The Effect of Institutional Investors' Voice on the Terms and Outcome of Freeze-out Tender Offers

by

Beni Lauterbach* and Yevgeny Mugerman**

November 2019

Abstract

We study the impact of institutional investors' "voice" on 201 going private tender offers by controlling shareholders ("freeze-out" offers) in Israel. Israeli regulatory intervention in freeze-out tender offers is relatively mild, thus institutional investors' activism becomes crucial. We find that institutional voice has dual effects. On one hand, when there are pre-negotiations with institutional investors' (their voice is heard), accepted offers' premiums increase. On the other hand, when institutional investors express their voice, yet reject the offer, these rejections appear to hurt shareholders' value. We also document significant institutional investor exit after rejected offers, especially after offers preceded by voice (pre-negotiations with institutional investors).

* *Corresponding author:* School of Business Administration, Bar-Ilan University, Ramat Gan 52900, ISRAEL, and ECGI. E-mail: beni.lauterbach@biu.ac.il

** School of Business Administration, Bar Ilan University, Ramat Gan 52900, ISRAEL. E-mail: yevgeny.mugerman@biu.ac.il

We have benefitted from the comments of Lucian Bebchuk, Bernie Black, Janis Brezins, Asaf Eckstein, Miriam Schwartz-Ziv, the journal referee and especially the Editor (Jean Helwege). Presentations at Bar Ilan University, the 2017 Ackerman Corporate Governance Conference, and the 2019 ECGI Roundtable on "Why are Fewer Companies Going Public?" were also extremely useful. All remaining errors are our own. Financial support by the Raymond Ackerman Family Chair in Israeli Corporate Governance is gratefully acknowledged.

The Effect of Institutional Investors' Voice on the Terms and Outcome of Freeze-out Tender Offers

Abstract

We study the impact of institutional investors' “voice” on 201 going private tender offers by controlling shareholders ("freeze-out" offers) in Israel. Israeli regulatory intervention in freeze-out tender offers is relatively mild, thus institutional investors’ activism becomes crucial. We find that institutional voice has dual effects. On one hand, when there are pre-negotiations with institutional investors’ (their voice is heard), accepted offers’ premiums increase. On the other hand, when institutional investors express their voice, yet reject the offer, these rejections appear to hurt shareholders’ value. We also document significant institutional investor exit after rejected offers, especially after offers preceded by voice (pre-negotiations with institutional investors).

JEL classification: G23; G32; G34; G38

Keywords: Going private transactions; Institutional Investors activism; bargaining with controlling shareholders; tender offers.

1. Introduction

Existing literature describes two possible channels through which institutional investors may influence corporate decision making – voice and exit (or threat of exit). According to the survey by McCahery, Sautner and Starks (2016), exit is the most popular governance mechanism employed by institutional investors. In response to dissatisfaction with firm's achievements, institutions tend to sell their shares. This massive sell of shares serves as a governance mechanism (Admati and Pfleiderer, 2009), and empirical evidence such as Parrino et al. (2003) suggests it has a real impact on corporate decisions.

McCahery et al. (2016) also provide evidence on the particular means of voice that institutions prefer. In order of declining frequency, they report that institutions engage in discussions with top management, vote against management, engage in discussions with the board outside of management, propose a specific action to management, and aggressively question management on a conference call.

Helwege, Intintoli and Zhang (2012) study the intertemporal change in the relative weight of voice versus exit. They compare forced CEO turnovers in the U.S. in two subperiods 1982–1994 and 1995-2006, and find a diminishing role for institutional exit in forced CEO turnovers and a stable over time role for institutional investors' activism. Helwege et al. (2012) propose that over time institutional holdings in the U.S. became too large for exit, leaving voice as the main potential activism vehicle.[1]

[1] In fact, in recent years, institutional investors as a group became majority shareholders in many U.S. public firms, shifting public and research attention to the agency problems that large institutional holdings generate – see Azar, Schmaltz and Cesu (2018) and Bebchuk and Hirst (2019).

Existing evidence on the effect of institutional activism is massive. Cheng et al. (2010) study class action lawsuits. They show that when the lead plaintiff is an institution (such as a public pension fund) rather than an individual, the class action is less likely to be dismissed and has a higher monetary settlement; in addition, the target firm is more likely to increase board independence after the lawsuit. Del Guercio and Hawkins (1999) show that shareholder proposals by active pension funds lead to asset sales, restructurings, and layoffs, yet have no effect on stock or accounting performance. Denes, Karpoff and McWilliams (2017) review 30 years of empirical research of activism, and conclude that hedge fund activism increases firm values while institutional and other public shareholders' activism is milder and has insignificant value effects.

We aspire to provide further evidence on the value effects of institutional investors' voice by studying its effect in the extreme case of freeze-out tender offers. In these deals the controlling shareholders issue a tender offer to all public shareholders proposing to buy all public shares, and if successful, they take the firm private. In some sense freeze-out transactions are large scale insider trading. Atanasov et al (2011) classify freeze-outs as a potential equity tunneling, that is as a potential attempt to change controlling shareholders' share in the firm at the expense of minority shareholders.[2]

In many freeze-out offers controlling shareholders conduct beyond the scenes negotiations with institutional investors about offer price in order to improve the tender offer success probability. We expect institutional investors to utter their voice rather

[2] Evidence on freeze-out offers is scarce. However, Atanasov, Black, Ciccotello and Gyoshev (2010) document how in Bulgaria a change in the law increased the median freeze-out offers' premium from about zero to 42%. Apparently, before the law reform, freeze-out offers in Bulgaria were grossly exploitive.

decisively in such negotiations because of several reasons. First, the transaction is big and significant. Second, as a terminal deal, motives like maintaining good relations with the firm, which regularly inhibit or restrain institutional engagement, disappear, as the firm is about to get delisted from the exchanges. Last, these transactions are probably at the focus of media and regulatory attention, thus for public image reasons "responsible" institutional investors must opine. In sum, freeze-out offers are an ideal setting for a clear institutional voice.

Our sample comprises 201 freeze-out tender offers made by controlling shareholders of Israeli publicly traded firms during 2000 – 2016. While Israel ranks about the middle in international corporate governance rankings (see our review in section 2.3), Israeli regulatory supervision of freeze-out tender offers is relatively mild. Unlike the U.S., in Israel there are no special procedural requirements for such tender offers. Freeze-out offers can be made by the firm itself (requires only a regular board decision that does not involve special committees, special majority or even a fairness opinion). Alternatively, controlling shareholders can make the offer directly to the public. Disclosure requirements are likewise relatively loose. Besides the offer price, the freeze-out tender offer provides only concise information about the controlling shareholders' holdings and on the recent stock price record. Finally, voting advisory firms (the Israeli equivalent of ISS in the U.S.) do not review or opine about the offer since the offer does not require shareholders' vote. Essentially, institutional and small public investors are left on their own. Again, such an environment should intensify institutional investors' voice.

It is noteworthy that the voice we study is different than activism. In our study institutional investors do not initiate any action (are not activists). Rather, their opinion

is asked for during pre-negotiations. Their voice in our case is not loud; nevertheless, it might still be demanding. Given this perspective, we can also examine the effect of institutional investors on offer acceptance probability and offer price when their voice is not heard, i.e., in cases where there are no pre-negotiations with institutional investors, and even in cases where institutional investors do not hold firm shares at all. Such additional tests may enrich our understanding of the value effects of institutional investors' voice.

We find that institutional investor voice increases accepted freeze-out offers' premium significantly. When there are indications about prior negotiations between controlling shareholders and institutional investors, our estimates show an average increase in accepted offer premiums of about 16% (relative to cases where there are no pre-negotiations with institutional investors). However, institutional voice does not always benefit public shareholders. When freeze-out offers are rejected despite pre-negotiations with institutional investors, shareholders on average lose from the rejection, as the ultimate mean abnormal share price increase (from one day before offer announcement to six months after the offer rejection) is less than the offered premium. Further, isolating the effect of the most activist institutional investor in our sample, we find no improvement in accepted offers' premium and a deepening of public investors' loss upon rejection of an offer after pre-negotiations between firm controlling shareholders and the activist institutional investor.

Finally, we also document significant exit (selling of stocks) by institutional investors following rejected freeze-out offers, especially when the rejected offers are preceded by pre-negotiations between institutional investors and the firms. Apparently, institutional investors employ both voice and exit in their relations with public firms.

Section 2 provides a concise background on institutional investors' activism and on freeze-out offers, and presents our hypotheses. Section 3 describes the sample and data. Section 4 reports and discusses our results, and Section 5 concludes.

2. Background

2.1. Existing evidence on institutional investor engagement

The academic literature generally accepts that institutional investors are more informed (Sias and Starks, 1997; Nagel 2005; McCahery, Sautner, and Starks, 2016), help to diminish the information asymmetry (Boone and White, 2015), and engage in some monitoring activities (Callen and Fang, 2013). Institutional investors also tend to suffer less than the public at large from behavioral biases (Barber and Odean, 2008; Kaustia, 2010; Chang, Solomon, and Westerfield, 2016).

However, it is not clear that institutional investors are so anxious to sound their voice. There exist engagement-mitigating factors. First and foremost, institutional investors specialize and are competing with each other on their portfolio returns. Achieving high returns absorbs all their time, attention and energy. Second, some institutional investors want to keep good relations with their portfolio firms' management teams in order to obtain some responses from them on regular days and when firm-specific events occur. Hence, institutional investors' voice may be moderated. Denes et al. (2017) conduct a literature review and conclude that the value effects of institutional investors' activism is insignificant.

