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The Impact of Concentrated Ownership on Distress Resolution of Public Firms

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Ana Sasi-Brodesky

Abstract

This paper examines empirically the effect of concentrated ownership on resolving financial distress of public firms with large, publicly traded, corporate bond debt. Using a large sample of distressed firms in Israel over the course of a decade, I show that stronger financial ties of controlling owners to the firm, manifest in higher cash flow rights and the presence of previously extended related-party debt, are associated with a higher probability of resolving distress in an out-of-court reorganization without experiencing ownership turnover. I argue that these ownership characteristics are indicative of increased motivation of insiders to reorganize the firm and retain control, but in addition, they serve the controlling shareholders financially to ensure their continued holding of the company.

השפעת בעלות ריכוזית על פתרון מצוקה של חברות ציבוריות

אנה ברודסקי-ססי

תקציר

מאמר זה בוחן באופן אמפירי את ההשפעה של בעלות ריכוזית על האופן שבו חברות ציבוריות בעלות חוב אג"ח גדול וסחיר מתמודדות עם אירועי כשל. באמצעות מדגם גדול של חברות ישראליות שחוו מצוקת חוב במהלך כעשור, המאמר מדגים כי קשר פיננסי חזק יותר של בעלי השליטה לחברה, שמתבטא בזכויות תזרים מזומנים גדולות יותר וקיומו של חוב לגורמים בתוך הקבוצה העסקית, מתואם עם סבירות גבוהה יותר לבצע הסדר ללא מינוי בעל תפקיד מטעם בית המשפט, וללא שיתרחש שינוי בעלות. מאפייני הבעלות הללו מעידים על מוטיבציה מוגברת של בעלי השליטה לארגן מחדש את הפירמה ולשמור על השליטה, אך בנוסף, הם משרתים את בעלי השליטה מבחינה פיננסית כדי להבטיח את המשך החזקתם בחברה.

1. Introduction

In theory, the owners of a distressed firm have no residual claim and should have little or no say on the process of distress resolution. Creditors, however, in practice have an incentive to reorganize out-of-court, due to the high costs of formal bankruptcy procedures. These reorganizations generally involve some debt forgiveness, but also entail a deviation from the Absolute Priority Rule (APR) in favor of equity holders. Concentrated ownership, where a few owners hold much of the shares, as opposed to dispersed equity holding by many shareholders or institutional blockholding in public firms, potentially entails a positive impact for creditors in distress resolution, as such owners may value the loss of control more than other owners and therefore may be willing to exert efforts to save the firm. Because of the emotional attachment to the firm, nonfinancial owners tend to care about values such as the firm's reputation and their personal prestige. In addition, given that the loss of control over the firm might entail a considerable negative impact on their personal wealth, concentrated owners are more incentivized to preserve their equity holding. Thus, potentially, they will invest more effort and put in more resources to distance the firm away from bankruptcy, which is beneficial for creditors.

Alternatively, concentrated owners may try to entrench themselves and deter potential investors that may have a better future vision for the firm or be more capable managers. An owner who has also provided a loan to her company can take advantage of her role as a creditor to make it difficult for outside investors to approve a reorganization plan in court.

A third aspect of the impact of ownership structure on distress resolution is the financial ability of the owner to contribute to the reorganization of the firm. Owners that are linked to other corporations might have greater financial flexibility to reduce the company's debt burden, inject capital or find a buyer for the company's assets at nondiscounted prices.

This increased motivation, when coupled with financial ability of the owner to preserve the firm and maintain ownership, might lead to the rescue of economically unviable firms and hinder the recuperation of viable firms emerging from reorganization.

In this paper, I study how distress events in the Israeli bond market, involving closely held companies with significant public debt obligations, have been resolved in the decade since the Global Financial Crisis (GFC). I analyze the effect of ownership structure on the choice of resolution procedure as well as on some prominent outcomes for firms completing

restructuring—ownership turnover, recovery to bondholders, deviation from APR, and post-bankruptcy performance. I focus on two properties of the ownership structure—the insiders' equity stake and the fraction of the distressed firm's debt that is owed to related-parties (i.e., to firms connected to the owners). The results indicate that ownership characteristics have a significant relation to the aftermath of distress. Consistent with the hypothesis that concentrated ownership has a positive impact on distress resolution, I find that the owners' cash flow rights are positively associated with the probability to successfully accomplish an out-of-court reorganization, avoiding formal bankruptcy and liquidation. In addition, the ratio of related-party debt is positively related to ownership persistence after reorganization. Ownership persistence, in turn, is associated with a higher recovery rate to bond creditors, but at the same time, it is accompanied by considerable deviations from the APR in favor of remaining equity holders. Post-reorganization performance of emerging firms indicates that reorganizations often provide neither economic nor financial rehabilitation for firms. Overall, concentrated ownership, in the prevailing legal structure, seems to have a positive impact on firms' survival but a negative impact on economic efficiency. I also provide an explanation for how a large equity stake and the existence of previously extended related-party debt assist the owner in preserving ownership. Owners holding high cash flow rights offer to exchange equity for debt or bring in new investors as they can afford more dilution while related-party debt is downgraded to a more junior position or converted to equity as a means to boost capital.

This paper contributes to several strands of the existing literature. First, it contributes to the literature on bankruptcy. Most of the finance literature on debt distress resolution, and especially debt issued in the form of bonds, has naturally focused on the US market. Prominent studies in this strand include Franks and Torous (1989, 1994), Weiss (1990), Asquith, et al. (1994), Hotchkiss (1995), Bris, et al. (2006) and more. Although recently this literature has explored the role played by some specific types of investors, such as private equity funds in Hotchkiss, et al. (2012), it has not explored the role of large equity holders, because concentrated ownership is rare in US public firms. This is in contrast to many countries around the world, especially in Europe and East Asia, where family owned firms, business groups, and other types of concentrated equity ownership are common (La Porta et al., 1999).

