiquidity.

The link between stock liquidity and corporate governance is not purely one-directional, suggesting a potentially endogenous relationship (reverse causality problem). High stock liquidity facilitates blockholders to reduce their holdings if they are unhappy with the firm performance, thus increasing their exit threat and improving governance (Chen et al., 2020; Edmans et al., 2013). High stock liquidity supports the alignment of the interests of managers and shareholders by facilitating monitoring (Ahangar, 2021, 2022; Chen et al., 2020) and increasing the chances of hostile takeovers by making it easier for investors to disguise their buying (Ee et al., 2022), which in turn improves governance and decreases agency problems.

On the other hand, as suggested by Bhide (1993), high stock liquidity may decrease internal firm monitoring. Less liquid shares are held mostly by long-term investors who are more likely to be involved in monitoring because they have more time and opportunity to do it and intervene more intensively than short-term ones (Daryaei & Fattahi, 2022; Wang & Wei, 2021). When a company's shares are highly liquid, managers may be incentivised to boost short-term performance which may attract short-term investors (Chang et al., 2017). Such managerial myopia boosts agency conflicts between managers and outside investors.

In this paper, we aim at examining whether an increase in blockholder's exit threat improves stock liquidity. Given the endogenous nature of the relationship between stock liquidity and corporate governance, OFEs' reform in Poland, which exerted an increased threat of exit and improved governance in companies held by OFEs (Kałdoński & Jewartowski, 2024), may serve as a quasi-natural experiment to study the effect of exit threat on stock liquidity. Our analyses are thus free of endogeneity concerns. We employ a difference-in-differences (DiD) approach combined with propensity score matching (PSM) to compare changes in liquidity between firms with high OFE ownership and a control group of firms not affected by the reform.

Our study contributes to the literature in several ways. In particular, we contribute to the ongoing debate on whether institutional investors improve or hinder stock liquidity (Dinh & Tran, 2024; Wang & Wei, 2021), offering insights into how institutional investors' exit threat affects stock liquidity. The study on the relationship between institutional investors, corporate governance, and stock liquidity has important implications for policymakers and market participants. Understanding how exit threats influence liquidity can help regulators develop

more effective corporate governance frameworks that balance investor protection with market efficiency.

The remainder of the paper is organised as follows. The following section presents a brief literature review with hypotheses development. Data and methods applied are described in Section 3, and Section 4 outlines the basic results, and the final section concludes.

2. Literature review and hypotheses development

Corporate governance plays a fundamental role in shaping stock liquidity. Well-governed firms limit the extent to which management can expropriate firm value (Bebchuk et al., 2009; Bebchuk & Cohen, 2005). This enhances operational transparency, thereby reducing information asymmetry (Leuz et al., 2003) and ultimately improving stock liquidity (Aman & Moriyasu, 2022; Huang et al., 2024). Strong corporate governance reduces the degree of minority shareholders' expropriation, which creates incentives to issue more debt by reducing the level of free cash flow available for discretionary use (Jensen, 1986). Since a company's leverage is positively related to its shares' liquidity (Frieder & Martell, 2006), an increased debt issuance due to stronger governance may lead to increased stock liquidity. Brockman & Chung (2003) provide empirical evidence that better investors' protection in well-governed companies leads to higher stock liquidity.

Recent empirical studies support the link between corporate governance and liquidity. For instance, Chung et al. (2010), Ali et al. (2017) and Biswas (2020) demonstrate that corporate governance affects stock liquidity. Several studies highlight specific corporate governance mechanisms that affect liquidity by shaping ownership incentives. Pham et al. (2023) show that bank loan announcements improve stock liquidity in Australia by strengthening the monitoring role of banks as an external governance tool. Similarly, dividend policies have been identified as a governance tool that influences liquidity - Taher and Al-Shboul (2023) and Stereńczak and Kubiak (2022) find that dividend-paying firms attract more investors and, consequently, have more liquid shares. Attracting various types of investors strengthens investor heterogeneity and improves stock liquidity (Chan et al., 2022). Given that dividend payouts reduce cash holdings and increase leverage, they also alleviate agency problems. Furthermore, CEO compensation structures have been linked to stock liquidity - Chowdhury et al. (2024) show that CEO's industry tournament incentives (CITIs), which serve

as an effective governance mechanism, boost stock liquidity. This effect is stronger among firms with severe information asymmetry problems and weak governance mechanisms. At the macro level, country-wide improvements in governance standards also impact market liquidity. Gagnon and Jeanneret (2023) found that changes in the country-level corporate governance environment (e.g., making Governance Codes effective for listed companies) result in a one-fifth drop in equity volatility. Given that stock volatility and liquidity are closely related (Chordia et al., 2003, 2005), such events may also affect stock liquidity.

A key channel through which governance may influence liquidity is institutional ownership as institutional investors play a central role in monitoring, mitigating agency problems, and reducing information asymmetry. However, the impact of institutional ownership on liquidity is not uniform and varies depending on the type of investor, investment horizon, and ownership concentration. Foreign institutional investors (FIIs), for instance, have been shown to improve liquidity in emerging markets by bridging informational gaps, thereby improving market efficiency (B. Liu et al., 2021). The investment horizon of institutional investors plays an important role: while short-term institutional ownership tends to boost liquidity through active trading, long-term institutional holdings may have the opposite effect by reducing trading frequency and increasing adverse selection risks (Wang & Wei, 2021). Even so, both active and passive institutional investors can contribute to liquidity - active investors do so via more frequent trades, whereas passive investors reduce information asymmetry through their large, diversified portfolios (Hing & Chow, 2022). Furthermore, concentrated ownership - particularly among insiders - can hamper liquidity through heightened information asymmetry (Yosra & Sioud, 2011). These findings underscore the nuanced and multifaceted impact of institutional ownership on stock liquidity.

One particularly relevant channel through which corporate governance can influence liquidity is the exit threat by large shareholders, including institutional investors. Blockholders who can readily sell their shares in response to managerial underperformance, excessive risk-taking, or poor governance create a credible disciplinary mechanism that pressures executives to align their decisions with shareholder interests (Edmans, 2009). As a result, reduced agency problems and strengthened market confidence can, in turn, lower information asymmetry and enhance stock liquidity. Reflecting on the above arguments, we propose the following hypothesis for empirical research:

H1: *An increase in the threat of exit by institutional investors improves stock liquidity.*

On the other hand, some studies suggest that institutional ownership negatively affects stock liquidity (Dinh & Tran, 2024), particularly in the case of block institutional ownership (Dang et al., 2018). This relationship is often explained through the adverse selection hypothesis, which posits that when informed investors - those with superior access to information - are present in the market, they exploit their informational advantage. Institutional investors are frequently perceived as informed investors due to their analytical resources and privileged access to information (Dang et al., 2018). According to the adverse selection hypothesis, an increasing share of institutional ownership may exacerbate information asymmetry between institutional investors and other market participants. Consequently, to avoid unfavourable transactions with informed investors, uninformed investors may reduce their trading activity. A decline in participation by uninformed investors can lead to an increase in average transaction costs per share for the remaining market participants. Collectively, these factors contribute to a reduction in stock liquidity, as fewer investors are willing to trade, and transaction costs continue to rise.

Moreover, an increased exit threat of the institution may exert a negative impact on liquidity in certain contexts. If a company (or the entire market) is facing the exit threat of the fund and consequent capital outflow (for example, due to external factors such as regulatory changes or structural reforms), then the market may anticipate an increased supply of shares from an informed investor at any moment. This may discourage other investors from entering such securities (they fear a sell-off), reducing turnover and liquidity. In the Polish context of the external factor that was the OFE reform, OFEs were put in a situation of systemic changes instead of the classic mechanism in which an institutional investor can voluntarily exit (which is supposed to have a disciplinary effect and often translate into higher liquidity). The threat of exit in these circumstances could therefore not be a corporate governance mechanism (motivating the company to improve) but the effect of the systemic changes that altered the structure of institutional ownership. The mandatory funds transfer to the government agency (ZUS) and simultaneous constraints, such as the reduced inflow of new contributions due to the requirement for active declarations and the gradual transfer of assets through the slider mechanism, and uncertainty regarding future regulations, limited the ability of OFE to maintain long-term investment strategies. This may reduce other investors' confidence, consequently, causing liquidity to fall, not rise. Therefore, it is necessary to examine whether in the conditions of the Polish OFE reform, the threat of exit took the form of a negative factor for liquidity instead of classically stimulating liquidity or disciplining management boards. In this sense, the

study may show that instead of a beneficial impact of institutional investors on liquidity (which we usually assume in theory), there was actually a decline in liquidity – precisely because the exit of OFE from shares was not a "voluntary" disciplinary tool, but a compulsory consequence of the reform. Based on the above considerations we propose the following hypothesis:

H2: *Regulatory changes that increase the threat of exit by institutions lead to a decline in stock liquidity.*

3. Data and methods

3.1. Empirical framework

To test our hypothesis about the effect of the exit threat on stock liquidity and mitigate endogeneity concerns from reverse causality, we utilise a quasi-natural experiment from the Open-Ended Pension Funds (OFEs) reform in Poland. The reform, which has been effective since January 1st, 2014, resulted in an increased threat of blockholder exit for companies allocated to OFEs' portfolios (Kałdoński & Jewartowski, 2024). This resulted from OFEs' transition from passive balanced into active equity funds, forced by the implementation of the reform. Hence, this reform caused an (to companies listed in the WSE) change in their blockholder exit threat. Meanwhile, this increase in exit threat concerned only some companies, i.e. those allocated to OFEs' portfolios, which allows us to use the difference-in-differences methodology and mitigate endogeneity concerns from reverse causality. Given that OFEs may prefer a certain ownership profile of companies allocated to their portfolios, to further alleviate the concerns resulting from non-randomness of the research sample, we utilise the propensity score matching (PSM) methodology to mimic a randomised controlled trial.