Recent surveys of institutional investors such as McCahery, Sautner, and Starks (2016) highlight institutional investor attitude and positions towards engagement and

activism. Most institutional investors prefer selling their shares ("exit") as a response and threat to deficient corporate governance companies. However, "voice" is also customary, as some institutional investors are voting against firm management and/or expressing their concerns behind the scenes by engaging management privately. In yet another twist, Helwege, Intintoli and Zhang (2012) present evidence that exit has declined in importance in recent years. The large and increasing holdings of institutional investors in U.S. public firms have made exit costly or even impractical for institutional investors, leaving them voice as the main dissatisfaction response tool.

Closer to our study, there is some evidence that the impact of institutional investors manifests itself more clearly in significant firm decisions. Gaspar, Massa, and Matos (2005) find that target firms held by institutional investors extract on average a 3% higher premium in mergers and acquisitions. Other studies on mergers and acquisitions also find a significant impact of institutional investors. For example, Chen, Harford, and Li (2007) show that holdings by independent long-term institutions are positively associated with post-merger performance. Moreover, the presence of these institutions makes withdrawal of bad proposals more likely.

2.2. Freeze-out tender offers

The financial and legal literature has studied various aspects of going private transactions. Focusing on companies incorporated in Delaware, for example, Subramanian (2007) shows that premiums in going-private mergers in the U.S. tended to be higher than those of going-private tender offers (perhaps because tender offers' judicial review used to be less demanding). However, following the Delaware courts' adoption of a unified approach to freeze-out tender offers and mergers in 2005 (since June 6, 2005) deal outcomes have converged - see Restrepo and Subramanian (2015).

Subramanian (2005) elaborates the pros and cons of freeze-out deals (going-private transactions initiated by controlling shareholders). On the one hand, these transactions can serve legitimate business purposes. For example, buying out minority shareholders can facilitate synergies with other companies affiliated with the controlling shareholder. Further, delisting the company can save the compliance costs associated with being a publicly-traded company subject to onerous regulation, and it can conceal sensitive information about the firm from competitors' and the public.[3] On the other hand, even when there is a genuine business rationale for taking the firm private, the controlling shareholders can exploit their informational advantage to buy minority shares at a price that does not reflect their fair value (Bebchuk and Kahan, 2000). Interestingly, Goshen and Wiener (2003) argue that this possible adverse selection freeze-out "option" of controlling shareholders has typically only a small impact on stock price.

The law protects public investors from the potential exploitation of freeze-out transaction. In the United States, freeze-out transactions require the firm's board of directors' involvement. If the transaction is structured as a tender offer, the board is required to render its opinion on the transaction, and it will normally rely on an expert fairness opinion.

2.3. The Israeli environment

2.3.1 Israeli law

Unlike in the U.S., the Israeli law does not require any special board discussion or vote on going private tender offers. Boards are also not required to state that the offer

[3] Note that going-private transactions initiated by controlling shareholders are unlikely to be motivated by the desire to replace existing management because the controller is already in charge and will maintain her control over the firm.

price is fair. Further, controlling shareholders making a freeze-out tender offer have no extensive disclosure requirements, and take their offers directly to minority investors. The Israeli law allows controlling shareholders to take the company private if at the end of the offering period controlling shareholders own at least 95% of the company's shares.

The relatively light freeze-out regulation and disclosure requirements in Israel are not typical traits of Israeli corporate governance. For example, going private mergers in Israel require a rigorous procedure much like that of the U.S. This includes special committees of independent directors' negotiations with controlling shareholders, expert "fairness" opinion, board approval, appraisal rights and vast public disclosure. In addition, in general, Israel ranks about the middle in various corporate governance scoring systems. In the anti-self-dealing index developed by Djankov et al. (2008), Israel ranks above the median. It is also a common-law country, a law system that according to La Porta et al. (1998) is relatively good in protecting shareholders' rights. On the other hand, Israel ranks about the middle in the Rossi and Volpin (2004) shareholder protection index, and is significantly below world median in the rule of law index. In sum, the relatively light freeze-out tender offer regulation in Israel appears like an aberrant in the Israeli corporate law system. Note, however, that controlling shareholders in Israel must reach a 95% holding in firm shares before the rest of public shareholders are forced to tender their shares (and going private is completed).[4] This threshold is higher than the 90% threshold required in the U.S., and it definitely provides public shareholders in Israel some offset or extra protection for the relatively lax freeze-out tender offer regulation.

[4] By law, only single class shares trade in Israel. Therefore, 95% holdings in equity = 95% of the vote.

2.3.2 Israeli public firms and institutional investors

Most (between 80 and 90% of) publicly traded firms in Israel, and all the firms in our sample, are closely held. The average control group holdings in Israeli closely held firms in a period (1999-2011) that overlaps most of our sample period (2000-2016) is about 75% - see Abudy and Lauterbach (2015). Typically, the closely-held firms in our sample had an initial public offer at the beginning of the 1990s when the Israeli stock market was booming. With time, the firms that did not grow opted out, as the costs of staying listed exceeded the benefits. The most popular delisting mechanism in Israel was going-private "freeze-out" tender offers. Notably, the delisting trend is not a unique local phenomenon. In the 21st century, going private deals have become popular globally - see Figure 2 in Doidge, Karolyi and Stulz (2017).

Institutional investors in Israel comprise primarily about 15 large players, insurance companies and investment houses that offer various pension plans and provident funds. (These long-term saving plans are presented and compared in Hamdani, Kandel, Mugerman and Yafeh, 2017.) Existing evidence on the behavior of institutional investors in Israel is mixed. Hauser and Lauterbach (2004) find that institutional investors' presence cuts significantly the compensation paid to controlling shareholders upon unifying dual class shares into a single class (converting all shares to "one share one vote"). On the other hand, Hamdani and Yafeh (2013) analyzes votes cast in 2006 by Israeli institutional investors on over 1000 proposals at about 250 public firms. They conclude that the voting behavior of Israeli institutional investors does not indicate effective systematic gatekeeping.

2.4. Factors affecting the response to freeze-out offers

Public investors are suspicious about freeze-out offers because they need to take into account the possibility that controlling shareholders time the offers, i.e. offer to purchase all shares when the stock is undervalued. In such an atmosphere, some offers are rejected, and those that are accepted most probably incorporate a premium that overcomes public's exploitation fears.

There are several factors that promote public suspicion. First, when firm stock price is more volatile, there are more opportunities for timing, hence public suspicion of freeze-out offers increases. Second, when a freeze-out offer is made after a period of severe stock underperformance, public's disquiet about the possibility of timing increases. Last, when there is less public information about the firm, because of its small size for example, information asymmetry between public and controlling shareholders as well as public apprehension are amplified. Thus, we expect that accepted offers' premium is positively correlated with stock return volatility and negatively correlated with firm size and pre-offer stock performance.

Another possible remedy to public fears and hesitation is "behind the scenes" communication with large public investors such as institutional investors. It is likely that such communications end up in an upwardly revised offer price that improves offer acceptance probability. Thus, identifying possible "negotiations" between the firm and its large public shareholders and controlling for them, should increase offer acceptance likelihood and the offer premium. Such "negotiations" between controlling shareholders and public shareholders are where institutional investors' voice (or whisper) can be heard, and where the effect of institutional voice can be monitored.

Finally, controlling shareholders' pre-offer holding of firm shares might affect offer success probability and offer premium. Technically, the higher are controlling shareholders pre-offer holdings the less shares they need to buy to reach the 95% threshold for offer success, and the lower is the percentage of public shareholders they need to convince to tender their shares. Thus, higher pre-offer holdings of controlling shareholders should increase offer success probability and might decrease the offered premium.

2.5. Contribution of the study

We contribute to the literature on institutional investors' voice by examining an extreme situation (freeze-out tender offers), where we offer a glimpse at a unique kind of voice - the voice uttered in behind the scenes negotiations between institutional investors and controlling shareholders. Such a voice is not the standard loud or critical voice attributed to institutional investors, yet it still might be quite demanding and effective. For finer inference, we also examine freeze-out offers with no voice (no pre-negotiations with institutional investors), and freeze-out offers where institutional investors are absent (have no holdings).

We also look and find some evidence of exit. Institutional investors sell shares after rejecting a freeze-out offer. In this context, we find a relation between voice and exit. Exit appears to be particularly strong after institutional voice is refused. Last, our examination of the stock price response in firms with rejected freeze-out offers and our inquiry of the relation between this price response and institutional voice, yields several unexpected new results with potentially important novel insights.

3. Sample

3.1. Sample construction

We search Maya (the web site of Tel Aviv Stock Exchange that assembles all public companies announcements) for freeze-out offers, and find 274 such offers in 2000-2016. From offer announcements we extract information about: the offer price, the offer deadline, and the controlling shareholders' holdings in the company on the eve of the offer. If the offer price is revised before the offer deadline, we use the revised offer price.

The Maya site also serves to download the annual reports of the companies for the pre-offer year. From these reports we extract information needed for computation of firm's size, ROA, leverage and Tobin's Q.

From another section of the Tel Aviv Stock Exchange web site we collect our stock return and trading volume data, and our company industry classification. Finally, institutional investors' holdings in the companies is provided by Praedicta (a local data vendor).

From the initial sample we exclude companies with zero trading volume during month preceding the offer (43 cases) because for these offers the premia cannot be credibly calculated. We also omit 30 offers in which the offer price is below the recent stock price. (We compare offer price to stock price on day -42, day -6, and day -1 before the offer announcement, and only if offer price is below stock price in all these dates we omit the offer.) Offers with consistent negative premia are probably offers for firms in distress that need major restructuring, hence they are different from regular freeze-out offers. Our final sample consists of 201 freeze-out offers in 170 different firms.

(Thus, 31 of the offers are second and third offers in firms where the first offer was rejected.)