Second, this paper contributes to the literature on concentrated ownership and its impact on debt financing. Most empirical and theoretical papers on concentrated ownership focus on the relationship between dominant shareholders and minority shareholders, or management, while their relationship with creditors is mostly overlooked. The evidence on the link between concentrated ownership and the cost of debt is mixed. Ellul et al. (2009) use data on international bond issues to show that the presence of family ownership increases the cost of debt. However, in contrast, Anderson et al. (2003) document that family ownership is associated with a lower cost of debt. Davydenko and Strebulaev (2007) show that firms with high managerial ownership stakes tend to have high debt costs. Understanding the impact of concentrated ownership on distress resolution, and especially on debt recovery rates, is an important component in assessing the impact of concentrated ownership on the price of debt. In addition, the present paper contributes to the evidence on the use of internal capital markets in business groups. Khanna and Yafeh (2005) find substantial evidence of risk sharing by business groups in several Asian countries. Gopalan, et al. (2007) provide empirical evidence that related-party (intragroup) flows in business groups in India are used to support member firms in financial difficulty so as to avoid their default. They also find that groups tend to provide greater support to firms with larger insiders' equity stakes and, controlling for firm financials, firms with higher insider ownership are less likely to go bankrupt. The current paper extends their findings by providing evidence that insiders' cash flow rights and related-party debt are important predictors, not only of the probability of bankruptcy, but also of distress resolution outcomes when bankruptcy occurs.

Third, this paper contributes to the discussion on optimal design of distress resolutions regimes. Bankruptcy legislation differs substantially between countries and can have important implications on both the pre-distress characteristics of debt markets and on post-distress results (Davydenko and Franks (2008), Stromberg (2000), and Franks and Loranth, 2014).

Several factors make the Israeli bond market an interesting setting for exploring the connection between concentrated ownership in public firms and distress resolution. First, most corporate bonds trade on the Tel Aviv Stock Exchange (TASE) in the same way as stocks. Most bonds of distressed firms continue to be traded during the reorganization process because firms avoided a stay on assets. This makes it possible to use market prices as an important source of information. Specifically, I am able to assess expected and ultimate

market based recovery rates for bondholders. In comparison, most analyses of recovery rates in Chapter 11 reorganizations are either based on the expected recovery at the entrance to default, or on reported book values at emergence. Second, most public companies have controlling shareholders and many firms belong to business groups. Finally, companies can restructure their publicly traded debt using an out-of-court scheme-of-arrangement that leaves management in control. A scheme-of-arrangement is a flexible debt restructuring tool rooted in English company law and currently available as a statutory procedure in the UK Companies Act 2006. The appeal of this procedure for distressed firms became apparent when many distressed Continental European firms sought to restructure their debt under the English scheme-of-arrangement following the Global Financial Crisis of 2008. Companies in Israel can also reorganize through formal bankruptcy—with an automatic stay and a court-appointed trustee.

The rest of the paper is organized as follows: Section 2 presents a short background on the Israeli bond market and the legal setting for distress resolution; Section 3 describes the data; Section 4 accounts for the choice of procedure for distress resolution; Section 5 explores changes to ownership during reorganizations; Section 6 investigates the results of reorganizations and post-reorganization performance; and Section 7 concludes.

2. Background on Israel

2.1. The Israeli bond market and ownership of public firms

Trading in corporate bonds in Israel takes place on the Tel Aviv Stock Exchange (TASE) using the same open limit order book system as stocks. Trading on the secondary market is lively with many transactions per bond-day. Between 2003 and 2007, the issuance of corporate bonds on the local market experienced significant growth. At the end of 2008, when the economic downturn in Europe and the US became severe, many of the Israeli firms that had issued bonds seemed to be at a high risk of default. The Israeli market thus faced a new reality in which companies needed to restructure their publicly traded debt.¹ The developed practice did not distinguish bond issues by seniority, and upon default, all issues had equally valued claims on the firm's assets, unless a bond was secured by collateral. Dispersed institutional

¹ It should be noted that the crisis in the bond market was largely not accompanied by a downturn in the domestic economy.

investors representing mutual, provident, insurance and pension funds held roughly 85 percent of the outstanding bond par amount at the end of 2007. Commercial banks do not hold corporate bonds in significant amounts and the rest of the investor base was comprised of households, managed portfolios, and corporates.

On the equity (ownership) side, corporations in Israel are closely held and, in the early 2000s, were often affiliated with large business groups. For the median public firm at the beginning of the sample period, which stretches from 2008 until 2018, controlling shareholders held 70 percent of equity, whereas minority investors—retail or institutional—held the remainder. Many public corporations in Israel at that time were also controlled through a pyramidal structure in which the controlling family owned a controlling stake in a publicly traded holding company, which in turn controlled other public (and private) companies. Holding companies have no workers or trade creditors. Legislation since then has forced the "flattening" of pyramidal structures involving public firms², contributing to a decline in the prominence of holding companies among public firms. Incidents of debt restructurings contributed to this trend as well. Concentrated ownership in public firms, however, still prevails in Israel. Firms that belong to the same business group or that are part of a pyramidal ownership structure tend to have both equity and debt relations. Close to half of public firms in the beginning of the sample period had some part of their debt financing coming from related-party firms.

2.2. The Legal Bankruptcy and Reorganization Regime³

Israel has a formal insolvency regime that includes either liquidation or reorganization. The reorganization regime has some of the features of the US Chapter 11. Most notably, it includes an automatic stay. However, unlike Chapter 11, where the incumbent management continues to run the business, the Israeli regime requires the court to appoint a trustee to run the company during the reorganization process. In other words, management and the controlling owners lose control at the outset of the bankruptcy reorganization process.

Companies, however, can also reorganize outside formal bankruptcy by using a court-supervised scheme-of-arrangement procedure. The out-of-court procedure does not offer an automatic stay and it does not involve court-appointed officials. In the US, out-of-court