3.2. Variables

Our main variable of interest is companies' stock liquidity, which we proxy using six different measures reflecting several distinct liquidity dimensions. Given that no single measure is able to capture all the dimensions of liquidity simultaneously (Chou et al., 2013), such an approach allows for more in-depth insights about the effect of exit threat on stock liquidity. All the measures are calculated on an annual basis. First, we use Amihud's (2002) illiquidity ratio, which reflects the price impact. We calculate the ratio strictly following Amihud's (2002):

$$ILLIQ_{it} = \frac{1}{NoTD_{it}} \sum_{m=1}^{NoTD_{it}} \frac{|r_{imt}|}{Vol_{imt}} \quad (1)$$

where $NoTD_{it}$ denotes the number of days for which data are available for stock i in year t, r_{imt} is the ith stock's log-return on day m of year t, and Vol_{imt} is the respective trading volume in PLN million. Depth is measured by the turnover ratio, which is measured as follows:

$$Turn_{it} = \sum_{m=1}^{NoTD_t} \frac{V_{imt}}{NoSH_{imt}} \quad (2)$$

where V_{imt} is the unit trading volume for stock i on mth day of year t, and $NoSH_{imt}$ denotes the number of shares outstanding on that day. The cost dimension of liquidity is captured by the Percent Quoted Closing Spread, computed based on the bid and ask prices quoted at the end of the trading day (Chung & Zhang, 2014):

$$PQCS_{it} = \sum_{m=1}^{NoTD_{it}} \frac{ask_{imt} - bid_{imt}}{mid_{imt}} \quad (3)$$

where mid_{imt} is the average of ask_{imt} and bid_{imt} prices for stock i at the end of day m of year t. Similarly, we calculate Percent Effective Closing Spread:

$$PECS_{it} = \sum_{m=1}^{NoTD_{it}} \frac{|close_{imt} - mid_{imt}|}{mid_{imt}} \quad (4)$$

where $close_{imt}$ is the day m of year t closing price for stock i. Given the considerable non-trading problem for a significant number of companies listed on the WSE, we also apply Fong's et al. (2017) measure based on the proportion of zero-return days:

$$FHT_{it} = 2\sigma_{it}\phi^{-1}\left[\frac{1+Zero_{it}}{2}\right] \quad (5)$$

where σ_{it} is the standard deviation of stock i daily log-returns in year t, $Zero_{it}$ is the proportion of stock i zero-return days in year t and ϕ is the inverse of the cumulative distribution function of standardised normal distribution. Finally, to reflect the time dimension of stock liquidity we utilise the measure developed by Liu (2006). This turnover-adjusted number of zero trading volume days captures the continuity of trading and is calculated as follows (W. Liu, 2006):

$$LIU_{it} = \left[D_{it}^{V=0} + \frac{\frac{1}{Turn_{it}}}{500{,}000}\right] \times \frac{21}{NoTD_{it}} \quad (6)$$

where $D^{V=0}$ is the number of zero trading volume days for stock i in year t.

To match companies that differ only in one aspect, i.e. being or not allocated to OFEs' portfolios, we also construct several measures to reflect the company ownership. First, we calculate the institutional ownership (*InstOwn*) as a percent of outstanding shares held by the institutional investors and insider ownership (*InsOwn*) as a percent of shares held by insiders. We also use a binary variable for state-owned enterprises (*SOE*), which equals 1 if one of the company's ultimate owners is the state treasury. To reflect the ownership concentration, we use the percent of shares held by the largest investor (*MaxOwn*) and Herfindahl-Hirschman index

of shares owned by investors owning more that 5% (*HHI_5*) and 1% (*HHI_1*) of outstanding shares.

To avoid the confounding effect of other companies' characteristics on stock liquidity, we control for the size of a company as measured by the natural logarithm of the market value of equity (*lnMV*), company age (*Age*), as measured by the natural logarithm of the number of years since first listing. Next, we control for the risk (*Volatility*), measured as a standard deviation of weekly log returns in a given year, and the company indebtedness (*Leverage*) – the book value of debt relative to the book value of total capital, which is the sum of equity and debt. We control for growth opportunities proxied by book-to-market ratio (*BV/MV*) and company performance as reflected by the return on assets (*ROA*) and return on equity *(ROE*). In the main analysis, we also control for the company's asset tangibility (*Tangibility*) as proxied by the net property, plant and equipment scaled by total assets.

3.3. Data sources and research sample

All the data required to calculate the variables of interest have been gathered from the S&P Capital IQ database. In particular, we gather quotation data, i.e. prices and volumes, to calculate our liquidity measures, companies' financial data to compute control variables, and detailed ownership data to calculate ownership variables and indicate which companies have faced an increased threat of exit, i.e. were held by the OFEs. Given that the OFEs reform has been effective since the beginning of 2014, and that we aim to analyse the changes in stock liquidity around the reform implementation, we focus on companies that were listed on the Warsaw Stock Exchange throughout the entire 2013 and 2014. To avoid biased inferences, we focus only on companies with their primary listing in the WSE. If a company is primarily listed on another exchange, stock liquidity measures calculated based on WSE quotations may simply reflect stock performance in the primary exchange. Then, we discarded financial companies due to their unique financial statements and more strict governance regulations. Moreover, these companies are often closely related to investment fund companies that manage Open-Ended Pension Funds. After applying these filters, we are left with 318 companies.

Given that OFEs may prefer a certain company profile, to alleviate the concerns resulting from non-randomness of the research sample, we then applied a propensity score matching (PSM) to remove all observable differences in firms' characteristics between the companies held by OFE (or OFEs) and not. We aim to compare stock liquidity between groups

of very similar companies, but differing in only one detail, namely, having or not having OFEs in their shareholders' structures. To this end, we collect the data and determine certain firms' characteristics as of the end of 2013. We consider six liquidity measures (*ILLIQ, Turn, PQCS, PECS, FHT* and *Liu*), several ownership-related variables (*InstOwn, InsOwn, SOE, MaxOwn, HHI_5* and *HHI_1*), and other company characteristics (*lnMV, Age, Volatility, Leverage, BV/MV, ROA* and *ROE*) as defined in the previous section. The descriptive statistics for these variables calculated from the sample of companies at the end of 2013 are presented in Table 1.

In the next step, we estimate the probit model with a dummy variable (*OFE*) which equals 1 if the company is allocated to the portfolio of at least one OFE, and 0 otherwise. Companies held by OFE are assumed to face an increased exit threat of a large shareholder and thus constitute the treatment group, while the remaining companies are considered a control group. The set of explanatory variables in the probit model is selected based on the correlation matrix (Table 2), we selected one liquidity variable (*PQCS*), two ownership-related variables (*InstOwn* and *InsOwn*) and four financial companies' characteristics (*lnMV, Age, BV/MV* and *ROA*). The results of the estimation are presented in the first column in Panel A of Table 3. We used predicted probabilities from this model to conduct the nearest-neighbourhood propensity score matching. One company from the control group with the least difference in predicted probability has been assigned to each company from the treatment group. If a company from the control group has been assigned to more than one company from the treatment group, only the one with the lowest difference is considered in a matched sample. Our initial sample consists of 318 companies, and the matched sample comprises 82 companies.

In the matched sample, all matching variables, except *ROA*, are statistically insignificant in the estimated probit model. In the post-match regression, Mac-Fadden R^2 falls significantly relative to the pre-match estimation and the χ^2 test fails to reject the null hypothesis that all the estimated coefficients are equal to zero. We can thus conclude that the PSM has been successful in removing all observable differences in companies' characteristics between the treatment and control groups. This pertains also to variables not considered in the probit regression. All the differences in these characteristics are statistically indistinguishable from zero (Panel B of Table 3). Table 4 presents the descriptive statistics for these variables in a matched sample, while Table 5 presents the correlations among them. The PSM procedure also resulted in including in the research sample companies with a lower number of OFEs in shareholders' structure and lower OFEs' ownership relative to the full sample. Figures 1 and 2 display the distribution of the number of OFEs (Panels A) and the total OFEs ownership (Panels B) among

the full and matched sample respectively. PSM procedure resulted in dropping the companies with excessively high number of OFEs in shareholders' structure and companies with excessively large OFEs ownership.

4. Results

4.1. Basic results

In our baseline approach, we perform the difference-in-differences analysis by estimating the following regression with our matched sample:

$$\mathrm{LIQ}_{it} = \alpha + \beta_1 * \mathrm{Treat}_{it} + \beta_2 * \mathrm{After}_{it} + \beta_3 * \mathrm{Treat}_{it} * \mathrm{After}_{it} + \gamma * \mathrm{Controls}_{it\text{-}1} + \varepsilon_{it} \quad (7)$$

where *LIQ* is one of the considered liquidity measures, *Treat* is a dummy variable which equals 1 if a company is from the treatment group and 0 otherwise, *After* is a dummy variable that equals 1 for the observations in 2014 and 0 otherwise, and *Controls* is a set of control variables which consist of *lnMV, Age, Volatility, Leverage, BV/MV* and *Tangibility*. To avoid endogeneity concerns resulting from simultaneity and reverse causality, all control variables are lagged by one year relative to liquidity measures.