The sample firms are all relatively small, and belong to the small firm (Yeter) index of the Tel Aviv Stock Exchange (TASE). They also do not represent well the industry distribution of TASE firms. The sample industry distribution is as follows (in parentheses we report the TASE corresponding figures): merchandising – 31% (14%), manufacturing – 22% (15%), real estate – 21% (21%), investment and holding – 18% (11%). Interestingly, our sample does not include any technology firms, and has relatively few banks and financial services firms.

Finally, we tried to augment the research by searching merger proposals in Israel during the 2000-2016 period. We find 38 merger proposals by controlling shareholders that are essentially going-private attempts. The low frequency of going-private mergers relative to freeze-out tender offers probably reflects the fact that in Israel the regulatory requirements governing going-private mergers are much tighter. In addition, the acceptance rate of these mergers is 92% compared to a 57% acceptance rate in freeze-out tender offers. Thus, going-private mergers appear different than freeze-out offers, and are not added to our sample.

3.2. Descriptive statistics

Table 1 presents descriptive statistics for our freeze-out sample. The average total assets of all sample firms is 1025 million New Israeli Shekels (NIS), which given an average exchange rate of about 4 NIS per U.S. Dollar during the sample period, equals about 256 million Dollars. The mean (median) Tobin's Q, calculated as the ratio of market values of equity plus book value of debt to the book value of total assets, is 1.10 (0.99). Firm profitability appears mediocre as well, with a mean Return on Assets

(ROA) of 1.1%. Also interesting, freeze-out offers typically follow a period of stock price underperformance. The mean (median) weekly net of market return of the sample firms in weeks -55 through -6 relative to the offer announcement is -0.32% (-0.19%).

(Insert Table 1 about here)

Our sample comprises closely-held firms. At the end of the quarter preceding the offer, the mean controlling shareholder holdings and the mean institutional investors' holdings are 82.1% and 4.3% of firm's equity, respectively. Institutional investors are present, i.e. have holdings in 132 (about 66%) of the 201 sample firms.

It is noteworthy, that the mean institutional investor holdings in our sample firms is low relative to the mean institutional holdings in all Tel Aviv Stock Exchange (TASE) firms. We review TASE reports on ownership structure of Israeli publically traded firms (see TASE annual reviews)[5] and find that during 2004-2016, the mean institutional investor holdings in TASE firms is about 15%. The relatively low institutional holdings in our sample firms (4.3%) reflects their small size. It is well known (Ferreira and Matos, 2008) that institutional investors have strong preference for the stock of large firms.[6]

Further, we examine the distribution of the freeze-out offer premiums and find some extreme observations. Thus, we winsorize the premium data at the 5% level (2.5% on each side), and report in Table 1 that the mean winsorized offer premium relative to

[5] https://info.tase.co.il/eng/statistics/annualreviews/Pages/annualreviews.aspx.

[6] In comparison to other economies, the mean institutional holdings in Israeli publically traded firms (15%) is similar to that of Italy and Spain, and lower than the about 50% institutional investor holdings in U.K. and U.S. public firms (for the European data see – http://www.consob.it/documents/46180/46181/qdf86.pdf/21aaca6a-6a6b-42f4-bed7-fd8620642f68; for the U.S. data see– https://www.federalreserve.gov/apps/FOF/Guide/L223.pdf.

the stock price six trading days prior to the tender offer announcement is 23.9% (the median premium is 18.0%).

The mean time given to shareholders to tender their stock is 23 days (median is 19 days). Interestingly, the sample includes 31 repeated offers, 27 of them second attempts by controlling shareholders to take the firm private, and 4 are third attempts.[7] In 58% of the sample offers we observe indications of some pre-negotiation. The pre-negotiation dummy variable is coded as 1 when the offer price is revised during the period between the offer announcement and offer decision date, when the offer proposal reports prior agreements or consents with some of the public investors,[8] and in all repeated offers. In our view, offer price revisions occur after the bidders receive some "feedback" from the market, and second and third offers are made after some "consultation" with the market. Hence, offer price revisions and second and third offers indicate some "behind the scene negotiations".

Last and perhaps the most noteworthy result in Table 1 is the relatively large proportion of rejected offers. The overall failure rate is 43%, and when we restrict ourselves to first offers only, this figure climbs to 48%. These failure rates are large relative to existing evidence from other economies. Restrepo and Subramanian (2015) examine failure rates in the U.S. in 2001-2012. They document rejection rates for freeze-out tender offers of between 12.5% in the pre Cox-ruling era to 23% after it. Bøhren and Krosvik (2013) report an 11% rejection rate for Norway in 1999-2010, and in Bajo et al. (2013) Italian sample offer rejection rate is 15%.

[7] The median time between first and second tender offers is about 6.5 months.

[8] The Israeli Law requires disclosure of any prior agreements or consents between controlling shareholders and public shareholders regarding the freeze-out offer.

4. The Impact of Institutional Investors on Freeze-out Offers

4.1. Offer premia

Table 2 reports the mean offer premium in the overall sample and in the subsamples of accepted and rejected offers. Offer premium is assessed as the ratio of offer price to stock price six trading days before the offer announcement minus one. The choice of stock price on day -6 relative to the announcement is designed to moderate the bias introduced by potential information leakage in the days preceding the freeze-out offer announcement.

(Insert Table 2 about here)

In Table 2 the mean offer premium in the overall sample is 23.9%, and the mean premium in successful offers (24%) about equals the mean premium in failed offers (23.8%). Apparently, offer premium level alone cannot explain the outcome (success or failure) of the freeze-out offer. To further investigate the relation between offer premium and acceptance chances we depict in Figure 1 offer acceptance rate by offer premium quintile. Offer acceptance rate tends to increase modestly with offer premium. In the lower premium quintile, offer acceptance rate is 51.2% while in the upper quintile it is 57.5%.

(Insert Figure 1 about here)

When we split the overall sample according to institutional investor presence, some statistically insignificant differences in premia can be observed. In firms with no institutional holdings the mean premium is 21.5%, whereas in firms with institutional holdings the mean premium is 25.1%. Examining subsamples reveals that institutional investor's impact on the premium is strongest in the subsample of accepted offers,

where in firms with institutional holdings the mean offer premium is 27.0% whereas in firms without institutional investors the mean offer premium is 19.4%. This difference is statistically significant at the 10% level, and it is economically significant because it implies that in accepted offers public shareholders receive on average a 39% (=7.6/19.4*100) higher premium when institutional investors are present.

The second partition reported in Table 2 reveals the relatively strong impact of pre-negotiations on offer premiums. In the overall sample the mean offer premium is 26.7% when there are indications of pre-negotiations between controlling shareholders and some public shareholders and 19.9% when there are no such indications, a difference that is statistically significant at the 10% level. In accepted offers, the mean premium difference is even larger (and more significant) – 26.9% in pre-negotiated deals versus 18.2% in deals with no indications of pre-negotiations.

The evidence in Table 2 suggests that both institutional presence and pre-negotiations between controlling shareholders and the public may be important determinants of freeze-out offer premium. The combination (interaction term) of institutional presence and pre-negotiations is the focal variable in our study. This interaction marks cases where some institutional investors negotiated with controlling shareholders, i.e. cases of institutional voice.

Table 3 examines institutional voice impact on accepted offers' premium. First, we offer some background regressions. In column (1) we summarize our benchmark regressions. These are regressions of the offer premium on two dummy variables: institutional investors' presence and the pre-negotiation indicator, using as controls variables that affect the disbelief level between public and controlling shareholders (firm size, stock return volatility, and abnormal share performance in the previous year),

and the technical factor of control group holdings. All these control variables may affect offer premium – see our discussion in section 2.4. Industry and calendar year fixed effects are also employed.

(Insert Table 3 about here)

In general, Table 3 documents that one of the control variables has a significant effect on accepted offers' premiums - the poorer is the pre-offer stock performance (abnormal return) the higher is the accepted offer premium. Poor performance increases public suspicion that the offer is at least partly driven by timing considerations, hence a higher premium is required for the offer to be accepted. From controlling shareholders' viewpoint, this result may also be palatable because poorer pre-offer stock performance leads to deeper undervaluation, leaving space for a more generous offer.

The two central variables in column (1) are the pre-negotiation indicator and institutional presence. Both have a positive and statistically significant impact on accepted offers' premium. Column (2) presents a parsimonious benchmark model. Pre-negotiations between controlling shareholders and public investors tend to increase offer premium by about 7%, and institutional presence increases offer premium by about 12%.

Column (3) replaces the institutional presence dummy variable with the level aggregate institutional holdings. The effect of institutional holdings is positive yet statistically insignificant. It appears that in our context, the more fundamental variable is institutional presence. Apparently, even one institutional investor can change the picture by somehow forcing controlling shareholders to offer a higher premium.

One clear avenue for institutional investors to affect offer premium is via voice, i.e., pre-negotiations with controlling shareholders. We construct the interaction term pre-negotiation * institutional presence, a dummy variable that equals 1 when there are indications of pre-negotiations between institutional investors and controlling shareholders (and equals 0 otherwise). This interaction term examines whether pre-negotiations have some extra value when they are conducted with institutional investors, i.e., the unique contribution of institutional voice to accepted offers' premium.

When the interaction term is added to the benchmark premium regression – see column (4) of Table 3, its coefficient is positive and statistically significant. Further, the coefficients of the pre-negotiation and institutional presence indicators become statistically insignificant and close to zero. The implication is that pre-negotiations increase accepted offer price only in firms with institutional investors. In firms where institutional investors are absent (interaction term equals zero), pre-negotiations do not increase offer premium beyond the standard levels. We can also start the interpretation from the zero coefficient of institutional presence. From this perspective we can argue that institutional investors increase accepted offer premium only when there are indications of "behind the scene negotiations" between controlling shareholders and the public. In sum, on average, voice is "worthless" (does not increase premiums) when it is not uttered by institutional investors, and institutional investors are "worthless" (do not increase premiums) when they do not utter their voice.