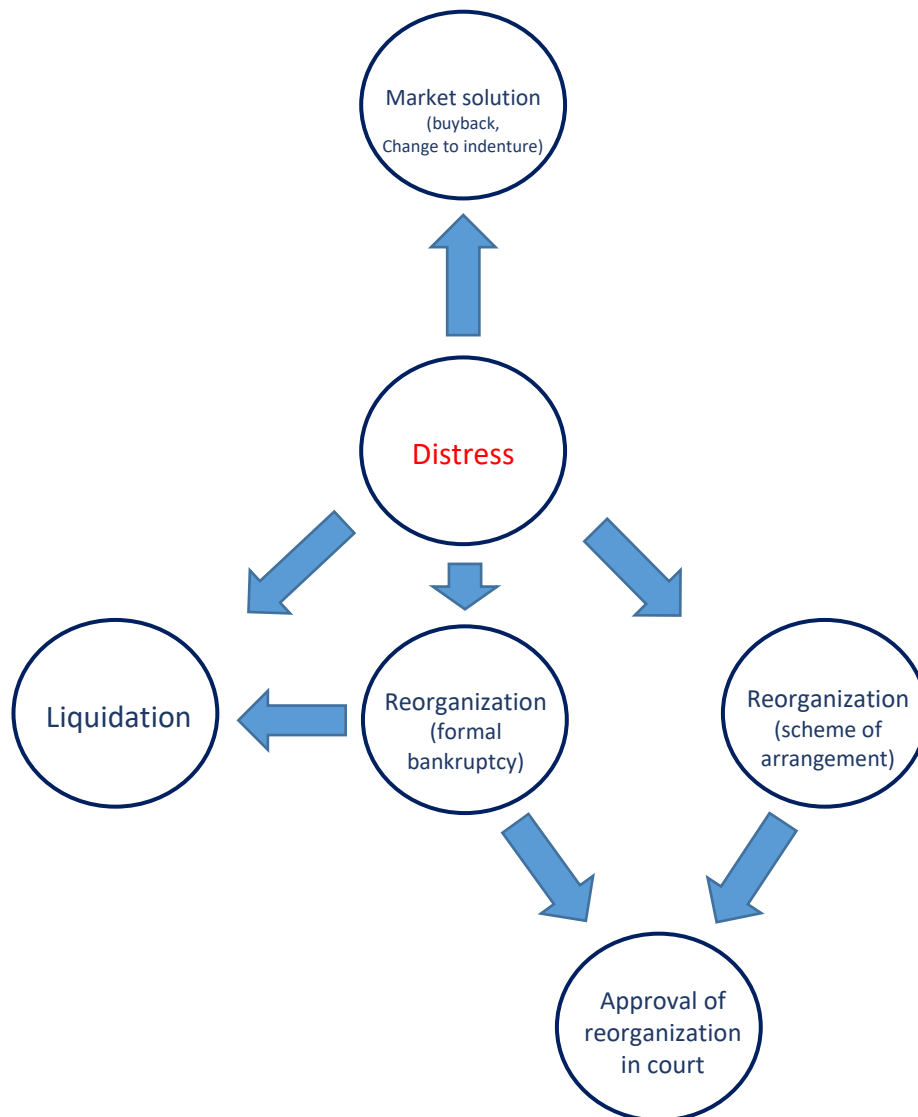
² https://www.gov.il/he/Departments/PublicBodies/centralization_decrease_committee (in Hebrew)

³The description in this section is correct as of the time span covered by the current research. In September 2019 the new insolvency law came into effect – "The Insolvency and Economic Recovery Law, 5768-2018".

reorganizations are carried out using private workouts or public exchange offers. In an exchange offer, only creditors that consent to replace the existing bond contract with a new security participate in the exchange. Holdout problems exist when the firm's debt is held by a large number of diffused creditors and various conflicts of interest between layers of creditors impede reaching an out-of-court settlement. The scheme-of-arrangement in Israel is absent of such holdout problems, as this regime allows the debtor to impose the reorganization plan on dissenting creditors if a (75 percent) majority of them accept the plan. A scheme is thus somewhat similar to pre-packaged ("prepacks") Chapter 11 restructuring. For the period when most of the sample firms entered distress, this scheme-of-arrangement regime did not allow creditors to submit their own reorganization plan. Thus, unlike Chapter 11 where management is granted exclusivity for a limited time period to make reorganization proposals, there was no such limitation on management/owners in Israel. In other words, bondholders were limited to accepting or rejecting reorganization plans proposed by the company (essentially its controlling owners). Only in 2013 did a court ruling state that if the company was insolvent, its creditors had the right to propose a competing reorganization plan.⁴ Overall, it is fair to say that an out-of-court scheme grants controlling owners significant power in dealing with dispersed, mainly unsecured, bond creditors. Figure 1 visualizes the distress resolution options.

⁴ In 2013, a group of IDB Pituach Ltd. (IDB) bondholders believed that the company's financial condition was hopeless. IDB, however, refused to commence negotiations on restructuring its debt, and continued to pay its short-term creditors. The bondholders had no contractual remedies: the company was current on all its payments, and the company did not breach any covenant to these bondholders. The bondholders, therefore, turned to bankruptcy procedures: they filed an involuntary bankruptcy petition in which they asked the court to appoint a trustee to pursue a debt-for-equity reorganization plan. In a precedential decision, the court held that creditors should be able to force a company into bankruptcy by demonstrating that it was insolvent (i.e., that its liabilities exceeded its assets). The court found that IDB was probably insolvent and issued an order appointing trustees to inspect the company's records and issue an independent opinion concerning IDB's insolvency.

Figure 1 - Visualization of Distress Resolution Options in Israel



3. Data and sample description

I examine debt reorganizations or liquidations of companies that had publicly traded bonds. More precisely, the distressed companies in the sample satisfy three conditions: they were incorporated in Israel, they had issued publicly traded bonds, and they completed a reorganization [either formal (under the administration of a court–appointed official) or via a scheme-of-arrangement], or were liquidated, between the years 2008 and 2018.⁵ I study only companies with publicly traded bonds for two reasons. First, the dynamics of reorganization at firms with only private (bank) debt is significantly different from that of companies with a

⁵ A firm was classified as liquidated if the court appointed a permanent liquidator to the firm or if a temporary liquidator sold the firm piecemeal but a permanent order of dissolution was not given.

large group of dispersed financial creditors. In particular, the creditor bank has an incentive to contribute financially to the resolution of distress by providing more financing or offering debt postponement. This is in contrast to public bondholders, who suffer from the coordination problem and have smaller incentive to make additional financial contributions as each of them holds a small stake in the distressed debt. Second, the disclosure requirements imposed on companies with publicly traded debt and the availability of market prices provide the data necessary for the research.