Given that *ILLIQ, PQCS, PECS, FHT* and *Liu* reflect illiquidity, i.e. their higher values denote less liquidity, and *Turn* measures liquidity, i.e. liquidity increases with the values of *Turn*, to facilitate the interpretation of the results, we multiply the values of *ILLIQ*, *PQCS*, *PECS*, *FHT* and *Liu* by -1, so the liquidity increase with their values. The main coefficient of interest is β_3. If the hypothesis ***H1*** on the beneficial effect of increased exit threat to stock liquidity is true, β_3 is expected to be positive. Inversely, if hypothesis ***H2*** is about the detrimental effect of increased institutions' threat of exit on stock liquidity is true, β_3 is expected to be negative.

The baseline regression results are presented in Table 6. Panel A presents the estimated coefficients without controlling for other stock characteristics and Panel B reports the estimates for the models that include control variables. As evidenced by the coefficients of interest, i.e. those on the interactive variable (*Treatment*After*), in most cases making an OFEs reform effective resulted in a decline in stock liquidity of companies held by OFEs, with a turnover being a lone exception. Nevertheless, the coefficients are statistically indistinguishable from zero, which suggests that some other factors confound the results. This conjecture is reinforced by extremely low values of adjusted R^2s, which are negative. Overall, these results allow us to

conjecture that an increased exit threat by OFEs resulted in a worsening of stock liquidity, as evidenced by an increased price impact (as measured by the *ILLIQ*) and spreads (as measured by *PQCS, PECS* and *FHT*) and reduced continuity of trading (as measured by *Liu*). Increase turnover ratio (*Turn*) allows us to attribute these changes in stock liquidity to an increased investors' activity (including OFEs), giving a very weak support for our hypothesis ***H2***.

The coefficients on the interactive variable (*Treatment*After*) remain insignificantly negative after including control variables. Only for *Liu*, the estimated coefficient has changed the sign and became insignificantly positive. Interestingly, these coefficients are of smaller magnitudes after including control variables, indicating that the changes in stock liquidity could be attributed to other companies' characteristics. Again, the coefficient on the *Turn* is of higher magnitude after including control variables, further highlighting its importance for the analysed relationship. Overall, controlling for other companies' characteristics does not change the conclusions.

Given that the distribution of liquidity measures deviates from a normal distribution due to excessive skewness and kurtosis (as evidenced in Table 4), to alleviate the concerns that the above results are biased by the non-normality of the residuals, we re-estimate model (7) with log-transformed liquidity measures. The results are presented in Table A1 in the Appendix, and the conclusions remain unchanged. As the PSM procedure removes companies with many OFEs and large OFEs ownership from the sample, we also re-estimate model (7) for the full sample. The results are presented in Table A2 (A3) in the Appendix for the raw (log-transformed) values of liquidity measures. Qualitatively, the results do not differ from those presented earlier, however, one should take notice that the coefficient on an interactive variable for *Liu*'s liquidity measure is significantly negative at the 10% level (Column (6) of Table A2). The results also remain qualitatively unchanged if we replace the binary *Treatment* variables with the number of OFEs holding the company's shares, the total OFEs ownership, the average OFEs ownership or use two treatment variables – one for companies with only one OFE in shareholding, and the second for companies with multiple OFE shareholdings (Tables 4A, 5A, 6A and 7A respectively).

4.2. Further (considered or planned) analyses

Further analyses aim to further investigate the heterogeneity of OFE reform on stock liquidity, in particular among the subsamples of companies with different intensity of agency

problems and information asymmetry. We also want to distinguish the effect of an actual OFE's exit (which is likely to be perceived as a negative signal) from an increased threat of exit. Consequently, we want to examine the heterogeneity of the effect across companies with an actual decline in the number of OFEs in the shareholding and/or OFE ownership.

A decline in OFE assets in shares was evident in the subsequent years. Consequently, it should also be important to extend the analysis window. On the one hand, this would increase the number of observations and, on the other hand, it would be possible to check whether the reform has had a delayed effect on stock liquidity. The entry into force of the reform is likely to have created a high level of uncertainty in the market in 2014, thus weakening investor confidence. After an initial shock, subsequent years could lead to the positive effects of the OFE reform for stock liquidity becoming more visible.

5. Concluding remarks

In the traditional view, stock liquidity serves as an efficient governance mechanism by increasing blockholders' exit threat, which, in turn, alleviates agency problems. However, the link between stock liquidity and corporate governance is not purely one-directional, suggesting a potentially endogenous relationship due to the reverse causality. Well-governed and thus transparent firms, tend to exhibit narrower bid-ask spreads and higher trading volumes, i.e. higher stock liquidity. Our paper was aimed at an in-depth analysis of whether an increase in blockholder's exit threat improves stock liquidity. To alleviate endogeneity concerns, we utilise a quasi-natural experiment which exerted an exogenous increase in blockholders' exit threat and thus improved governance in companies held by these blockholders. An Open-Ended Pension Funds (OFEs) reform in Poland, implemented in 2014, is concerned as such an experiment (Kałdoński & Jewartowski, 2024).

We found that in a year consequent to the OFEs' reform, stock liquidity of companies held by the OFEs worsened relative to their propensity score matched counterparts, although this effect is statistically insignificant. This is visible in all our analyses, even if we estimate the magnitude of the effect using the entire sample of companies, log-transform liquidity measures (to avoid excess skewness and kurtosis) or substitute dummy variables for treatment companies with the number (share) of OFEs in shareholding. As a consequence, we can further hypothesise that following the reform, two effects of an increased exit threat on stock liquidity overlapped.

The first one, which dominates the second, is related to an increased probability of trading with a better-informed trader. Institutional investors, like Open-Ended Pension Funds, are frequently perceived as informed investors due to their superior analytical resources and privileged access to information. Thus, their elevated exit threat increases uninformed investors' concerns about the probability of trading with a better-informed investor and consequently reduces their trading activity. The second effect refers to more disciplined managers, who align their interests more with investors' interests so that the threat of exit is not realized. Doing so attracts more investors and thus enhances stock liquidity.

Our results obtained and presented so far suggest that the two effects confound the results, and that further studies in this field are necessary to disentangle the pure effect of an increased threat of blockholder exit from the effect of an increased probability of informed trading.

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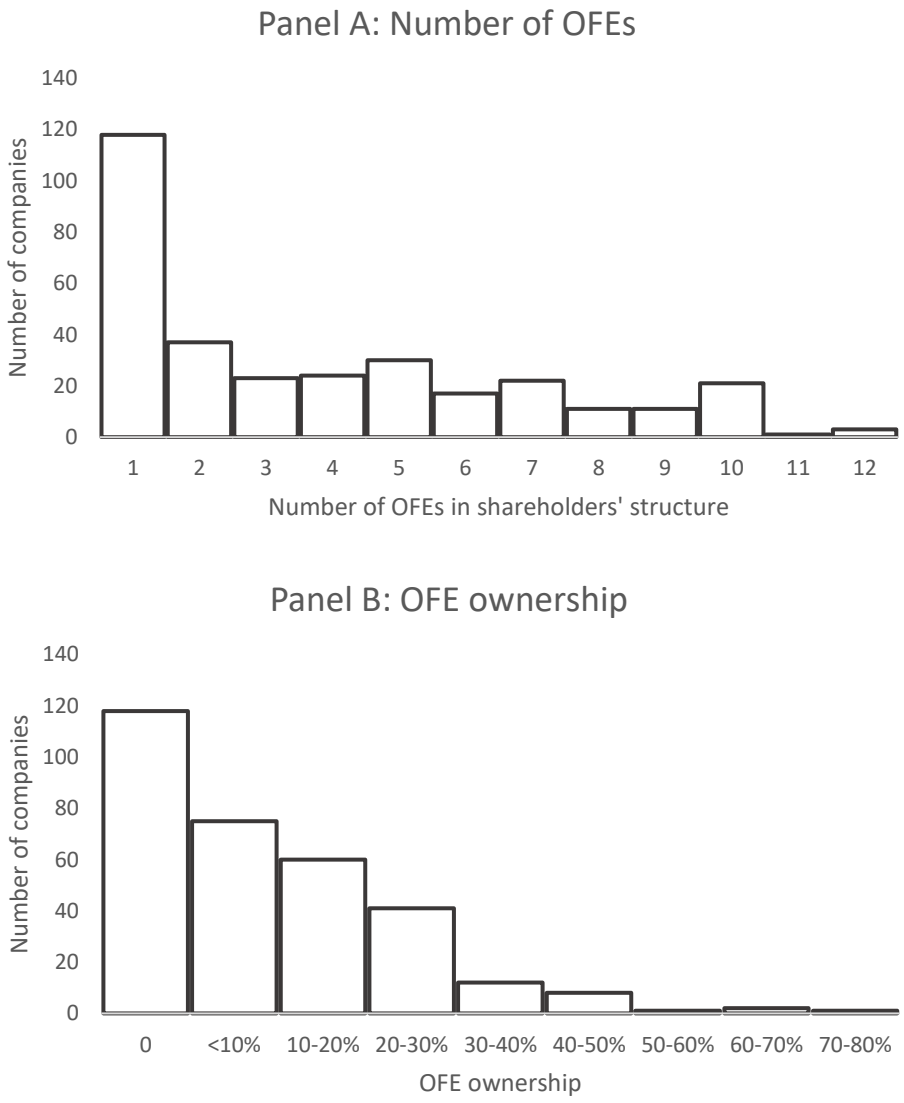

Figure 1. The distributions of OFEs in shareholders' structure in the pre-match sample
Note: The figure illustrates the distribution of the number of OFEs (Panel A) and OFEs ownership (Panel B) among the initial sample of companies.