The magnitude of the effect of institutional voice is sizeable. According to column (4), institutional investors' voice increases offer premium by more than 16% relative to the standard, where 16% is computed as the sum of the coefficients of

institutional presence, pre-negotiations and their interaction term. Institutional investors appear to bargain harder and more effectively with controlling shareholders, probably because they are better informed and more professional than other public investors. Institutional investors also appear to offer an externality to other public shareholders, as their voice increases public investors' bite in the freeze-out surplus.

Last, we identified the most activist institutional investor during our sample period. It is Psagot. Psagot was and is one of the largest institutional investors in Israel, and it boasted in its tough uncompromising stance on corporate governance issues. It was the only institution at the time with a corporate governance treaty specifying clear standards and with a black list of companies and persons (directors, for example) who do not pass their standards – see, for example, https://www.haaretz.com/israel-news/business/.premium-psagot-to-blacklist-firms-that-harm-investors-1.5287119 .

In 32 accepted offers we find holdings by Psagot.[9] When we add a dummy variable for Psagot presence (equal to 1 when Psagot holds some of the company shares, and 0 otherwise), and an interaction term between Psagot and the pre-negotiations indicator, the effect of this most activist institutional investor is negligible. As reported in column (5) the coefficients of Psagot and its interaction term are small and statistically insignificant. Evidently, the voice of the most activist institutional investor does not increase accepted offers' premium more than the voice of any other institutional investor. This evidence suggests that in "beyond the scenes" negotiations all institutional investors echo similar voices.

[9] In 69 of the 114 accepted offers there were institutional holdings. The fact that Psagot was a shareholder in 32 (46%) of these 69 firms, illustrates that Psagot is one of the biggest institutional investors in Israel.

A pertinent econometric issue for the tests in Table 3 is selection bias. It can be argued that: 1) firms conducting pre-negotiations are a-priori ready to offer higher premiums, and 2) institutional investors elect a-priori "better" firms, and in such better firms higher premiums are required for offer success. We think that our evidence in columns (4) and (5) that premiums in all offers that don't involve institutional voice (offers where the interaction term is zero) are about equal, illustrates, in our opinion, that the source of our findings is institutional voice. In non-voice offers, there is no difference in the premium between offers with or without institutional investors and between offers with and without pre-negotiations. Thus, institutional voice appears to be the key driving force.

4.2. Offer acceptance likelihood

Another fundamental issue is offer acceptance likelihood. Examining this likelihood is particularly interesting given the relatively low freeze-out offers acceptance rate in our sample. (About half of the offers are rejected.) We estimate offer acceptance likelihood using the following model:

(1) $Success_i = \alpha + \beta_1 inst_i + \beta_2 pre_neg_i + \beta_3 pre_neg_i * inst_i + O'_i\gamma + T'_i\delta + \tau_t + \varphi_s + \varepsilon_i$

where $Success_i$ is the freeze-out tender offer outcome (a binary variable equal to 1 in accepted offers and 0 in rejected offers); $inst_i$ is an indicator of institutional investors' presence (holdings) in the firm*;* *pre-neg*$_i$ is a dummy variable for apparent pre-negotiations between controlling shareholders and public shareholders, *pre-neg.*$_i$**inst.*$_i$ is a dummy variable marking cases of institutional voice; O'_i is a vector of offer characteristics; T'_i is a vector of firm and stock characteristics; τ_t is a year fixed effect; φ_s is an industry fixed effect; and ε_i is an error term clustered at the firm level.

For all of our model specifications, results are qualitatively similar when using a linear model (estimated by OLS), Logit, or Probit models. Table 4 reports the results of a Probit analysis. The analysis is based on 188 (and not 201) offers because certain industries perfectly predict outcome, i.e., have few offers, all of which are either accepted or rejected, and because on year 2000 we have only 2 offers both of which are accepted. These cases of perfect predictions by a year or industry fixed effects must be dropped from the analysis.

Column (1) of Table 4 presents our benchmark regression, and column (2) presents its parsimonious version. Two control variables appear significant. First, the larger the firm, the higher the probability of freeze-out offer's success. This finding may be a result of information asymmetry and uncertainty which are known to be higher for smaller firms. Public shareholders who fear exploitive freeze-out offers can probably evaluate freeze-out offers in larger firm more precisely; thus, they reject them less often. Second, the coefficient of control group's pre-offer stake is positive and statistically significant. This may be explained as a technical factor - when the pre-offer holdings of the control group are higher, controlling shareholders need to purchase fewer shares from the public in order to clear the 95% holding hurdle assuring freeze-out offer success.

(Insert Table 4 about here)

The two focal variables in columns (1) and (2) are institutional presence and the pre-negotiations indicator. The positive and statistically significant coefficient of the pre-negotiation indicator is expected. It shows that when controlling shareholders listen to key public shareholders and adjust offer price accordingly, the chances of offer success increase.

Perhaps less expected is the finding that institutional investors' presence in a company decreases the probability of freeze-out offer acceptance. The coefficient of institutional investor presence is negative and statistically significant, and its magnitude implies that acceptance (rejection) frequency decreases (increases) by 17% when institutional investors hold the firm. Looking back at Table 2, a similar phenomenon can be observed. The probability of offer rejection increases from 35% (24/69) when institutions are absent to 48% (63/132) when institutional investors are present.

Column (3) of Table 4 replaces institutional presence with the level of institutional investors' aggregate holdings. The coefficient of institutional holdings is negative and statistically insignificant. As in the premium analysis of Table 3, the main trigger appears to be the mere presence of an institutional investor.

Column (4) examines our central interest – the effect of institutional voice. As previously, institutional voice is represented by the interaction of pre-negotiation and institutional presence. Unlike the premium analysis (Table 3), the interaction term coefficient is statistically insignificant. Nevertheless, it is positive, and suggests that pre-negotiations with institutional investors (i.e., listening to institutional investors' voice) increases offers acceptance likelihood.

Column (5) adds the activist institutional investor (Psagot) dummy variable and its interaction with pre-negotiations. The interaction term, representing the Psagot voice effect is positive yet statistically insignificant, indicating that negotiating with the activist weakly increases offer acceptance likelihood. However, perhaps more important in column (5) is the negative and significant coefficient of the activist (Psagot) dummy variable. It suggests that the activist (Psagot) presence significantly decreases offer success probability. The activist probably reveals a hostile behavior

towards freeze-out offers, leading to a higher rejection rate of these offers. The tendency of institutional investors to reject freeze-out offers is apparent also in the results of column (4), where the coefficient of institutional investor presence is negative and statistically significant. What column (5) reveals is that the most militant institutional investor (Psagot) is the most pivotal in offer rejections. Anyway, the key result in Table 4 is that institutional presence is associated with a significantly higher rejection rate.

4.3. Rejection decision ex-post rationality

The finding in the previous section that institutional investors' presence increases the likelihood of offer failure suggests that institutional investors identify and filter out some exploitive freeze-out offers that the public cannot identify on its own. If this interpretation is correct, and some of the freeze-out offers are timing attempts (attempts to buy undervalued stocks) by controlling shareholders, then, on average, the future stock performance of firms with rejected offers might be positive.

We employ the cumulative excess return of firm shares from offer proposal to about half a year after its rejection, CAR_rejected hereafter, as our measure of the true underpricing of the stock. Note that CAR_rejected starts on offer date, thus representing the alternative gain or return to shareholders who do not accept the offer. CAR_rejected extends till half a year after the rejection because if some freeze-out offers are based on inside information, we have to allow a few months after the rejection decision for most of this information to leak out or be publically disclosed. In addition, the median time till a repeated offer is about 6.5 months, and we do not want to overlay offers.

We estimate CARs (cumulative abnormal returns) using the net of market methodology. This choice is not arbitrary. When we attempt the market model methodology with parameter estimation before the freeze-out announcement, we find

negative market model intercepts for most of our sample stocks. This suggests that on average firms that receive freeze-out offers are in some kind of a crisis or slide before the offer. In our opinion, the deterioration biases market model parameters and renders the market model estimation unfit. We also attempt to employ the market model with parameter estimation after the offer rejection. However, this shrinks sample size by about a third.[10]

In practice, we compute the excess return of stock i, as:

(2) $AR_{iT} = R_{i,T} - R_{M,T}$,

where AR_{iT} is the excess return of stock i on day T of the event window, $R_{i,T}$ is stock return on day T of the event window, and $R_{M,T}$ is the return on the Yeter (small stock) index of the Tel Aviv Stock Exchange on day T of the event window. (The Yeter Index is used as the market index because all of our sample stocks belong to it.) In addition, we compute the Cumulative Abnormal Return (CAR) of each stock as:

(3) $CAR_i(T_b, T_e) = \prod_{T=Tb}^{T=Te}(1 + AR_{iT})$,

where $CAR_i(T_b, T_e)$ is the cumulative abnormal return of stock i from day T_b through day T_e of the event window, and AR_{iT} is as in equation (2) above.

Figure 2 depicts the cumulative excess returns of the shares of 86 firms with rejected freeze-out offers.[11] The picture is striking. The cumulative excess return in the period from a few days before offer announcement to offer rejection date is about 22%, similar to the mean offer premium. Further, on offer rejection we observe only a slight

[10] When using the market model with parameter estimation after offer rejection, the results are similar and the conclusions are identical to those obtained with the net of market methodology.