The list of distressed companies was hand collected at the Bank of Israel's Research Department, based on company disclosures. This list contains firms that were liquidated or reorganized under Section 350 of the Companies Law (scheme-of-arrangement or formal bankruptcy). This list was cross-referenced with another hand-collected data set from Tel Aviv University, based on court filings of firms that have completed reorganization under Section 350 of the Companies Law. This dataset provides additional information on the reorganization, such as whether a stay was employed. I set the outset-of-distress date as the earliest of (1) the company's unilateral decision to delay payment on its bonds; (2) the company's filing of a bankruptcy petition (asking for a stay); or (3) a public announcement by the company that it intends to negotiate with bondholders to restructure its debt or that such negotiations have begun. I also document the date at which the firm either emerged from reorganization with a reorganization plan approved by the court, or was diverted to a process of liquidation; and a third date, which is the completion date, when all the conditions of the reorganization plan were fulfilled (this date applies only to firms that were not liquidated). The sample of distressed companies was supplemented by extensive firm-specific and industry-specific information which is described in Table 1.

Table 1 - Definition of Variables

Variable	Definition	Data source
Insiders' equity stake (percent)	Insider equity holding by all blockholders not including blocks held by institutional investors. Private Bond Companies are assigned a value of 100 percent	Monthly data from Israel Securities Authority on equity holdings ⁶
Fraction of related-party debt	[Total debt owed to connected firms/owners (solo)] over [total liabilities (solo ⁷)]	Quarterly reports of firms (Detailed Liabilities Position report)
Listed equity (dummy)	Takes the value one if a firm has equity registered for trade at the outset of distress (non-Private Bond Company)	Tel Aviv Stock Exchange
Log(Total Assets)	Natural logarithm of total assets (million NIS) of a firm	Quarterly reports of firms
Total Liabilities	Book value of total liabilities (million NIS)	Quarterly reports of firms
Debt solo	Book value of debt obligations of the firm, excluding debt obligations of subsidiary firms.	Quarterly reports of firms (Detailed Liabilities Position report)
Long term debt to assets	Long term liabilities divided by total assets.	Quarterly reports of firms
Leverage	Long and short term loans (loans, bonds and convertible bonds) divided by assets	Quarterly reports of firms
Cash and cash equivalents	Cash and cash equivalents divided by assets	Quarterly reports of firms
Expected Bond recovery	[Average market price of public debt in the month preceding entrance into distress], divided by the [par value of public debt (including accrued interest payment; and CPI/foreign exchange indexation accrued payment)]. For firms that had more than one bond issue the recovery rate is the value-weighted average across all trading bonds.	Tel Aviv Stock Exchange
Bond recovery	[Average market price of public debt in the month preceding court approval of the reorganization], divided by the [par value of public debt (including accrued interest payment; and CPI/foreign exchange indexation accrued payment)]. For firms that had more than one bond issue the recovery rate is the value-weighted average across all trading bonds.	Tel Aviv Stock Exchange
Return on assets (subtracting industry median)	[Operating profits divided by total assets - average of last four quarters] subtracting the contemporaneous median of an industry portfolio consisting of all other public firms with the same 4 digits Israeli-adapted ISIC	Quarterly reports of firms and Israel Central Bureau of Statistics classification
Return on sales (subtracting industry median)	[Operating profits divided by total revenue - average of last four quarters] subtracting the contemporaneous median of an industry portfolio consisting of all other public firms with the same 4 digits Israeli-adapted ISIC	Quarterly reports of firms and Israel Central Bureau of Statistics classification
Multiple bond issues (dummy)	Dummy variable indicating whether firm has more than one bond issue trading upon distress outset	Tel Aviv Stock Exchange

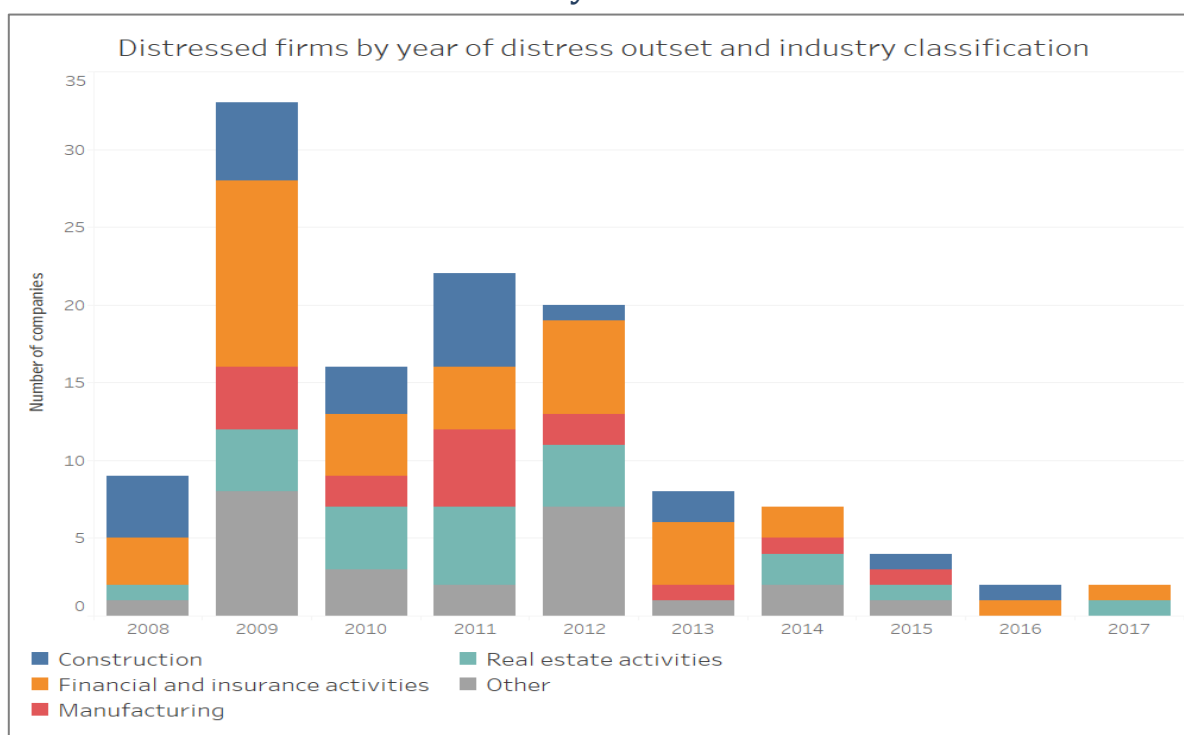
⁶ The Israeli Securities Law, 5728-1968, defines "party at interest" in a corporation as whomever holds 5% or more of the issued share capital or of the voting power in the corporation, whoever is entitled to appoint one or more of the corporation's Directors or its general manager, whoever serves as Director or as general manager of the corporation or a corporation in which an aforesaid person holds 25% or more of its issued share capital or of the voting power in it, or is entitled to appoint 25% or more of its Directors.