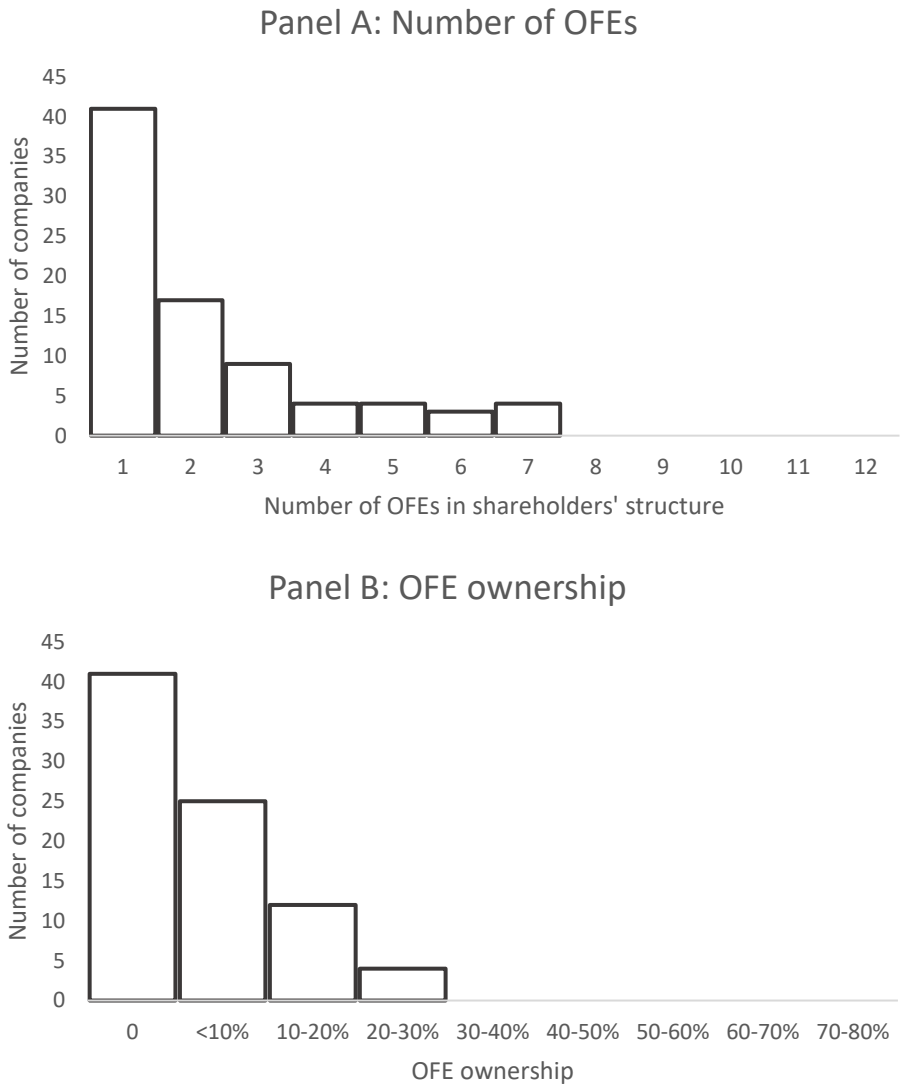

Figure 2. The distributions of OFEs in shareholders' structure in the pre-match sample
Note: The figure illustrates the distribution of the number of OFEs (Panel A) and OFEs ownership (Panel B) among the post-match sample of companies.

Table 1. Descriptive statistics for the full sample of companies at the end of 2013

Variable	Mean	Std.Dev.	Skewness	Kurtosis	5th percentile	Median	95th percentile
OFE	0.629	0.484	-0.534	-1.715	0.000	1.000	1.000
ILLIQ	65.652	193.27	5.801	41.574	0.007	5.121	328.64
Turn	0.349	0.747	8.938	109.36	0.008	0.160	1.179
PQCS	0.039	0.059	4.684	27.726	0.006	0.022	0.130
PECS	0.020	0.034	4.861	29.454	0.003	0.011	0.072
FHT	0.031	0.075	5.940	40.637	0.002	0.010	0.120
Liu	1.383	2.808	3.338	13.358	0.000	0.170	6.709
InstOwn	26.259	22.560	0.831	0.123	0.000	23.464	70.489
InsOwn	24.803	27.564	0.829	-0.608	0.000	12.390	78.821
SOE	0.066	0.249	3.495	10.214	0.000	0.000	1.000
MaxOwn	40.444	20.775	0.400	-0.606	11.938	38.455	80.074
HHI_5	2482.1	1819.3	1.149	1.345	335.67	2031.3	6627.7
HHI_1	2508.9	1810.0	1.153	1.357	384.09	2051.5	6651.5
lnMV	5.108	1.778	0.248	0.430	2.384	4.933	8.408
Age	1.878	0.775	-0.365	-0.850	0.463	1.931	2.925
Volatility	0.073	0.052	3.815	20.223	0.035	0.059	0.167
Leverage	0.315	1.747	3.091	96.229	0.000	0.234	0.752
BV/MV	2.049	7.213	7.485	65.796	0.040	0.801	6.655
ROA	0.019	0.216	2.254	49.710	-0.222	0.031	0.194
ROE	0.098	0.894	13.346	211.86	-0.507	0.061	0.403

The table presents the descriptive statistics for all considered variables in the pre-match sample and covers only the pre-treatment period. *OFE* is a dummy variable which equals 1 if the company has at least one OFE as a shareholder and 0 otherwise; *ILLIQ* is the Amihud illiquidity ratio; *Turn* is the turnover ratio; *PQCS* is the Percent Quoted Closing Spread; *PECS* is the Percent Effective Closing Spread; *FHT* is the Fong, Holden and Trzcinka spread estimator; *Liu* denotes Liu's liquidity measure; *InstOwn* denotes the percent of shares outstanding held by institutional investors; *InsOwn* denotes the percent of shares outstanding held by insiders; *SOE* is a dummy variable that equals 1 if one of the company's ultimate owners is the state treasury; *MaxOwn* is the percent of shares held by the largest shareholder; *HHI_5* (*HHI_1*) denote Herfindahl-Hirschmann index of shares owned by investors owning more that 5% (1%) of equity; *lnMV* denotes the natural logarithm of market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *ROA* (*ROE)* denote return on assets (equity).

Table 2. Correlation matrix among variables in the full sample of companies at the end of 2013

Variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*	*InstOwn*	*InsOwn*	*SOE*	*MaxOwn*	*HHI_5*	*HHI_1*	*lnMV*	*Age*	*Volatility*	*Leverage*	*BV/MV*	*ROA*	*ROE*
OFE	**-0.350**	0.038	**-0.430**	**-0.394**	**-0.343**	**-0.331**	**0.451**	**-0.226**	0.073	**-0.169**	**-0.228**	**-0.221**	**0.566**	**0.267**	**-0.374**	-0.046	**-0.168**	**0.169**	-0.027
ILLIQ		**-0.117**	**0.687**	**0.669**	**0.637**	**0.286**	**-0.260**	**0.116**	-0.067	0.081	**0.142**	**0.139**	**-0.432**	**-0.235**	**0.469**	**0.262**	0.042	-0.331	-0.087
Turn			**-0.121**	-0.102	-0.050	**-0.177**	-0.092	-0.065	-0.014	**-0.175**	**-0.206**	**-0.208**	**-0.094**	**0.173**	**0.225**	0.050	0.057	0.001	0.007
PQCS				**0.969**	**0.815**	**0.432**	**-0.297**	**0.120**	-0.102	0.018	0.082	0.079	**-0.494**	**-0.201**	**0.631**	0.062	0.069	**-0.229**	-0.049
PECS					**0.880**	**0.367**	**-0.299**	0.100	-0.097	-0.019	0.043	0.040	**-0.467**	**-0.177**	**0.703**	0.070	0.067	**-0.214**	-0.043
FHT						**0.194**	**-0.288**	-0.012	-0.065	-0.086	-0.034	-0.037	**-0.433**	**-0.119**	**0.758**	0.076	0.052	**-0.242**	0.007
Liu							**-0.234**	**0.164**	-0.011	**0.200**	**0.276**	**0.275**	**-0.305**	**-0.302**	0.058	0.037	0.040	**-0.135**	-0.027
InstOwn								**-0.294**	-0.046	**-0.299**	**-0.309**	**-0.303**	**0.358**	**0.161**	**-0.334**	-0.043	**-0.114**	**0.145**	0.006
InsOwn									**-0.197**	-0.046	-0.017	-0.019	**-0.264**	**-0.174**	0.036	0.046	0.039	0.004	0.021
SOE										0.109	0.091	0.090	**0.309**	0.038	-0.109	-0.012	-0.026	0.009	-0.024
MaxOwn											**0.959**	**0.960**	0.079	**-0.112**	-0.057	0.015	-0.021	-0.035	0.035
HHI_5												**0.999**	0.027	**-0.153**	-0.036	0.037	-0.010	-0.030	0.039
HHI_1													0.031	**-0.152**	-0.040	0.036	-0.012	-0.028	0.039
lnMV														**0.219**	**-0.519**	**-0.117**	**-0.250**	**0.273**	0.022
Age															-0.071	0.005	0.040	0.091	0.013
Volatility																0.132	**0.129**	**-0.222**	0.084
Leverage																	-0.043	**-0.178**	-0.035
BV/MV																		**-0.171**	-0.055
ROA																			**0.663**