[11] Out of our 87 rejected offers, in one case the firm's stock was delisted from the stock exchange during the announcement to decision period. Hence, we cannot calculate the relevant CARs for it.

drop in CAR. Apparently, most of the accumulated excess return stays even though the offer and its premium are no longer valid. It appears that on average the offer premium is integrated into the stock price regardless whether or not the offer is accepted.

(Insert Figure 2 about here)

The "permanent" upper revision in stock price shows that rejections of freeze-out offers are not horrendous for public shareholders. We can examine now to what extent offer rejections are rational. Table 5 tests the (ex-post) rationality of the offer rejection decision, comparing the offer premium (relative to day A-1 price) to CAR_rejected, CAR(A,D+125), the abnormal stock return from one day before the offer announcement to about half a year after offer rejection.

(Insert Table 5 about here)

Panel A of Table 5 reports that the mean CAR(A,D+125) of all rejected offers is 31.88% while the mean premium is 22.65%, a difference of 9.23% that is almost statistically significant (t=1.62). On average, shareholders gained from offer announcement to half a year after offer rejection about 9% more than the offer premium. This non-trivial extra gain portrays rejection decisions as beneficial and rational, on average. However, because of the relatively long event window period, the estimated CARs are relatively noisy, and there are several offers with extreme CARs.[12] Thus, a more conservative approach would rely on the median. The median difference between CAR (A, D+125) and offer premium is -1.25%. Given this median, the conservative inference is that, in general, offer rejections do not hurt public shareholders. In other

[12] In particular, there are two cases where CAR is about three times larger than the respective offer premium. In addition, these two offers are in firms without any institutional holdings.

words, even according to the conservative approach, public decisions to reject a freeze-out offer are not irrational.

The above conclusion does not mean that offer rejections are never wrong. We isolate cases where our Probit model in Table 4 column (5) predicts acceptance yet the offer is rejected. These are our candidates for "wrong" rejections. Indeed we find and report in Panel A of Table 5 that the median response to these "wrong" rejections is negative and that in most (71.4%) of these rejections the initial offer premium exceed the eventual CAR. The median shareholders loss in these cases is non-trivial - 13.3%. Evidently, some offer rejections appear in retrospect as wrong.

If institutional investors have a beneficiary effect on offer rejection decisions, i.e., increase the rate of correct rejection decisions, then offer rejections in cases of institutional investors' presence could yield reliable positive differences between the eventual CARs and offer premiums. This does not appear to be the case. Looking at Panel A of Table 5, the effect of institutional investors' presence appears to be minimal. When institutional investors are present the median difference between CAR (A, D+125) and offer premium is -0.76%, whereas when they are absent the median difference is -3.07%.[13] Apparently, institutional investors' presence does not significantly improve public investors' gains in rejected freeze-out offers.

We turn now to examinations of the impact of voice. Panel B of Table 5 splits the sample by the pre-negotiation indicator. The main finding is that when there are no pre-negotiations with public shareholders (both when there are institutional investor holdings and when there are not), public shareholders gain from the offers they rejected.

[13] The mean differences between CAR(A,D+125) and offer premium is more positive in the subsample of firms without institutional investors than in the subsample of firms with institutional investors (22.99% versus 4.21%), yet this is due to two large outliers.

The mean (median) difference between CAR (A, D+125) and offer premium in rejections without pre-negotiations is between 22% and 33% (0% and 11%). In the case of no pre-negotiations with institutional investors, the mean positive rejection gain is statistically significant at the 1% level. On average, when controlling shareholders do not listen to their voice, public investors appear to make the right decision, i.e., reject offers with insufficient premiums – offers where the eventual excess return exceeds the offer premium.

The other finding in Panel B is more surprising. When there are pre-negotiations between controlling shareholders and public shareholders (in the presence or absence of institutional investors), the median gain on offer rejections is negative. Apparently, once voice is expressed and listened to, rejecting the offer tends to hurt public investors.

Especially puzzling is the effect of institutional investors' voice. When there were pre-negotiations with controlling shareholders in firms with institutional investor holdings, yet public shareholders rejected the offer, the mean difference between CAR(A, D+125) and offer premium is -13.81% with a t-statistic of -3.07, significant at the 1% level. The respective median difference of -15.02% illustrates that public investors losses in this subsample are substantial. In 22 (71.0%) of these offers CAR(A, D+125) is less than the offer premium. Notably, despite the fact that institutional investor voice in these firms is heard and considered, the rational decision of accepting the offer is declined, and public shareholders lose.

Why are these freezeout offers, that are decent on average, and that follow pre-negotiations, rejected? One possibility is that institutional investors failed in leading the public to these offers' acceptance. That is, it is possible that most institutional investors tendered their shares in these offers, yet the public did not. We have no information on

what institutional investors do in each offer (institutional investors do not disclose their actions), hence we cannot test this possible explanation.

A more intricate explanation for the rejection of decent freeze-out offers in firms with institutional investors even after "voice" is expressed, is that institutional investors might have other unrelated considerations that induce them to reject the offer. That is, despite the fact that the institutional investors know that the offer is decent they elect to reject it. According to this view, institutional investors might act strategically as their decision about freeze-out offers is just part of their continuous repeated game contest with controlling shareholders. In this framework, institutional investors are willing to suffer short-term loses in return for long-term gains. There may be no better chance to show off your power than by declining a decent freeze-out offer of controlling shareholders after pre-negotiating with them.

Panel C of Table 5 affords some observations regarding the strategic approach conjecture. We isolate rejections where the most activist institutional investor in Israel, Psagot. has some holdings. In these rejections, the strategic hostile behavior towards any controlling shareholder proposal may be more pronounced. Indeed in Panel C we observe that when Psagot is present and institutional investor voice is heard, the short-term loss of public shareholders doubles relative to cases where only other institutional investors hold firm shares and institutional voice is heard. In fact, only when Psagot is present, the loss of public investors in offer rejections with voice expressed is statistically significant - the mean difference between CAR(A, D+125) and offer premium in these cases is -18.18% with a t-statistic of -2.51, significant at the 5% level.

In this context, it is important to note another result in Panel C. When institutional investors voice is not heard and Psagot is present, the mean and median

gains upon offer rejection are larger compared to cases where only other institutional investors are present. In fact, only when Psagot is present, the gain of public investors in offer rejections where institutions voice was not expressed is statistically significant - the mean difference between CAR(A, D+125) and offer premium in these cases is 25.99% with a t-statistic of 3.33, significant at the 1% level. Thus, Psagot's activism does not necessarily hurt public shareholders in rejected offers. It only hurts the firm's public shareholders when voice is heard yet the offer is rejected.

4.4. Exit of institutional investors

Offer rejections are probably instances where public and institutional investors are dis-satisfied with the firm. One possible reaction to such dis-satisfaction might be exit – a partial or full selloff of institutional investor holdings in the stock. Table 6 tracks institutional investors' holdings in firms with rejected freeze-out offers in the calendar quarters surrounding the offer. For each offer we collect data on aggregate institutional holdings in the firm at the end of quarter preceding the offer announcement (marked as 0) and at the four quarters preceding it and four quarters following it. In the four quarters preceding the offer, institutional holdings are relatively stable – the mean aggregate holding is 6.8% both on quarter -4 and on quarter 0. However, after the offer rejection, the mean institutional holdings across the firms decreases gradually to a level of 4% at quarter 4 (about one year after offer announcement). This decrease is statistically significant (t-statistic = 4.15), clearly indicating institutional investors' exit.

(Insert Table 6 about here)

Table 6 also distinguishes between rejected offers where institutional investors expressed their voice (in pre-negotiations with the firm) and rejected offers where they did not. In the offers with no voice expressed, average institutional holdings decreases

by 2% after offer rejection (from 6.3% in quarter 0 to 4.3% in quarter 4), whereas in the offers with voice expressed, average institutional holdings decreases by 3.6% after offer rejection (from 7.3% in quarter 0 to 3.7% in quarter 4). Although the mean exit in the cases with voice (3.6%) is almost double the corresponding mean exit in the cases with no voice (2.0%), the difference is statistically insignificant (t-statistic of 1.18).

The evidence of exit presented in this subsection shows that institutional investors employ both voice and exit in their relations with public firms. While in this study we focus on voice, the phenomenon of exit also exists.

5. Summary and Conclusions

We examine the impact of institutional investors' “voice” in a sample of about 200 freeze-out offers in Israel. Freeze-out offers represent extreme "terminal" decisions, where institutional investors' voice might be more decisive and evident. In addition, the choice of Israel, where freeze-out offers are rejected relatively frequently (close to 50% of the times), and where a fair proportion (about 35%) of firms do not have any institutional investor holdings, affords sharper and more controlled observations.

In general, we find that in accepted offers, institutional voice benefits public shareholders. The accepted offer premium increases by 17% on average when institutional investors’ voice is heard (relative to cases where it is not heard). Further, institutional presence increases accepted offer premiums only when institutions express their voice. i.e., when there are indications of pre-negotiations between controlling shareholders and institutional investors. Clearly, voice is the mechanism that improves offer terms and public investors’ gain.

In contrast, voice appears to have a negative effect in the subsample of rejected offers. We estimate the shareholders excess stock return from one day before the offer announcement till six months after offer rejection, and compare it to the offered premium. The difference between the excess return and offer premium approximates shareholders gain from the offer rejection decision. We find that shareholders lose on average 14% when rejecting offers in which institutional investors expressed their voice (and pre-negotiated with controlling shareholders). This finding is puzzling and we offer several possible explanations for it. For example, it is possible that sometimes institutional investors reject fair freeze-out offers and hurt other public shareholders of these stocks just because they want to show their power in their continuous contest with controlling shareholders. Such actions may pay off in the long-term. Such a strategic behavior may also serve well the general public investor community.