⁷ Assets and liabilities reports for public Israeli firms in this paper appear in consolidated form = including assets and liabilities for subsidiary firms, except for when non-consolidated data is available. This is indicated using the "solo" term.

Accounts payable	Credit owed to suppliers divided by assets	Quarterly reports of firms
Fraction of public debt	[Total bond debt held by the public (solo)] over [total liabilities (solo)]	Quarterly reports of firms (Detailed Liabilities Position report)
Fraction of bank debt	[Total debt to local banks (solo)] over [total liabilities (solo)]	Quarterly reports of firms (Detailed Liabilities Position report)
Fraction of secured public debt	Fraction of total bond debt secured by tangible (e.g., mortgages or assignments over tangible assets) and intangible assets (e.g., patents or pledged equity stakes in subsidiaries)	Data on collateral of public debt collected on behalf of the Bank of Israel
Deviation from APR	Percentage of value distributed to minority shareholders, confined by the ratio of creditor deficit	Tel Aviv Stock Exchange

Distressed companies were concentrated in three main sectors (industry classification is based on the Israeli adaptation of ISI Classification⁸)—real estate, finance and insurance, and construction (Figure 2).

Figure 2 - Distribution of Distressed Firms by Year of Distress Outset and Industry Affiliation



⁸ <https://www.cbs.gov.il/en/publications/Pages/2015/Standard-Industrial-Classification-of-All-Economic-Activities-2011-Updated-edition.aspx>

Figure 2 illustrates the dominance of these industries among distressed firms. Distress rates peaked twice during the sample period—in 2009 and again in 2011–12. The average annual distress rate as a share of total outstanding corporate bond liabilities (measured in par value) was one and a half percent for the entire period, peaking in 2009 at a yearly distress rate of six percent. For comparison, Altman and Kuehne (2014) report that default rate in the high yield bond market in the US reached 10.7 percent in 2009, while the weighted average annual default rate was 3.2 percent over the period from 2008 to 2013. A significant fraction of distressed companies belonged to two subindustries: "holding companies" (code 6420 in the 4 digit Israeli-adapted ISIC) and "building entrepreneurship" (code 4102 in the 4-digit Israeli-adapted ISIC).

I exclude from the analysis the two largest distress events⁹ as their asset size exceeds the 99th percentile. The final sample consists of 123 companies: 98 firms are publicly traded (i.e., their equity is listed) and 25 firms are "Private Bond Companies" (hereinafter, PBC)—these firms had listed their bonds, but not their equity, for trading on the stock exchange. Detailed information on the ownership structure is available for 96 publicly listed default-firms; the ownership structure of PBCs is unavailable. The data allow me to distinguish between different types of equity blockholders—the majority of them being individuals, but also prominent is the presence of public and private firms, and some foreign firms as well. There is some presence of institutional investors as blockholders but these holdings are excluded from what I account as "insiders' equity stake".

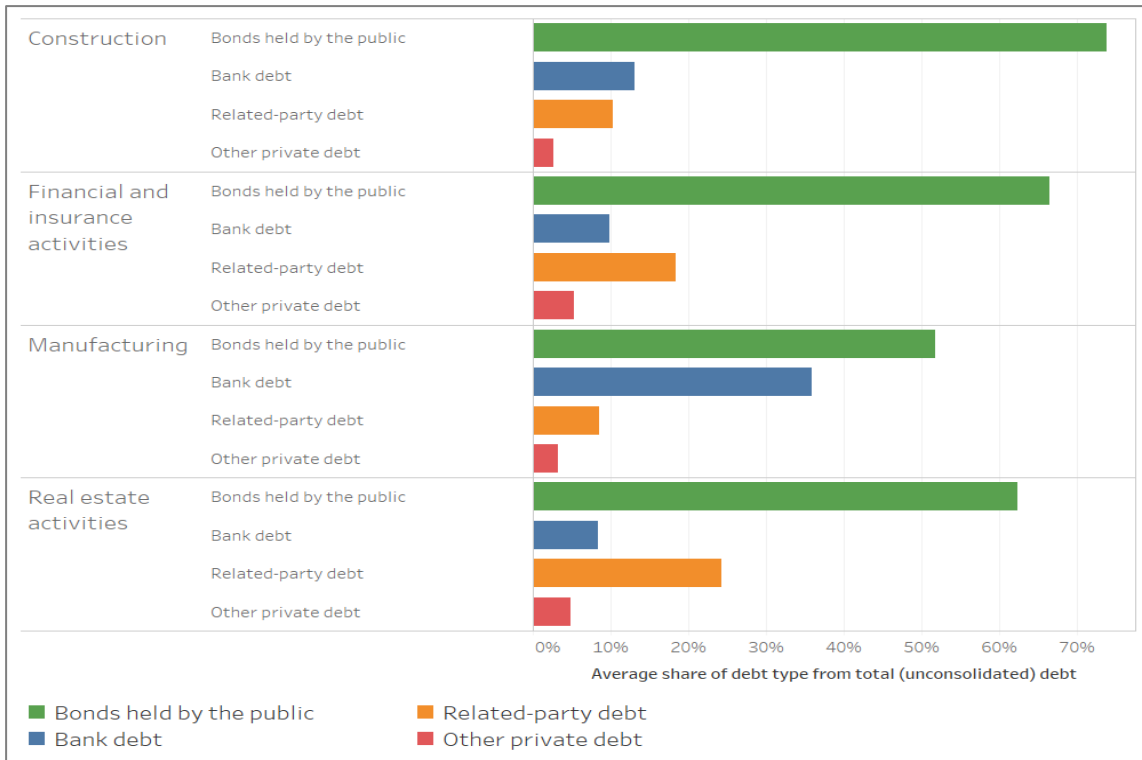
The quarterly reports of public firms that I use present a consolidated snapshot of the firm – that is, the reported assets and debt amounts take subsidiaries into account as well. In addition to the quarterly report, as of 2008, public firms in Israel are obliged to disclose their unconsolidated liabilities in a quarterly report called "Disclosure regarding the status of a corporation's liabilities according to maturity dates". This report makes it possible to understand the structure of the unconsolidated debt of the firm, and to break it down into different types of creditors, instruments and maturities. As I do not have information on the unconsolidated assets of the firm, I use the consolidated quarterly reports to control for firms' leverage and other financial ratios. While the consolidated reports reflect, in my opinion, the