The table presents the correlations among all considered variables in the pre-match sample and covers only the pre-treatment period. *OFE* is a dummy variable which equals 1 if the company has at least one OFE as a shareholder and 0 otherwise; *ILLIQ* is the Amihud illiquidity ratio; *Turn* is the turnover ratio; *PQCS* is the Percent Quoted Closing Spread; *PECS* is the Percent Effective Closing Spread; *FHT* is the Fong, Holden and Trzcinka spread estimator; *Liu* denotes Liu's liquidity measure; *InstOwn* denotes the percent of shares outstanding held by institutional investors; *InsOwn* denotes the percent of shares outstanding held by insiders; *SOE* is a dummy variable that equals 1 if one of the company's ultimate owners is the state treasury; *MaxOwn* is the percent of shares held by the largest shareholder; *HHI_5* (*HHI_1*) denote Herfindahl-Hirschmann index of shares owned by investors owning more that 5% (1%) of equity; *lnMV* denotes the natural logarithm of market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *ROA* (*ROE)* denote return on assets (equity). Values statistically significant at the 5% level are in bold.

Table 3. Propensity Score Matching

Panel A: Pre-match and post-match propensity

Variable	Pre-match	Post-match
Const	-2.952***	-0.258
	(3.860)	(0.182)
PQCS	-15.015***	-1.208
	(3.384)	(0.159)
InstOwn	0.025***	-0.001
	(4.548)	(0.085)
InsOwn	0.002	-0.005
	(0.614)	(0.835)
lnMV	0.521***	-0.095
	(5.137)	(0.494)
Age	0.259**	0.194
	(2.002)	(0.894)
Volatility	2.176	7.276
	(0.726)	(1.194)
BV/MV	0.004	-0.020
	(0.231)	(0.854)
ROA	-0.100	3.095**
	(0.215)	(1.976)
Number of observations	318	82
p-value of χ^2	0.000	0.623
Mc-Fadden R-squared	0.449	0.055

Panel B: Post-matching differences

Variable	Treatment	Control	Difference	t-Statistic
ILLIQ	33.174	37.176	-4.002	0.324
Turn	0.649	0.298	0.351	1.284
PQCS	0.031	0.032	-0.001	0.126
PECS	0.016	0.016	0.000	0.159
FHT	0.017	0.021	-0.004	1.073
Liu	1.503	1.332	0.171	0.375
InstOwp	20.292	20.024	0.268	0.069
SOE	0.049	0.049	0.000	0.000
InsOwn	29.275	33.835	-4.560	0.713
MaxOwn	40.389	46.562	-6.173	1.428
HHI_5	2437.62	3035.61	-597.99	1.536
HHI_1	2463.55	3044.88	-581.33	1.496
lnMV	4.545	4.623	-0.078	0.357
Age	1.929	1.811	0.118	0.723
Volatility	0.073	0.069	0.005	0.622
Leverage	0.263	0.310	-0.047	0.902
BV/MV	2.056	3.127	-1.071	0.557
ROA	0.036	0.008	0.028	1.066
ROE	0.036	0.036	0.000	0.006

Panel A presents the diagnostic of the propensity score matching, Panel B presents the differences in means between treatment and control group in the post-matched sample, In Panel A dependent variable is a dummy variable that equals 1 if a firm belongs to the treatment group (has at least one OFE as a shareholder) and 0 otherwise; *ILLIQ* is the Amihud illiquidity ratio; *Turn* is the turnover ratio; *PQCS* is the Percent Quoted Closing Spread; *PECS* is the Percent Effective Closing Spread; *FHT* is the Fong, Holden and Trzcinka spread estimator; *Liu* denotes Liu's liquidity measure; *InstOwn* denotes the percent of shares outstanding held by institutional investors; *InsOwn* denotes the percent of shares outstanding held by insiders; *SOE* is a dummy variable that equals 1 if one of the company's ultimate owners is the state treasury; *MaxOwn* is the percent of shares held by the largest shareholder; *HHI_5* (*HHI_1*) denote Herfindahl-Hirschmann index of shares owned by investors owning more that 5% (1%) of equity; *lnMV* denotes the natural logarithm of market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *ROA* (*ROE)* denote return on assets (equity). z-statistics are given in parentheses and asterisks denote the statistical significance at the 0.1 (*), 0.05 (**) and 0.01 (***) levels.

Table 4. Descriptive statistics for the matched sample of companies in the period 2013-2014

Variable	Mean	Std.Dev.	Skewness	Kurtosis	5^{th} percentile	Median	95^{th} percentile
ILLIQ	40.532	59.753	2.322	6.118	0.051	17.222	177.71
Turn	0.463	1.431	7.521	62.324	0.009	0.134	1.782
PQCS	0.032	0.021	1.340	1.628	0.009	0.027	0.082
PECS	0.016	0.011	1.414	2.424	0.004	0.014	0.038
FHT	0.018	0.016	2.284	8.426	0.004	0.014	0.051
Liu	1.196	1.960	2.404	6.910	0.000	0.262	5.342
lnMV	4.468	1.034	-0.057	0.216	2.727	4.431	6.258
Age	1.730	0.931	-1.408	4.422	0.077	1.820	2.836
Volatility	0.066	0.033	2.032	4.595	0.032	0.059	0.149
Leverage	0.283	0.226	0.550	-0.571	0.000	0.245	0.721
BV/MV	2.030	6.224	10.877	127.56	0.107	0.932	5.819
Tangibility	0.307	0.228	0.547	-0.341	0.002	0.290	0.755

The table presents the descriptive statistics for all considered variables in the matched sample and covers only both the pre- and post-treatment period. *ILLIQ* is the Amihud illiquidity ratio; *Turn* is the turnover ratio; *PQCS* is the Percent Quoted Closing Spread; *PECS* is the Percent Effective Closing Spread; *FHT* is the Fong, Holden and Trzcinka spread estimator; *Liu* denotes Liu's liquidity measure; *lnMV* denotes the natural logarithm of the market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *Tangibility* is net property, plant and equipment scaled by total assets.

Table 5. Correlation matrix among variables in the matched sample of companies in the period 2013-2014

Variable	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*	*lnMV*	*Age*	*Volatility*	*Leverage*	*BV/MV*	*Tangibility*
ILLIQ	**-0.174**	**0.599**	**0.596**	**0.307**	**0.543**	**-0.167**	**-0.164**	-0.000	-0.062	0.034	-0.067
Turn		**-0.199**	-0.141	0.089	**-0.167**	-0.136	**0.171**	**0.433**	**0.256**	0.124	-0.118
PQCS			**0.949**	**0.515**	**0.493**	**-0.233**	**-0.283**	0.125	0.135	0.024	-0.102
PECS				**0.633**	**0.485**	**-0.258**	**-0.235**	**0.188**	**0.173**	0.038	-0.127
FHT					**0.329**	**-0.286**	-0.035	**0.460**	**0.252**	0.094	-0.052
Liu						0.004	**-0.159**	-0.113	-0.060	-0.071	0.050
lnMV							0.015	**-0.471**	-0.133	**-0.267**	0.043
Age								-0.003	-0.001	0.097	0.093
Volatility									**0.268**	0.087	**-0.186**
Leverage										-0.018	**0.200**
BV/MV											-0.003

The table presents the correlations among all considered variables in the matched sample and covers only both the pre- and post-treatment period. *ILLIQ* is the Amihud illiquidity ratio; *Turn* is the turnover ratio; *PQCS* is the Percent Quoted Closing Spread; *PECS* is the Percent Effective Closing Spread; *FHT* is the Fong, Holden and Trzcinka spread estimator; *Liu* denotes Liu's liquidity measure; *lnMV* denotes the natural logarithm of the market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *Tangibility* is net property, plant and equipment scaled by total assets. Values statistically significant at the 5% level are in bold.