Interestingly, we also document significant institutional investors' exit (selling of shares) in the year after a freeze-out offer is rejected. This exit appears stronger when institutional voice was heard, i.e., in rejected offers that were preceded by pre-negotiations with institutional investors. Evidently, institutional investors exercise both voice and exit in their relations with public firms.

Last, a caution. Our evidence contributes to the understanding of the impact of institutional investors' voice in economies where closely held firms are prevalent and where institutional investors are part of the minority shareholders. In disperse ownership markets such as the U.S., institutional investors often become the largest shareholders, and their strategic behavior and impact may differ.

References

Abudy, M., and Lauterbach, B. (2015). Changes in controlling shareholders' holdings: Do they entail financial tunneling? *Advances in Financial Economics*, 18, 47-63.

Admati, A.R., and Pfleiderer, P. (2009). The "Wall Street Walk" and shareholder activism: Exit as a form of voice. *Review of Financial Studies*, 22(7), 2645-2685.

Atanasov, V., Black, B.S., Ciccotello, C.S., and Gyoshev, S. (2010). How does law affect finance? An examination of equity tunneling in Bulgaria. *Journal of Financial Economics*, 96(1), 155-173.

Atanasov, V., Black, B.S., and Ciccotello, C.S. (2011). Law and tunneling. *Journal of Corporation Law*, 37, 1-49.

Azar, J., Schmalz, M., and Tecu, I. (2018). Anticompetitive effects of common ownership. *Journal of Finance*, 73, 1513-1565.

Barber, B., and Odean, T. (2008). All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors. *Review of Financial Studies*, 21(2), 785-818.

Bajo, E., Barbi, M., Bigelli, M., and Hillier, D. (2013). The role of institutional investors in public-to-private transactions. *Journal of Banking and Finance*, 37, 4327-4336.

Bebchuk, L., and Kahan, M. (2000). Adverse selection and gains to controllers in corporate freeze-outs, in Morck, R., ed., Concentrated Corporate Ownership (*University of Chicago Press, Chicago*, pp. 247–59).

Bebchuk, L., and Hirst, S. (2019). The specter of the giant three. *Boston University Law Review*, 99, 721-741.

Bøhren, Ø., and Krosvik, N. (2013). The economics of minority freeze-outs: Evidence from the courtroom. *International Review of Law and Economics*. 36, 48-58.

Boone, A., and White, J. (2015). The effect of institutional ownership on firm transparency and information production. *Journal of Financial Economics,* 117, 508-533.

Callen, J.L., and Fang, X. (2013). Institutional investor stability and crash risk: Monitoring versus short-termism? *Journal of Banking and Finance*, 37(8), 3047–3063.

Chang, T., Solomon, D., and Westerfield, M. (2016). Looking for someone to blame: Delegation, cognitive dissonance, and the disposition effect. *Journal of Finance,* 71, 267– 302.

Chen, X., Harford, J., and Li, K. (2007). Monitoring: which institutions matter? *Journal of Financial Economics*, 86, 279–305.

Cheng, C.A., Huang, H.H., Li, Y., and Lobo, G. (2010). Institutional monitoring through shareholder litigation. *Journal of Financial Economics*, 95(3), 356-383.

Del Guercio, D., and Hawkins, J. (1999). The motivation and impact of pension fund activism. *Journal of Financial Economics*, 52(3), 293-340.

Denes, M., Karpoff, J., and McWilliams, V. (2017). Thirty years of shareholder activism: A survey of empirical research. *Journal of Corporate Finance,* 44, 405-424.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., and Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics*, 88, 430-465.

Doidge, C., Karolyi, A., and Stulz, R. (2017). The U.S. listing gap, *Journal of Financial Economics*, 123, 464-487.

Ferreira, M., and Matos, P. (2008). The colors of investors' money: The role of institutional investors around the world. *Journal of Financial Economics*, 88, 499-533.

Gaspar, J., Massa, M., and Matos, P. (2005). Shareholder investment horizons and the market for corporate control. *Journal of Financial Economics*, 76, 135-165.

Goshen, Z., and Wiener, Z. (2003). The value of the freezeout option. Columbia Law and Economics Working Paper No. 260. https://ssrn.com/abstract=217511

Hamdani, A., Kandel, E., Mugerman, Y., and Yafeh, Y. (2017). Incentive fees and competition in pension funds: Evidence from a regulatory experiment. *Journal of Finance, Law, and Accounting,* 2, 49-86.

Hamdani, A., and Yafeh, Y. (2013). Institutional investors as minority shareholders. *Review of Finance*, 17, 691-725.

Hauser, S., and Lauterbach, B. (2004). The value of voting rights to majority shareholders: Evidence from dual-class share unifications. *Review of Financial Studies*, 17, 1167-1184.

Helwege, J., Intintoli, V., and Zhang, A. (2012). Voting with their feet or activism? Institutional investors' impact on CEO turnover. *Journal of Corporate Finance*, 18(1), 22-37.

Kaustia, M. (2010). Prospect theory and the disposition effect. *Journal of Financial and Quantitative Analysis*, 45, 1–36.

La Porta, R.L., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R.W. (1998). Law and finance. *Journal of Political Economy*, 106(6), 1113-1155.

McCahery, J. A., Sautner, Z., and Starks, L. (2016). Behind the scenes: The corporate governance preferences of institutional investors. *Journal of Finance*, 71, 2905-2932.

Nagel, S. (2005). Short sales, institutional investors and the cross-section of stock returns. *Journal of Financial Economics*, 78, 277-309.

Parrino, R., Sias, R.W., and Starks, L.T. (2003). Voting with their feet: Institutional ownership changes around forced CEO turnover. *Journal of Financial Economics*, 68(1), 3-46.

Restrepo, F., and Subramanian, G. (2015). The effect of Delaware doctrine on freeze-out structure and outcomes: Evidence on the unified approach. *Harvard Business Law Review*, 5, 205-236.

Rossi, S., and Volpin, P.F. (2004). Cross-country determinants of mergers and acquisitions. *Journal of Financial Economics*, 74(2), 277-304.

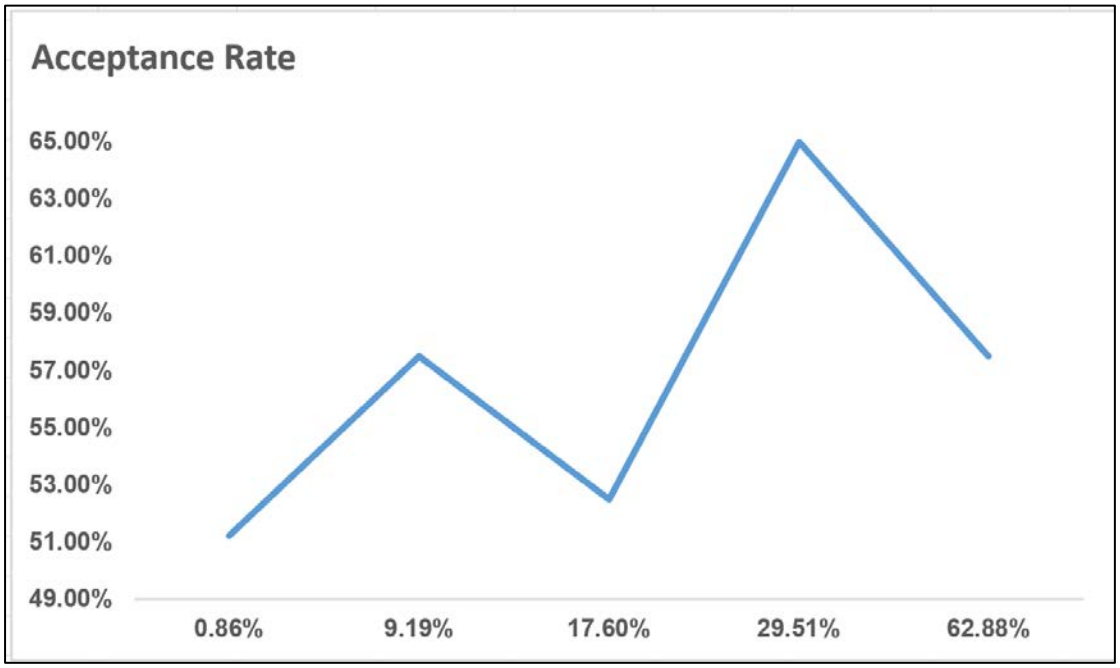
Sias, R., and Starks, L. (1997). Return autocorrelation and institutional investors. *Journal of Financial Economics*, 46, 103-131.

Subramanian, G. (2005). Fixing freeze-outs. *Yale Law Journal*, 36, 2-59.

Subramanian, G. (2007). Post-Siliconix freeze-outs: Theory and evidence. *Journal of Legal Studies*, 36, 1-26.

Figure 1: Acceptance rate as a function of freeze-out offer premium.

We divide the offers into five quintiles based on the winsorized (2.5%, 97.5%) premium data (winsorizing is performed in the overall sample). Offer premium is defined as (offer price/stock price A-6) -1, where stock price A-6 is stock price six trading days prior to offer announcement date. In case the offer price is revised before decision date we use the revised offer price in the numerator.
The mean premium in each quintile is shown on the horizontal axis.



Mean premium by quintile

Figure 2: Cumulative abnormal returns surrounding failed freeze-out offers.