⁹ Firms removed were: IDB Holdings Ltd. in 2012 (the largest firm to enter distress with NIS value of assets at outset of distress of 127 billion (consolidated) and bond debt par value of 1.5 billion) and Africa-Israel Investments Ltd. in 2009 (the firm with largest public debt with NIS value of assets at outset of distress of 31 billion, 13 distinct bond issues and bond debt par value of 6.8 billion)

financial state of the company, and in particular, the degree of the company's indebtedness, the unconsolidated report describes the "players" who participate in the formulation of the debt arrangement on the creditors' side and the power relations between them that stem from the scope and priority of the debt they hold. Three articles of the unconsolidated reporting requirement constitute what I refer to as the "related-party debt". These are: 1) Total credit given to the corporation by the parent company or the controlling shareholder and bonds issued by the corporation held by the parent company or controlling shareholder ("parents"); 2) Total credit given to the corporation by companies controlled by the parent company or the controlling shareholder and not controlled by the corporation and bonds issued by the corporation held by such companies ("siblings"); and 3) Total credit given to the corporation by subsidiaries and bonds issued by the corporation held by such companies ("children").

Figure 3 illustrates the debt structure of distressed firms upon entering distress based on the unconsolidated liabilities report. It demonstrates the significance of public bonds in total debt of the distressed firms—publicly held bond debt represents about two thirds of the liabilities. Related-party debt is present across all industries, and its share in total debt is high for holding and real-estate companies. Distressed firms have a low average ratio of bank debt, lower than comparable nondistressed firms (13 percent as opposed to 19 percent), while at the same time, their share of related-party debt is higher than the average among non-distressed firms (16 percent as opposed to 8 percent). Most debt to related parties is owed to subsidiaries. This apparent "substitution" between related-party debt and bank debt may be the result of the controlling owners using related-party loans to prop struggling companies at an earlier stage of distress, in line with Gopalan et al. (2007) who claim that intragroup debt is mostly used for this purpose.

Figure 3 – Debt (unconsolidated): Main Components for Distressed Firms, by Industry Affiliation



4. Choice of resolution procedure: scheme, court-managed or liquidation

4.1. Hypotheses

The choice between liquidation, court-managed reorganization, or scheme-of-arrangement is consequential for both shareholders and creditors. I assume that shareholders will always prefer to avoid liquidation; in a liquidation, which follows more closely to the APR, the company is dissolved and equity holders are almost certain to be wiped out; a court-appointed liquidator manages the company and the shareholders have no control rights and lose their ability to influence the liquidation process. Indeed, the majority of liquidated firms attempted a reorganization first, either formally or outside formal bankruptcy, and were redirected toward liquidation at the request of creditors after they gave up on attempts to reach an agreement with the controlling owners. When a stay on assets is used, a court official is appointed to manage the firm. This usually means that the owner/manager loses her

influence over the firm at this point. However, the firm might still ask for a stay if it needs protection from its creditors in order to be able to reach a reorganization plan. Thus, the motivation of owners with regard to turning to formal procedure is not unequivocal. I speculate that, whenever the coordination problem among creditors can be overcome and no secured creditors threaten the firm, the owners will prefer to avoid formal bankruptcy.

Because the law, in most jurisdictions, treats creditors' claims as having priority over the owners' equity in a distressed firm, to retain ownership in reorganization, the owner has to "buy" the firm "back" to some extent. How much the owner will have to pay depends on the local legal system for resolving distress and the power relations between creditors and the owners, and between the owners and external investors.

Stromberg (2000) assumes that a pre-bankruptcy owner-manager in a distressed firm lacks any funds of her own and a sale-back of a distressed firm to its original owners in Swedish mandatory auctions is possible only if the existing bank loan is renegotiated to finance the acquisition. Stromberg (2000) also provides empirical evidence to support this hypothesis using a sample of 205 Swedish bankrupt firms, narrowed down from the entire corporate population in Sweden that filed for bankruptcy between 1988 and 1991 and had at least 20 employees. As Figure 3 in the previous section shows, the proportion of bank debt in total debt owed by distressed firms in Israel was small, in absolute terms and in relative terms; therefore, securing additional bank financing by owners might have proven difficult. Alternatively, owners can use external funding, if they have access to it. This might be especially challenging during a general downturn in the bond market as was the case following the GFC in Israel. On top of that, new financing might be hard to come up with in an out-of-court reorganization where this financing will not enjoy ultra-seniority, in contrast to the option of Debtor-in-Possession financing available in Chapter 11 reorganizations.

A third, not mutually exclusive, option for capital injection, is to exploit the existing claims of the controlling owner on the firm. Holding high cash flow rights entails more flexibility for the owner to offer some of the equity to creditors or to new investors without losing control over the firm. Because the firms analyzed in this paper are all public firms, the ratio of equity held by owners varies.

The potential impact of concentrated owners on distress resolution thus depends on two related factors: how strong are the owner's incentives to save the firm (what is the private value of control), and to what extent is she able to financially accomplish this.

Hypothesis 1: My first hypothesis is that high insiders' cash flow rights are associated with a low probability of resolving distress in court. Large cash flow rights held by controlling owners allow dilution, and they signal a high motivation to avoid liquidation, as they indicate a significant personal wealth impact from losing ownership and a strong negative reputational impact.

Hypothesis 2: My second hypothesis is that a high ratio of related-party debt is also associated with lower probability to end up in liquidation or in formal bankruptcy. I argue that owners can exploit this claim financially in their effort to repurchase the firm; they can convert it to equity, downgrade it to junior debt, or extend its maturity. In addition, the presence of such debt indicates the accessibility of an internal capital market, and that additional internal financial support can be made available in the future. In the spirit of Gopalan et al. (2007), the presence of related-party debt (intragroup debt) might already be an indication for the importance of this firm to the business group and the high motivation of the owner to rehabilitate it. Owners might also strategically exploit related-party debt to distance new potential investors; when the controlling shareholder is also a debtor, she may object to reorganization proposals made by other investors. Conversely, when the arrangement leaves her in control, she can easily waive the debt.