Table 6. Difference-in-Differences

Panel A: No control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*
const	37.176***	0.298***	0.032***	0.016***	0.021***	1.332***
	(3.707)	(4.096)	(9.168)	(9.467)	(7.775)	(4.553)
Treatment	4.002	0.351	0.001	-0.0004	0.004	-0.171
	(0.324)	(1.284)	(0.126)	(0.159)	(1.073)	(0.375)
After	-3.959	-0.102	-0.0004	-0.0004	0.004	0.447
	(0.313)	(1.236)	(0.080)	(0.169)	(1.147)	(1.001)
*Treatment*After*	-13.510	0.160	-0.002	-0.001	-0.004	-0.006
	(0.722)	(0.359)	(0.361)	(0.402)	(0.863)	(0.009)
No. of observations	164	164	164	164	164	164
Adj. R^2	-0.007	0.005	-0.016	-0.013	-0.008	-0.004
Panel B: Control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*
const	128.49***	-2.126**	0.062***	0.029***	0.011	2.886***
	(4.329)	(2.417)	(7.075)	(6.124)	(0.998)	(3.481)
Treatment	10.74	0.222	-0.002	-0.001	0.004	-0.334
	(0.085)	(1.076)	(0.388)	(0.587)	(1.295)	(0.744)
After	-10.708	-0.112	-0.004	-0.002	0.002	0.344
	(0.958)	(0.803)	(1.072)	(1.242)	(0.621)	(0.782)
*Treatment*After*	-10.125	0.218	-0.001	-0.005	-0.004	0.072
	(0.561)	(0.559)	(0.083)	(0.142)	(0.867)	(0.118)
lnMV	-12.997***	0.152	-0.005***	-0.002***	-0.001	-0.136
	(2.742)	(1.415)	(3.091)	(3.142)	(0.677)	(0.924)
Age	-11.421**	0.243**	-0.007***	-0.003**	-0.0005	-0.319*
	(2.117)	(2.332)	(2.969)	(2.498)	(0.368)	(1.684)
Volatility	-145.51	17.091***	-0.017	0.008	0.184***	-8.345*
	(0.756)	(3.196)	(0.299)	(0.262)	(3.382)	(1.845)
Leverage	-16.111	1.245	0.012	0.008*	0.009	-0.289
	(0.600)	(1.585)	(1.625)	(1.963)	(1.214)	(0.431)
BV/MV	-0.106	0.026	-0.000	-0.000	0.0001*	-0.017**
	(0.321)	(1.248)	(0.340)	(0.157)	(1.683)	(2.067)
Tangibility	-9.941	-0.515	-0.008	-0.005	-0.001	0.522
	(0.463_	(0.962)	(1.013)	(1.480)	(0.151)	(0.607)
No. of observations	164	164	164	164	164	164
Adj. R^2	0.034	0.235	0.116	0.125	0.202	0.008

Panel A presents the DiD regression without control variables and in Panel B the results of the DiD estimation with control variables are presented. *Treatment* equals 1 for matched treated companies and 0 for matched control firms; *After* takes the value of 1 for 2014 and 0 for 2013; *ILLIQ* is the Amihud illiquidity ratio; *Turn* is the turnover ratio; *PQCS* is the Percent Quoted Closing Spread; *PECS* is the Percent Effective Closing Spread; *FHT* is the Fong, Holden and Trzcinka spread estimator; *Liu* denotes Liu's liquidity measure; *lnMV* denotes the natural logarithm of the market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *Tangibility* is net property, plant and equipment scaled by total assets. t-statistics are given in parentheses and asterisks denote the statistical significance at the 0.1 (*), 0.05 (**) and 0.01 (***) levels.

Appendix

Table A1. Difference-in-Differences (log-transformed liquidity measures)

Panel A: No control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*lnILLIQ*	*lnTurn*	*lnPQCS*	*lnPECS*	*lnFHT*	*lnLiu*
const	1.780***	-2.287***	-3.664***	-4.381***	-4.201***	-5.918***
	(4.411)	(5.846)	(35.26)	(41.28)	(31.58)	(5.136)
Treatment	0.108	0.549	-0.002	-0.025	0.152	-1.426
	(0.181)	(1.479)	(0.013)	(0.165)	(0.819)	(0.890)
After	-0.195	-0.236	-0.049	-0.054	0.103	-0.059
	(0.337)	(0.648)	(0.346)	(0.365)	(0.586)	(0.038)
*Treatment*After*	-0.380	0.207	-0.029	-0.054	-0.077	-0.423
	(0.460)	(0.412)	(0.145)	(0.259)	(0.303)	(0.194)
No. of observations	164	164	164	164	164	164
Adj. R^2	-0.012	0.025	-0.016	-0.013	-0.012	-0.004
Panel B: Control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*lnILLIQ*	*lnTurn*	*lnPQCS*	*lnPECS*	*lnFHT*	*lnLiu*
const	10.199***	-4.577***	-2.338***	-3.126***	-4.001***	9.955***
	(9.610)	(7.307)	(7.781)	(10.17)	(9.224)	(2.876)
Treatment	-0.194	0.383	-0.061	-0.077	0.169	-2.217
	(0.360)	(1.192)	(0.463)	(0.575)	(1.010)	(1.423)
After	-0.664	-0.259	-0.168	-0.173	-0.007	-1.146
	(1.229)	(0.764)	(1.393)	(1.407)	(0.049)	(0.745)
*Treatment*After*	-0.075	0.250	0.035	0.010	-0.047	0.230
	(0.103)	(0.575)	(0.189)	(0.053)	(0.203)	(0.111)
lnMV	-1.377***	-0.015	-0.219***	-0.231***	-0.164**	-2.446***
	(6.867)	(0.122)	(4.264)	(4.409)	(2.190)	(4.366)
Age	-0.555**	0.576***	-0.173***	-0.144**	-0.003	-1.537**
	(2.471)	(3.780)	(2.894)	(2.212)	(0.037)	(2.440)
Volatility	-19.292***	18.075***	-1.280	-0.447	7.063***	-37.948**
	(3.590)	(5.348)	(0.756)	(0.257)	(3.134)	(2.248)
Leverage	-0.781	0.547	0.317	0.430*	0.205	-4.381*
	(0.964)	(1.034)	(1.452)	(1.841)	(0.665)	(1.715)
BV/MV	-0.014	0.007	-0.001	-0.0003	0.007*	-0.078
	(1.139)	(0.842)	(0.286)	(0.065)	(1.660)	(1.360)
Tangibility	-0.280	0.248	-0.391*	-0.436**	-0.137	2.792
	(0.352)	(0.409)	(1.745)	(2.008)	(0.524)	(1.172)
No. of observations	164	164	164	164	164	164
Adj. R^2	0.226	0.274	0.160	0.174	0.175	0.128

Panel A presents the DiD regression without control variables and in Panel B the results of the DiD estimation with control variables are presented. *Treatment* equals 1 for matched treated companies and 0 for matched control firms; *After* takes the value of 1 for 2014 and 0 for 2013; *lnILLIQ* is the logarithm of the Amihud illiquidity ratio; *lnTurn* is the logarithm of the turnover ratio; *lnPQCS* is the logarithm of the Percent Quoted Closing Spread; *lnPECS* is the logarithm of the Percent Effective Closing Spread; *lnFHT* is the logarithm of the Fong, Holden and Trzcinka spread estimator; *lnLiu* denotes logarithm of the Liu's liquidity measure; *lnMV* denotes the natural logarithm of the market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *Tangibility* is net property, plant and equipment scaled by total assets. t-statistics are given in parentheses and asterisks denote the statistical significance at the 0.1 (*), 0.05 (**) and 0.01 (***) levels.

Table A2. Difference-in-Differences – full sample

Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*
const	158.41**	-0.019	0.054***	0.020	-0.016	4.290***
	(2.387)	(0.104)	(2.676)	(1.536)	(0.536)	(6.280)
Treatment	52.854**	0.137	0.022***	0.010***	0.013	1.401***
	(2.293)	(1.309)	(3.080)	(2.712)	(1.590)	(3.849)
After	-1.237	-0.078	-0.001	0.0002	0.003	0.794*
	(0.033)	(0.844)	(0.088)	(0.039)	(0.245)	(1.762)
*Treatment*After*	-22.274	0.041	-0.005	-0.003	-0.007	-0.856*
	(0.594)	(0.293)	(0.465)	(0.526)	(0.605)	(1.783)
lnMV	-18.488***	-0.023	-0.006***	-0.003**	-0.003	-0.163**
	(2.633)	(0.786)	(2.791)	(2.082)	(0.930)	(2.298)
Age	-16.469**	0.130***	-0.004*	-0.001	0.001	-0.498***
	(2.360)	(3.389)	(1.824)	(1.251)	(0.318)	(3.500)
Volatility	1091.75**	3.044**	0.453***	0.299***	0.911***	-3.244
	(2.380)	(2.188)	(3.055)	(3.064)	(3.978)	(1.181)
Leverage	-11.323	-0.002	-0.003	-0.001	-0.002	-0.050
	(1.362)	(0.046)	(0.994)	(0.782)	(0.632)	(1.025)
BV/MV	1.532*	0.004	0.0003	0.002	0.001	0.001
	(1.954)	(0.872)	(0.934)	(1.293)	(1.204)	(0.145)
Tangibility	-69.567**	-0.142	-0.0005	0.001	0.003	-0.649
	(2.416)	(0.957)	(-0.050)	(0.187)	(0.256)	(1.498)
No. of observations	635	635	635	635	635	635
Adj. R^2	0.248	0.049	0.385	0.427	0.504	0.122

Treatment equals 1 for matched treated companies and 0 for matched control firms; *After* takes the value of 1 for 2014 and 0 for 2013; *ILLIQ* is the Amihud illiquidity ratio; *Turn* is the turnover ratio; *PQCS* is the Percent Quoted Closing Spread; *PECS* is the Percent Effective Closing Spread; *FHT* is the Fong, Holden and Trzcinka spread estimator; *Liu* denotes Liu's liquidity measure; *lnMV* denotes the natural logarithm of the market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *Tangibility* is net property, plant and equipment scaled by total assets. t-statistics are given in parentheses and asterisks denote the statistical significance at the 0.1 (*), 0.05 (**) and 0.01 (***) levels.