The figure shows the mean cumulative abnormal return (CAR) for the target stocks in 86 failed freeze-out offers. To calculate abnormal returns, we employ the net of market methodology. First, for each offer we identify the announcement day (day A) and decision day (day D). Then, for each day T within the window A-25 through D+25, we compute the abnormal return of the stock *i* as: $AR_{i,T} = R_{i,T} - R_{MARKET,T}$, where $R_{i,T}$ is stock i's return on day T of the event window, and $R_{MARKET,T}$ is Israeli small stocks *(Yeter*) index return on day T. (All of our sample stocks belong to this small stocks index.) Last, we compute the Cumulative Abnormal Return (CAR) for stock i as $CAR_i(Tb, Te) = \prod_{Tb}^{Te}(1 + AR_{i,T}) - 1$, where day Tb is day A-25, and day Te is the respective day T in the event window.

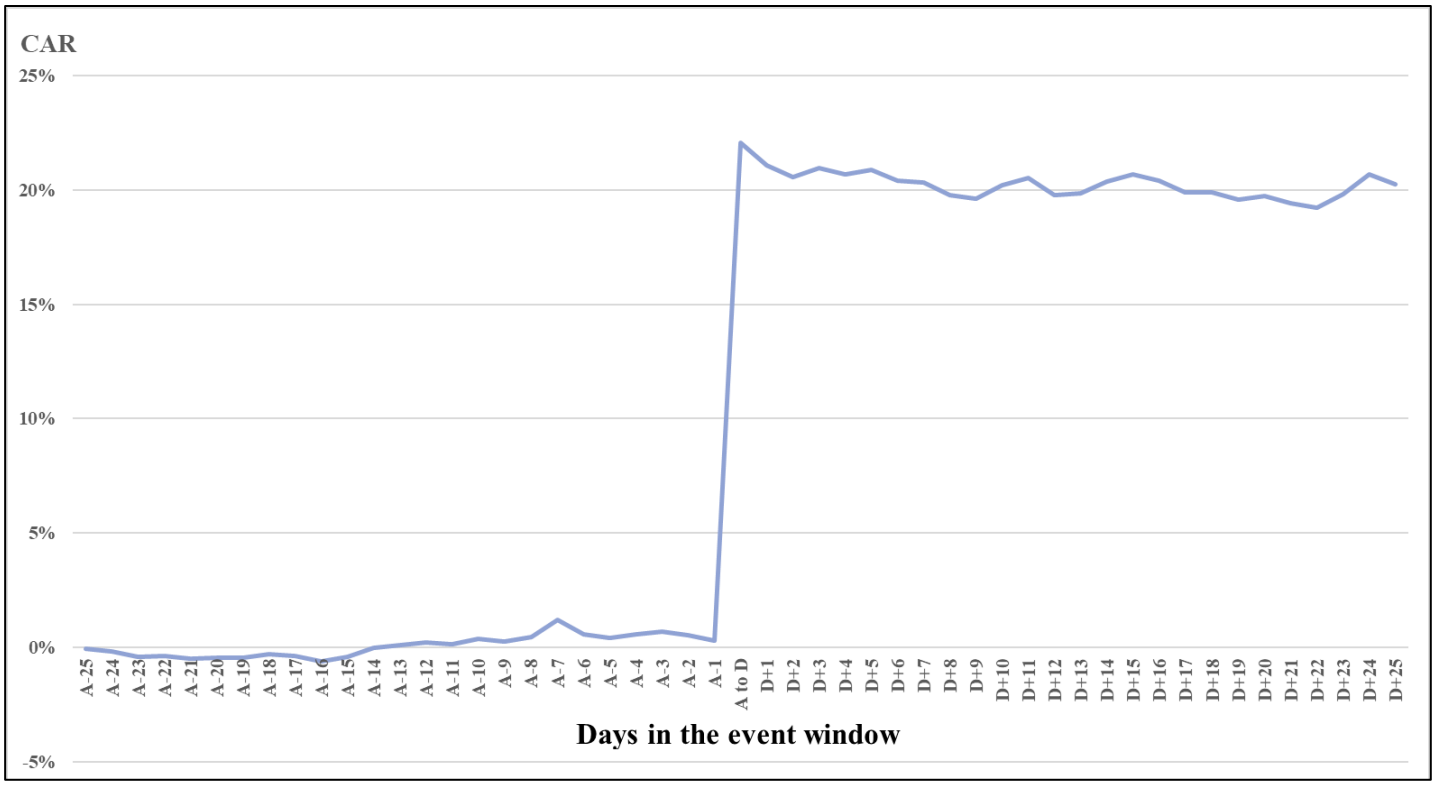


Table 1: Sample descriptive statistics.

The table presents means, medians, and standard deviations of different characteristics of our 201 sample offers. Total assets, Debt, and ROA are from firms' annual reports at the end of the calendar year preceding the offer. The figures in US Dollars are about 1/4 of the figures in NIS (based on an average exchange rate of 4.03 New Israeli Shekels (NIS) per US Dollar during the sample period (2000-2016)). Tobin's Q is the sum of firm's equity market value and firm's debt book value divided by total assets. Control group holdings is the pre-offer proportion of firm's equity held by the control group. ROA is the ratio of operating income to total assets. Institutional holdings is the fraction of firm's equity held by institutions at the end of the quarter preceding the offer. Pre-offer abnormal return is the mean net of market weekly return of the company's stock in weeks -55 through -6 relative to offer announcement, where the market is the Israeli small stock (*Yeter*) index return (all of our sample stocks belong to this index); STD of pre-offer returns is the standard deviation of the weekly returns of the company's stock in weeks -55 through -6 relative to offer announcement. Offer premium is defined as (offer price/stock price A-6) -1, where stock price A-6 is stock price six trading days prior to the offer announcement date. The premiums are winsorized at the 5% level (2.5% on each side). In case the offer price is revised before decision date, we use the revised offer price in the numerator. The Pre-negotiation ("voice") indicator equals 1 for a repeated (second or third) freeze-out offer for the firm, for offers with revised offer prices, and when the offer proposal itself discloses prior consent between controlling shareholders and large public investors (0 otherwise).

	Mean	Median	Standard deviation
Company characteristics			
Total assets (in thousands NIS)	1,025,112	221,232	3,066,008
Tobin's Q	1.10	0.99	0.49
ROA	0.011	0.031	0.143
Control group holdings (as a proportion of equity)	0.821	0.853	0.105
Institutional holdings (as a proportion of equity)	0.043	0.019	0.058
Institutional presence (indicator)	0.657	1	0.476
Pre-offer stock returns			
Weekly net of market return in the pre-offer period	-0.0032	-0.0019	0.0110
STD of weekly returns in the pre-offer period	0.0644	0.0565	0.0374

Offer attributes			
Premium	0.239	0.180	0.253
Pre-negotiation (“voice”) indicator (1=yes, 0=no)	0.58	1	0.49
Days from announcement to decision	23	19	10.7
Acceptance rate	0.57	1	0.50

Table 2: The effect of pre-negotiations (voice) and institutional investors' presence on freeze-out offer premium

The table presents the mean offer premium in the overall sample and in different subsamples. The number of offers is reported (in parentheses) below the mean premium. Offer premium is defined as (offer price/stock price A-6) -1, where stock price A-6 is stock price six trading days prior to offer announcement date. In case the offer price is revised before decision date, we use the revised offer price in the numerator. Winsorizing is performed on the overall raw premium data at the 2.5% and 97.5% levels. All of the mean differences between the compared subsamples in the rows and columns of the table are statistically insignificant at the 5% level.

		Mean offer premium in the subsample of	
	Mean of all observations	Successful offers	Failed offers
Overall sample premia			
	0.239	0.240	0.238
	(201)	(114)	(87)
Partitioning by institutional presence			
Institutional investor present	0.251	0.270	0.231
	(132)	(69)	(63)
No institutional investors	0.215	0.194	0.255
	(69)	(45)	(24)
Partitioning by pre-negotiations ("voice")			
Pre-negotiations	0.267	0.269	0.265
	(117)	(76)	(41)
No pre-negotiations	0.199	0.182	0.213
	(84)	(38)	(46)

Table 3: The effect of institutional investors' voice on accepted offers' premium

The table reports results of OLS regressions of accepted freeze-out offers' premium on several measures of institutional investor voice using various controls. Offer premium is defined as (offer price/stock price A-6) -1, where stock price A-6 is stock price six trading days prior to offer announcement date. In case the offer price is revised before decision date we use the revised offer price in the numerator. Winsorizing is performed on the overall raw premium data at the 2.5% and 97.5% levels. Amongst explanatory variables, Log total assets is the natural logarithm of the firm's total assets (in thousands of New Israeli Shekels); Control group holdings is the controlling shareholders' pre-offer holdings (fraction); Institutional holdings is the institutional holdings at the end of the quarter preceding the offer (fraction); Institutional presence indicator equals 1 (0) when institutional investors have some (no) holdings in the company in the quarter preceding the offer; Pre-offer abnormal return is the mean net of market weekly return of the company's stock in weeks -55 through -6 relative to offer announcement, where the market is Israeli small stock *(Yeter*) index return (all of our sample stocks belong to this index); STD of pre-offer returns is the standard deviation of the weekly returns of the company's stock in weeks -55 through -6 relative to offer announcement; Pre-negotiation (voice) indicator equals 1 for a repeated (second or third) freeze-out offer for the firm, for offers with revised offer prices, and when the offer proposal itself discloses prior consent between controlling shareholders and large public investors (0 otherwise); Pre-negotiation * Inst. presence is the interaction of the Pre-negotiation (voice) and Institutional presence indicator variables; Psagot presence indicator equals 1 (0) when Psagot has some (no) holdings in the company in the quarter preceding the offer; and Pre-negotiation * Psagot presence is the interaction of the Pre-negotiation and Psagot presence indicator variables. Industry fixed effects are according to Tel Aviv Stock Exchange industry classification (9 industries). Standard errors, clustered at the firm level, appear in parentheses. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
Log total assets	0.007				
	(.017)				
Control group holdings	-0.28				
	(0.25)				
STD of pre-offer returns	0.63				
	(0.80)				
Pre-offer abnormal return	-12.8***	-13.2***	-13.5***	-12.9***	-12.9***
	(3.3)	(3.0)	(3.2)	(2.9)	(2.9)
Institutional presence indicator	0.103**	0.117**		-0.011	-0.016
	(0.049)	(0.048)		(0.066)	(0.087)
Pre-negotiation indicator	0.065*	0.073*	0.069*	-0.042	-0.042
	(0.038)	(0.038)	(0.039)	(0.057)	(0.058)
Institutional holdings			0.412		
			(0.384)		
Pre-negotiation * Inst. presence				0.217**	0.220**
				(0.090)	(0.109)
Activist (Psagot) presence					0.011
					(0.098)
Pre-negotiation * Activist (Psagot) presence					-0.009
					(0.135)
Calendar year fixed effects	Yes	Yes	Yes	Yes	No
Industry fixed effects	Yes	Yes	Yes	Yes	No
Number of observations	114	114	114	114	114
Adjusted R^2	0.231	0.242	0.208	0.277	0.260