4.2. Determinants of choice of procedure

For the purpose of the analysis in this section, firm-distress resolutions were classified as liquidation, court-managed, or scheme-of-arrangement in the following way: liquidated firms include 32 firms (26 percent) that were assigned a permanent liquidator by the court. Seven (6 percent) additional firms in this category formally underwent a reorganization, but in practice were stripped of their assets by a temporary liquidator who sold their assets piecemeal. In addition, my sample includes 14 reorganizations that were managed by a court-official. Of these, 11 reorganizations were managed under a formal stay. An additional two were managed by a court appointed receiver. One more reorganization was managed by a specially-appointed court official assigned with the task of reorganizing the firm. The remaining 70 reorganizations were carried out without direct involvement of a court official in the management of the distressed firm or in the negotiations between the firm's owners and bond creditors.

Following the hypotheses presented in the previous section, to account for the motivation and ability of the owner to successfully complete a reorganization, I use insiders' equity stake and the fraction of related-party debt. The inclusion of these ownership characteristics as determinants in the distress resolution choice of procedure and reorganization outcomes, are, to my knowledge, a novel contribution to the literature. I also include a dummy variable indicating if the equity of the firm is listed or if it is a PBC, to account for any structural differences between the two types.

Optimally, economically nonviable firms should be liquidated, while firms in financial distress and shortage of liquidity should be restructured. Therefore, I use leverage, the long term debt to assets ratio, and the ratio of cash and cash equivalents to assets to account for the severity of the financial and liquidity problems, similar to Franks and Torous (1994). I use return on assets (defined as operating income normalized by assets) and return on sales (operating income normalized by revenue), relative to industry peers, to assess economic viability following Hotchkiss (1995). Coordination problems among creditors may impede attempts to reorganize without court intervention (Gertner and Sharfstein, 1991); therefore, I include the proportion of bank debt and the number of bond issues to proxy for the extent of the coordination problem. In addition, Gilson et al. (1990) argue that a Chapter 11 restructuring is preferable to a workout when there is a large number of trade creditors. Therefore, I also add trade credit to total assets as an explanatory variable.

Table 2 shows the median values of some of the characteristics of the distressed companies in the sample at the outset of distress, separated by the chosen distress resolution procedure. Asterisks indicate the significance of a Mann-Whitney test for sample median differences between liquidation/court-managed reorganization relative to scheme-of-arrangement.

**Table 2 - Median Values of Selected Financial Characteristics,
by Choice of Procedure**

The table presents summary statistics for selected characteristics of the 123 firm-defaults in the sample. Figures are based on the last available quarter predating the outset of distress. Variable definitions appear in table 1. *, **, and *** denote statistically significant differences between the relevant sub-sample and the sub-sample of firms completing a scheme-of-arrangement, at the 10%, 5%, and 1% levels, respectively, based on a non-parametric Wilcoxon signed rank test (Mann-Whitney test) of differences in medians.

	Scheme (N)	Court- managed (N)	Liquidation (N)	Scheme (median)	Court- managed (median)	Liquidation (median)
Ownership characteristics						
Insiders' equity stake (%)	69	14	37	78.74	75.74	71.15
Fraction of related-party debt	63	13	33	0.10	0.02	0.03
Listed equity	69	14	38	1	1	1
Financial characteristics						
Total assets (NIS thousand)	70	14	38	199,972	183,309	191,761
Total liabilities (NIS thousand)	70	14	38	267,213	208,024	233,571
Debt solo (NIS thousand)	63	13	33	229,001	156,833	123,344**
Long term debt to assets	70	14	38	0.46	0.38	0.35*
Leverage	70	14	38	0.69	0.54	0.65*
Cash and cash equivalents to assets	70	14	38	0.04	0.01**	0.02*
Economic viability						
Expected bond recovery	64	13	37	0.48	0.48	0.42
Return on assets (subtracting industry median)	70	14	38	-0.02	-0.01	-0.02
Return on assets (subtracting industry median) 1 year prior to distress	69	14	37	-0.01	-0.01	-0.01
Return on assets (subtracting industry median) 2 years prior to distress	69	14	35	-0.01	0.00	-0.01
Return on sales (subtracting industry median)	70	14	38	-0.20	-0.09	-0.24
Return on sales (subtracting industry median) 1 year prior to distress	69	14	37	-0.16	-0.14	-0.12
Return on sales (subtracting industry median) 2 years prior to distress	69	14	35	-0.12	-0.02	-0.06
Creditor's coordination problem						
Multiple issues (dummy)	70	14	38	0.00	0.50	0.00
Accounts payable	70	14	38	0.07	0.17	0.04
Fraction of public debt	63	13	33	0.65	0.76	0.65
Fraction of secured public debt	70	14	38	0	0	0
Fraction of bank debt	63	13	33	0.01	0.04	0.00

Firms in the scheme-of-arrangement group have more concentrated ownership than court-managed reorganizers, which, in turn, have more concentrated ownership than firms that were liquidated. These differences, however, are not statistically significant. In addition,

scheme-of-arrangement firms have substantially more related-party debt than is present in the other two groups. The difference is close to being significant.

Consistent with theory, firms completing a scheme-of-arrangement are more financially distressed, but, at the same time, their liquidity problem is less severe—these firms have higher leverage, but also a larger part of their debt is due to be repaid in more than a year and they have higher liquidity reserves. Nothing in the comparison indicates that one group is more economically viable than the other at the outset of distress. Firms that ended up in liquidation, however, suffered a steeper deterioration in their industry adjusted profitability in the years leading up to the distress. In addition, expected recovery rates measured at the time of distress outset indicate that bondholders of firms that were eventually liquidated expected slightly lower recoveries already at the beginning of distress.

As for creditors' coordination challenge, in accordance with theory, firms seeking court-managed reorganization suffer from worse coordination problems—their fraction of trade credit is high and more of these firms have issued multiple bond issues. In comparison with other firms, they also have more public debt and more bank debt (and less related-party debt). The differences, however, are not statistically significant.