Table A3. Difference-in-Differences (log-transformed liquidity measures) – full sample

Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*lnILLIQ*	*lnTurn*	*lnPQCS*	*lnPECS*	*lnFHT*	*lnLiu*
const	8.598***	-2.981***	-2.380***	-3.134***	-3.112***	3.960***
	(19.61)	(9.343)	(17.07)	(18.86)	(16.00)	(2.960)
Treatment	0.724**	0.820***	0.411***	0.391***	0.640***	1.098
	(2.225)	(4.146)	(4.496)	(4.148)	(6.063)	(1.189)
After	-0.240	-0.255	-0.034	-0.037	0.169	0.096
	(0.768)	(1.139)	(0.341)	(0.366)	(1.464)	(0.106)
*Treatment*After*	-0.306	0.035	-0.075	-0.048	-0.171	-0.976
	(0.798)	(0.139)	(0.675)	(0.419)	(1.308)	(0.888)
lnMV	-1.274***	-0.103**	-0.242***	-0.249***	-0.271***	-1.468***
	(17.41)	(2.273)	(13.07)	(12.22)	(11.38)	(7.806)
Age	-0.478***	0.402***	-0.116***	-0.103***	-0.075**	-1.091***
	(4.605)	(5.780)	(4.086)	(3.496)	(2.051)	(3.728)
Volatility	-1.689	4.463**	3.540***	4.282***	7.357***	-10.107
	(0.838)	(2.507)	(4.415)	(4.238)	(6.193)	(1.340)
Leverage	-0.132	0.020	-0.020	-0.013	-0.012	-0.120
	(1.576)	(0.345)	(0.766)	(0.519)	(0.602)	(0.356)
BV/MV	0.007	-0.003	0.005**	0.005**	0.009***	-0.004
	(0.934)	(0.644)	(2.046)	(2.124)	(3.594)	(0.218)
Tangibility	0.270	0.141	-0.059	-0.053	0.009	1.250
	(0.650)	(0.525)	(0.518)	(0.461)	(0.069)	(1.056)
No. of observations	635	635	634	635	635	635
Adj. R^2	0.546	0.142	0.567	0.569	0.625	0.161

Treatment equals 1 for matched treated companies and 0 for matched control firms; *After* takes the value of 1 for 2014 and 0 for 2013; *lnILLIQ* is the logarithm of the Amihud illiquidity ratio; *lnTurn* is the logarithm of the turnover ratio; *lnPQCS* is the logarithm of the Percent Quoted Closing Spread; *lnPECS* is the logarithm of the Percent Effective Closing Spread; *lnFHT* is the logarithm of the Fong, Holden and Trzcinka spread estimator; *lnLiu* denotes logarithm of the Liu's liquidity measure; *lnMV* denotes the natural logarithm of the market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *Tangibility* is net property, plant and equipment scaled by total assets. t-statistics are given in parentheses and asterisks denote the statistical significance at the 0.1 (*), 0.05 (**) and 0.01 (***) levels.

Table A4. Difference-in-Differences (number of OFEs)

Panel A: No control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*
const	38.871***	0.490***	0.032***	0.016***	0.020***	1.488***
	(4.803)	(3.161)	(10.75)	(10.57)	(9.230)	(5.476)
NoOFE	2.971	-0.013	0.001	0.0003	0.001	0.057
	(1.175)	(0.438)	(0.773)	(0.740)	(1.106)	(0.603)
After	-7.224	-0.024	-0.0002	-0.0003	0.003	0.659*
	(0.637)	(0.098)	(0.049)	(0.127)	(1.147)	(1.733)
*NoOFE*After*	-2.806	0.002	-0.001	-0.001	-0.001	-0.173
	(0.727)	(0.048)	(0.654)	(0.805)	(0.778)	(1.188)
No. of observations	164	164	164	164	164	164
Adj. R^2	-0.007	-0.018	-0.015	-0.014	-0.010	0.001
Panel B: Control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*
const	129.46***	-2.021**	0.063***	0.030***	0.010	3.096***
	(4.259)	(2.443)	(7.098)	(6.388)	(0.964)	(3.815)
NoOFE	1.677	0.003	-0.0003	-0.0002	0.0003	0.041
	(0.603)	(0.083)	(0.338)	(0.502)	(0.378)	(0.401)
After	-12.779	-0.014	-0.003	-0.002	0.001	0.582
	(1.237)	(0.061)	(0.942)	(1.052)	(0.456)	(1.564)
*NoOFE*After*	-2.398	0.010	-0.001	-0.001	-0.001	-0.162
	(0.610)	(0.218)	(0.489)	(0.655)	(0.823)	(1.069)
lnMV	-12.827***	0.150	-0.005***	-0.003***	-0.001	-0.139
	(2.554)	(1.286)	(3.076)	(3.274)	(0.844)	(0.910)
Age	-11.201**	0.261**	-0.006***	-0.003**	-0.001	-0.303
	(2.043)	(2.332)	(2.937)	(2.470)	(0.489)	(1.584)
Volatility	-138.94	17.557***	-0.015	0.009	0.180***	-7.943*
	(0.754)	(3.172)	(0.287)	(0.316)	(3.261)	(1.843)
Leverage	-17.626	1.168	0.012*	0.008**	0.010	-0.332
	(0.668)	(1.520)	(1.688)	(2.006)	(1.298)	(0.492)
BV/MV	-0.126	0.024	-0.000	-0.000	0.0001*	-0.016**
	(0.391)	(1.147)	(0.350)	(0.196)	(1.750)	(2.121)
Tangibility	-11.610	-0.614	-0.008	-0.005	0.000	0.456
	(0.527)	(1.066)	(1.020)	(1.522)	(0.016)	(0.528)
No. of observations	164	164	164	164	164	164
Adj. R^2	0.033	0.220	0.119	0.127	0.199	0.009

Panel A presents the DiD regression without control variables and in Panel B the results of the DiD estimation with control variables are presented. *NoOFE* is the number of OFEs in treated companies' shareholders' structure and equals 0 for matched control firms; *After* takes the value of 1 for 2014 and 0 for 2013; *ILLIQ* is the Amihud illiquidity ratio; *Turn* is the turnover ratio; *PQCS* is the Percent Quoted Closing Spread; *PECS* is the Percent Effective Closing Spread; *FHT* is the Fong, Holden and Trzcinka spread estimator; *Liu* denotes Liu's liquidity measure; *lnMV* denotes the natural logarithm of the market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *Tangibility* is net property, plant and equipment scaled by total assets. t-statistics are given in parentheses and asterisks denote the statistical significance at the 0.1 (*), 0.05 (**) and 0.01 (***) levels.

Table A5. Difference-in-Differences (OFE ownership)

Panel A: No control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*
const	37.339***	0.559***	0.032***	0.016***	0.020***	1.468***
	(4.801)	(2.920)	(10.83)	(10.66)	(9.648)	(5.604)
OFEown	-0.479	-0.019	0.000	0.000	0.0003	0.011
	(0.780)	(1.462)	(0.313)	(0.286)	(1.465)	(0.489)
After	-6.917	-0.027	-0.001	-0.0005	0.003	0.665*
	(0.632)	(0.087)	(0.129)	(0.250)	(1.019)	(1.831)
*OFEown*After*	-0.841	0.001	-0.0002	-0.0001	-0.0002	-0.049
	(0.864)	(0.056)	(0.589)	(0.657)	(0.707)	(1.397)
No. of observations	164	164	164	164	164	164
Adj. R^2	-0.008	-0.011	-0.016	-0.014	-0.007	0.004
Panel B: Control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*
Const	132.2***	-2.027**	0.063***	0.030***	0.010	3.151***
	(4.351)	(2.506)	(7.103)	(6.269)	(0.912)	(3.943)
OFEown	0.588	-0.002	-0.000	-0.000	0.000	0.017
	(0.863)	(0.198)	(0.079)	(0.346)	(0.485)	(0.712)
After	-11.505	0.030	-0.003	-0.002	0.0004	0.625*
	(1.179)	(0.113)	(0.895)	(1.073)	(0.193)	(1.763)
*OFEown*After*	-0.941	-0.007	-0.0003	-0.0001	-0.0001	-0.053
	(0.934)	(0.375)	(0.636)	(0.694)	(0.515)	(1.439)
lnMV	-13.130***	0.158	-0.005***	-0.002***	-0.001	--0.142
	(2.706)	(1.410)	(3.163)	(3.296)	(0.778)	(0.973)
Age	-11.304**	0.260**	-0.006***	-0.003**	-0.001	0.297
	(2.018)	(2.330)	(2.860)	(2.382)	(0.459)	(1.524)
Volatility	-150.36	17.656***	-0.017	0.009	0.179***	-8.425*
	(0.828)	(3.189)	(0.305)	(0.303)	(3.228)	(1.975)
Leverage	-17.145	1.122	0.013*	0.008**	0.010	-0.280
	(0.647)	(1.508)	(1.788)	(2.064)	(1.217)	(0.410)
BV/MV	-0.124	0.024	-0.000	-0.000	0.0001*	-0.015**
	(0.383)	(1.126)	(0.316)	(0.154)	(1.676)	(2.088)
Tangibility	-11.718	-0.631	-0.008	-0.006	-0.0002	0.432
	(0.533)	(1.085)	(1.078)	(1.588)	(0.036)	(0.499)
No. of observations	164	164	164	164	164	164
Adj. R^2	0.035	0.221	0.118	0.126	0.195	0.013

Panel A presents the DiD regression without control variables and in Panel B the results of the DiD estimation with control variables are presented. *OFEown* is OFEs ownership in treated companies' shareholders' structure and equals 0 for matched control firms; *After* takes the value of 1 for 2014 and 0 for 2013; *ILLIQ* is the Amihud illiquidity ratio; *Turn* is the turnover ratio; *PQCS* is the Percent Quoted Closing Spread; *PECS* is the Percent Effective Closing Spread; *FHT* is the Fong, Holden and Trzcinka spread estimator; *Liu* denotes Liu's liquidity measure; *lnMV* denotes the natural logarithm of the market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *Tangibility* is net property, plant and equipment scaled by total assets. t-statistics are given in parentheses and asterisks denote the statistical significance at the 0.1 (*), 0.05 (**) and 0.01 (***) levels.