Table 4: The effect of institutional investors' voice on freeze-out offer acceptance

The table reports Probit regression results. The dependent variable equals 1 if the freeze-out offer is accepted, and equals 0 if it is rejected. The total number of observations is 188 (and not 201) because certain industries perfectly predict outcome, i.e. have a few observations all of which are in the same direction (accept or reject), and because the two only offers on year 2000 were accepted. Offer premium is defined as (offer price/stock price A-6) -1, where stock price A-6 is stock price six trading days prior to offer announcement date. In case the offer price is revised before decision date, we use the revised offer price in the numerator. Winsorizing is performed on the overall raw premium data at the 2.5% and 97.5% levels. Amongst explanatory variables, Log total assets is the natural logarithm of the firm's total assets (in thousands of New Israeli Shekels); Control group holdings is the controlling shareholders' pre-offer holdings (fraction); Institutional holdings is the institutional holdings at the end of the quarter preceding the offer (fraction); Institutional presence indicator equals 1 (0) when institutional investors have some (no) holdings in the company in the quarter preceding the offer; Pre-offer abnormal return is the mean net of market weekly return of the company's stock in weeks -55 through -6 relative to offer announcement, where the market is Israeli small stock *(Yeter*) index return (all of our sample stocks belong to this index); STD of pre-offer returns is the standard deviation of the weekly returns of the company's stock in weeks -55 through -6 relative to offer announcement; Pre-negotiation (voice) indicator equals 1 for a repeated (second or third) freeze-out offer for the firm, for offers with revised offer prices, and when the offer proposal itself discloses prior consent between controlling shareholders and large public investors (0 otherwise); Pre-negotiation * Inst. presence is the interaction of the Pre-negotiation (voice) and Institutional presence indicator variables; Psagot presence indicator equals 1 (0) when Psagot, the most activist institutional investor, has some (no) holdings in the company in the quarter preceding the offer; and Pre-negotiation * Psagot presence is the interaction of the Pre-negotiation (voice) and Psagot presence indicator variables. Industry fixed effects are according to Tel Aviv Stock Exchange industry classification (9 industries). Standard errors, clustered at the firm level, appear in parentheses. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
Log total assets	0.17**	0.19***	0.20***	0.19***	0.25***
	(0.07)	(0.07)	(0.08)	(0.07)	(0.08)
Control group holdings	4.98***	5.13***	4.80***	5.32***	4.95***
	(1.29)	(1.33)	(1.45)	(1.35)	(1.35)
Offer premium	0.25				
	(0.53)				
STD of pre-offer returns	-5.06				
	(3.46)				
Pre-offer abnormal return	-0.88				
	(13.16)				
Institutional holdings			-1.77		
			(2.77)		
Institutional presence indicator	-0.60**	-0.56**		-0.78**	-0.38
	(0.27)	(0.27)		(0.36)	(0.43)
Pre-negotiation indicator	0.83***	0.82***	0.79***	0.53	0.52
	(0.22)	(0.22)	(0.21)	(0.34)	(0.36)
Pre-negotiation * Inst. presence				0.47	0.37
				(0.47)	(0.54)
Activist (Psagot) presence					-0.81*
					(0.45)
Pre-negotiation * Activist (Psagot) presence					0.27
					(0.55)

Calendar year fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	188	188	188	188	188
Pseudo R^2	0.227	0.219	0.205	0.223	0.241

Table 5: The ex-post public shareholders' gain in rejected freeze-out offers

We compare the freeze-out offer premium to the stock price response. Stock response is estimated by CAR (A, D+125), which is the cumulative abnormal (net of market) return from the offer announcement (day A) to about half a year after the offer decision date (day D+125). In this table, offer premium is estimated relative to day A-1, and is defined as (offer price / stock price on day A-1) -1. CARs and premium data are winsorized in the rejected offers data-set (86 offers) at the 2.5% and 97.5% levels. The table examines 86 rejected offers only because one of our 87 rejected offers ceased trading before offer rejection date.

Panel A: The effects of wrong rejections and institutional presence on shareholders' gain from the rejection decision

	Mean CAR (A, D+125) (in %)	Mean offer premium relative to day A-1 price (in %)	Mean difference between CAR and the premium (%)	t-statistic of the difference	Median difference between CAR and the premium (%)	% positive differences (z-value – it's not random)	Number of offers
All rejected offers	31.88	22.65	9.23	1.62	-1.25	45.4 (-0.85)	86
Rejected offers predicted by the model[a]	36.67	23.12	13.55	1.80	1.64	56.6 (0.96)	53
Rejected offers unpredicted by the model[a]	17.58	21.33	-3.76	-0.65	-13.32	28.6 (-2.26)	28
No institutional investors	49.11	26.12	22.99	1.40	-3.07	39.1 (-1.05)	23
Institutional investors present	25.59	21.38	4.21	0.85	-0.76	46.0 (-0.63)	63

[a] We use the model in Column 5 of Table 4. The total number of failed offers is 81 (and not 86) because some cases are dropped in the Probit analysis. (For example, we use industry fixed effects, and some industries perfectly predict rejection.)

Panel B: Voice and shareholders' gain in rejected offers

	Mean CAR (A, D+125) (in %)	Mean offer premium relative to day A-1 price (in %)	Mean difference between CAR and the premium (%)	t-statistic of the difference	Median difference between CAR and the premium (%)	% positive differences (z-value – it's not random)	Number of offers
No institutions + pre-negotiation (voice)	40.74	30.31	10.43	0.55	-8.80	40.0 (-0.63)	10
No institutions + no pre-negotiation	55.56	22.89	32.67	1.28	-0.08	46.2 (-0.27)	13
Institutional investors present + pre-negotiation (voice)	10.48	24.29	-13.81	-3.07	-15.02	29.0 (-2.34)	31
Institutional investors present + no pre-negotiation	40.22	18.56	21.66	2.86	11.46	62.5 (1.41)	32

Panel C: Institutional voice and activist institution effect on shareholders' gain in rejected offers

	Mean CAR (A, D+125) (in %)	Mean offer premium relative to day A-1 price (in %)	Mean difference between CAR and the premium (%)	t-statistic of the difference	Median difference between CAR and the premium (%)	% positive differences (z-value – it's not random)	Number of offers
Institutional investors present + pre-negotiation (voice)	10.48	24.29	-13.81	-3.07	-15.02	29.0 (-2.34)	31
Institutional investors present + no pre-negotiation	40.22	18.56	21.66	2.86	11.46	62.5 (1.41)	32
Activist (Psagot) present + pre-negotiation (voice)	11.76	29.94	-18.18	-2.51	-21.62	18.8 (-2.49)	16
Activist (Psagot) present + no pre-negotiation	42.72	16.73	25.99	3.33	19.23	82.4 (2.67)	17
Other Institutional investors present + pre-negotiation (voice)	9.13	18.28	-9.15	-1.77	-8.69	33.3 (-1.29)	15
Other Institutional investors present + no pre-negotiation	37.40	20.64	16.76	1.22	-0.72	46.7 (-0.26)	15

Table 6: Institutional investors' exit following offer rejection

We compute the aggregate institutional investor holdings for each rejected offer, in firms with non-zero institutional holdings, at the end of quarter 0 (the quarter preceding the offer announcement), and at the end of the four quarters preceding it and four quarters following it. Then, we compute averages (of aggregate institutional holdings across rejected offers), and present them in the table.

	Average aggregate institutional holdings at the end of quarter [a]									Change between quarter 0 and quarter +4	t-statistic of the difference	Number of offers
	-4	-3	-2	-1	**0**	+1	+2	+3	**+4**			
All rejected offers with institutional investor holdings	6.76%	6.82%	6.62%	6.35%	**6.79%**	5.95%	4.79%	4.01%	**3.98%**	-2.81%	4.15	63
Rejected offers where institutional investors expressed their voice[b]	7.43%	7.36%	7.22%	6.63%	**7.27%**	5.80%	4.63%	3.81%	**3.65%**	-3.62%	4.04	31
Rejected offers where institutional investors had no voice[b]	6.12%	6.29%	6.04%	6.08%	**6.32%**	6.09%	4.95%	4.19%	**4.30%**	-2.02%	2.01	32

[a] End of quarter 0 is the end of the calendar quarter that preceded the offer announcement.

[b] Voice definition: When there are indications of pre-negotiations between institutional investors and the firm, we consider it as a case where institutional investors expressed their voice.