Table A6. Difference-in-Differences (average OFE ownership)

Panel A: No control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*
const	34.015***	0.559***	0.031***	0.015***	0.020***	1.365***
	(4.318)	(2.873)	(10.70)	(10.83)	(9.388)	(5.495)
AvgOFEown	-0.652	-0.048	-0.001	-0.0004	0.001	-0.030
	(0.309)	(1.357)	(0.652)	(0.758)	(1.113)	(0.356)
After	-6.661	-0.062	-0.001	-0.001	0.002	0.480
	(0.636)	(0.195)	(0.300)	(0.493)	(0.828)	(1.343)
*AvgOFEown*After*	-2.279	0.023	-0.0002	-0.000	-0.0004	-0.020
	(0.666)	(0.370)	(0.186)	(0.105)	(0.493)	(0.189)
No. of observations	164	164	164	164	164	164
Adj. R^2	-0.001	-0.014	-0.010	-0.006	-0.010	-0.002
Panel B: Control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*
Const	131.68***	-2.031**	0.062***	0.028***	0.011	2.988***
	(4.188)	(2.507)	(6.842)	(5.896)	(0.912)	(3.579)
AvgOFEown	0.807	0.002	-0.0003	-0.0003	0.0003	-0.005
	(0.333)	(0.065)	(0.309)	(0.565)	(0.536)	(0.053)
After	-10.102	0.072	-0.004	-0.002	-0.001	0.477
	(1.115)	(0.264)	(1.055)	(1.377)	(0.345)	(1.353)
*AvgOFEown*After*	-3.031	-0.038	-0.0004	-0.000	0.0002	-0.049
	(0.845)	(0.700)	(0.294)	(0.120)	(0.300)	(0.449)
lnMV	-13.305***	0.153	-0.005***	-0.002***	-0.001	-0.127
	(2.755)	(1.394)	(3.075)	(3.009)	(0.768)	(0.850)
Age	-11.068*	0.258**	-0.006***	-0.003***	-0.001	-0.294
	(1.961)	(2.347)	(2.867)	(2.398)	(0.516)	(1.527)
Volatility	-169.96	17.962***	-0.018	0.009	0.183***	-8.376*
	(0.890)	(3.161)	(0.327)	(0.300)	(3.552)	(1.888)
Leverage	-14.012	1.102	0.013*	0.008**	0.009	-0.277
	(0.515)	(1.537)	(1.824)	(2.133)	(1.121)	(0.408)
BV/MV	-0.094	0.023	-0.000	-0.000	0.0001	-0.016**
	(0.292)	(1.116)	(0.269)	(0.077)	(1.375)	(2.068)
Tangibility	-11.172	-0.627	-0.008	-0.005	-0.0004	0.441
	(0.516)	(1.074)	(1.076)	(1.574)	(0.079)	(0.510)
No. of observations	164	164	164	164	164	164
Adj. R^2	0.037	0.222	0.117	0.126	0.199	0.004

Panel A presents the DiD regression without control variables and in Panel B the results of the DiD estimation with control variables are presented. *AvgOFEown* is an average OFEs ownership in treated companies' shareholders' structure and equals 0 for matched control firms; *After* takes the value of 1 for 2014 and 0 for 2013; *ILLIQ* is the Amihud illiquidity ratio; *Turn* is the turnover ratio; *PQCS* is the Percent Quoted Closing Spread; *PECS* is the Percent Effective Closing Spread; *FHT* is the Fong, Holden and Trzcinka spread estimator; *Liu* denotes Liu's liquidity measure; *lnMV* denotes the natural logarithm of the market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *Tangibility* is net property, plant and equipment scaled by total assets. t-statistics are given in parentheses and asterisks denote the statistical significance at the 0.1 (*), 0.05 (**) and 0.01 (***) levels.

Table A7. Difference-in-Differences (one OFE vs more)

Panel A: No control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*
const	37.176***	0.298***	0.032***	0.016***	0.021***	1.332***
	(3.684)	(4.070)	(9.110)	(9.408)	(7.727)	(4.524)
Treatment1	10.399	0.794	0.002	-0.000	0.005	-0.146
	(0.789)	(1.281)	(0.319)	(0.004)	(1.097)	(0.218)
Treatment2	-0.528	0.044	-0.0005	-0.001	-0.003	-0.189
	(0.036)	(0.353)	(0.095)	(0.252)	(0.771)	(0.365)
After	-3.959	-0.102	-0.0004	-0.0004	0.004	0.447
	(0.311)	(1.229)	(0.080)	(0.168)	(1.139)	(0.995)
*Treatment1*After*	-19.078	0.235	-0.001	0.000	-0.003	0.521
	(0.742)	(0.232)	(0.079)	(0.018)	(0.531)	(0.681)
*Treatment2*After*	-9.567	0.107	-0.004	-0.002	-0.005	-0.378
	(0.440)	(0.521)	(0.467)	(0.620)	(0.817)	(0.526)
No. of observations	164	164	164	164	164	164
Adj. R^2	-0.017	0.033	-0.024	-0.020	-0.017	-0.002
Panel B: Control variables						
Model	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	*ILLIQ*	*Turn*	*PQCS*	*PECS*	*FHT*	*Liu*
const	129.17***	-2.171**	0.063***	0.029***	0.011	2.905***
	(4.376)	(2.456)	(7.350)	(6.434)	(1.087)	(3.544)
Treatment1	7.704	0.534	0.0005	-0.0004	0.006	-0.363
	(0.594)	(1.179)	(0.082)	(0.120)	(1.487)	(0.548)
Treatment2	-3.707	-0.004	-0.003	-0.002	0.002	-0.315
	(0.243)	(0.032)	(0.657)	(0.803)	(0.627)	(0.612)
After	-10.788	-0.122	-0.004	-0.002	0.002	0.333
	(0.959)	(0.875)	(1.097)	(1.276)	(0.582)	(0.756)
*Treatment1*After*	-15.295	0.272	0.002	0.001	-0.002	0.600
	(0.622)	(0.311)	(0.180)	(0.259)	(0.350)	(0.808)
*Treatment2*After*	-6.330	0.193	-0.002	-0.002	-0.005	-0.291
	(0.294)	(0.985)	(0.245)	(0.421)	(0.917)	(0.402)
lnMV	-13.338***	0.179	-0.005***	-0.003***	-0.001	-0.154
	(2.866)	(1.627)	(3.223)	(3.324)	(0.925)	(1.031)
Age	-11.175**	0.225**	-0.006***	-0.003**	-0.0003	-0.308
	(2.071)	(2.386)	(2.856)	(2.360)	(0.229)	(1.614)
Volatility	-143.74	16.749***	-0.013	0.010	0.188***	-7.912*
	(0.738)	(3.194)	(0.238)	(0.353)	(3.584)	(1.775)
Leverage	-15.335	1.194***	0.013*	0.008**	0.010	-0.268
	(0.570)	(1.575)	(1.685)	(2.041)	(1.303)	(0.395)
BV/MV	-0.122	0.028	-0.000	-0.000	0.0001	-0.019**
	(0.375)	(1.231)	(0.441)	(0.286)	(1.455)	(2.147)
Tangibility	-9.706	-0.539	-0.008	-0.005	-0.001	0.544
	(0.453)	(0.987)	(0.987)	(1.456)	(0.101)	(0.631)
No. of observations	164	164	164	164	164	164
Adj. R^2	0.024	0.245	0.113	0.125	0.211	0.007

Panel A presents the DiD regression without control variables and in Panel B the results of the DiD estimation with control variables are presented. *Treatment1* equals 1 for matched treated companies with only 1 OFE in shareholders structure and 0 otherwise; *Treatment2* equals 1 for matched treated companies with more than 1 OFE in shareholders structure and 0 otherwise; *After* takes the value of 1 for 2014 and 0 for 2013; *ILLIQ* is the Amihud illiquidity ratio; *Turn* is the turnover ratio; *PQCS* is the Percent Quoted Closing Spread; *PECS* is the Percent Effective Closing Spread; *FHT* is the Fong, Holden and Trzcinka spread estimator; *Liu* denotes Liu's liquidity measure; *lnMV* denotes the natural logarithm of the market value of equity; *Age* is the logarithm of the number of years since first listing; *Volatility* is a standard deviation of weekly log returns; *Leverage* is total debt scaled by total capital; *BV/MV* is a book-to-market ratio; *Tangibility* is net property, plant and equipment scaled by total assets. t-statistics are given in parentheses and asterisks denote the statistical significance at the 0.1 (*), 0.05 (**) and 0.01 (***) levels.