The ultimate choice of distress resolution procedure is the result of a complex process. Each of the characteristics can have a marginal effect on this outcome, which cannot be observed in a unilateral analysis. Thus, I employ a multinomial logit analysis that simultaneously examines the choice of procedure—scheme-of-arrangement, liquidation and court-managed reorganization, similar to Chatterjee et al. (1996).

Before analyzing the results of the multinomial logit, it is important to discuss whether the setup allows a causal interpretation of the determinants of distress resolution procedure or will only provide correlations. In other words, are debt and ownership characteristics jointly determined with the choice of procedure? In favor of exogeneity of the determinants is the time difference between when firms chose their debt structure and when they experience distress. In addition, as mentioned earlier, most firms in the sample had first attempted a reorganization, and only when that failed, they turned to a formal procedure. This supports the assumption that debt and ownership structure at the time of distress onset and the eventually chosen distress resolution procedure were not mutually determined. A second point in favor of exogeneity is that the distress episode was a first of a kind debt crisis in Israel, involving significant unsecured bond debt. It is thus even more difficult to claim that creditors

and borrowers had an initial assumption about the kind of procedure they would end up in upon distress. In contrast, owners might have anticipated distress, and adjusted their ownership structure ex ante in line with their expectations about the firm's restructuring prospects. It was already mentioned in Section 3 that controlling owners might have increased related-party loans when the firm's condition deteriorated.

The results of the multinomial regression are presented in Table 3. The presented coefficients are the relative risk ratios; they are the exponentiated value of the logit coefficients and they allow an easier interpretation of the logit coefficients. The base result is that of a scheme. The corresponding p-values are calculated using a Wald test.

The relative risk ratio indicates the relation between the risk of the outcome falling in the comparison group and the variable in question. A relative risk ratio > 1 indicates that the risk of the outcome falling in the comparison group relative to the risk of the outcome falling in the base group increases as the variable increases. In other words, the comparison outcome is more likely. A relative risk ratio < 1 indicates that the risk of the outcome falling in the comparison group relative to the risk of the outcome falling in the base group decreases as the variable increases, meaning the outcome is more likely to be in the base group.

The results are generally consistent with the descriptive statistics. However, the multinomial regression results emphasize the marginal importance of variables that did not emerge as significant in Table 2. Consistently across different specifications, the probability of liquidation or court-managed reorganization is lower for firms with higher insiders' cash flow rights; given a one percentage point increase in owners' equity stake, a firm is 4.4 percent (one minus the coefficient, which is 0.956) less likely to end up in liquidation as opposed to completing a scheme. The coefficient is similar for the choice between court-managed reorganization and a scheme, but it is statistically significant only in some of the specifications.

Table 3 - Multinomial Logit Estimation for the Determinants of Distress Resolution Procedure

This table presents multinomial logit regressions of the determinants of distress resolution choice by financially distressed firms. Presented coefficients are the relative risk ratios—that is, the exponentiated value of the logit coefficients. The sample consists of Israeli public firms completing a reorganization under Section 350 of the Companies Law or liquidated during 2008–18. The dependent variable is the ultimate resolution procedure; the base case is a scheme-of-arrangement. Column (1) presents relative risk ratios for the probability of ending up in a court-managed reorganization as opposed to the base case. Column (2) presents relative risk ratios for the probability of ending up in liquidation as opposed to the base case. All accounting measures are from the last available quarterly report. Insiders' equity stake is from the month of distress outset and represents the equity holding by all insiders not including blocks held by institutional investors. Listed equity (dummy) takes the value one if the firm is not a PDC; Fraction of related-party debt is the fraction of the firm's debt (solo report) that is owed to connected firms (parents/subsidiaries, etc.) or owners; Leverage is long and short term loans divided by total assets; Long term debt to assets is long term debt obligations divided by total assets; Cash and cash equivalent to assets is cash and cash equivalents divided by total assets; Return on sales (subtracting industry median) two years prior to distress is the operating profit divided by total revenue—average of the last four quarters minus the median return on assets of firms belonging to the same 4 digits ISIC classification, two years before the outset of distress; Accounts payable is credit from suppliers divided by total assets; Multiple issues (dummy) takes the value one if the firm had more than one bond issue traded at the outset of distress. . *, **, and *** denote statistical significance of the estimated coefficients, at the 10%, 5%, and 1% level, respectively. The corresponding p-values are calculated using a Wald test.

	<i>Dependent variable:</i>	
	Liquidation (N=30)	Court-managed (N=13)
Insiders' equity stake (%)	0.955** p = 0.017	0.961 p = 0.131
Listed equity (dummy)	0.331 p = 0.232	0.72 p = 0.823
Fraction of related-party debt	4.402 p = 0.276	0.054 p = 0.281
Long term debt to assets	0.205** p = 0.047	1.194 p = 0.793
Cash and cash equivalents to assets	0.002 p = 0.172	0.00000* p = 0.053
Return on sales (subtracting industry median) 2 years prior to distress	5.256 p = 0.354	61.255* p = 0.069
Accounts payable	1.046 p = 0.324	1.164* p = 0.083
Multiple issues (dummy)	0.881 p = 0.823	0.932 p = 0.926
Observations	104	
Akaike Inf. Crit.	202.949	202.949

Note: *p**p***p<0.01

The ratio of related-party debt is insignificant in explaining the choice of procedure, even though the descriptive statistics pointed to apparent differences between firms. This insignificance is partly explained by the existence of a positive significant correlation between

the ratio of related-party debt and the insiders' cash flow rights; they share a correlation coefficient of 0.3.

Similarly, Gopalan et al. (2007) find that groups tend to provide greater loan support to firms with larger insider ownership stakes. They also find that controlling for firms' financial characteristics, firms with high insider ownership stakes are less likely to go bankrupt. Extending their findings, the present analysis demonstrates that the impact of insider ownership stakes and related-party debt is evident not only prior to distress but also during it.

The multinomial estimation confirms that a high proportion of long-term debt (due in more than a year) and high cash reserves increase the probability of completing a scheme-of-arrangement. A court-managed reorganization is more likely when there is a severe coordination problem among creditors—in particular, reliance on trade credit. In addition, firms that turn to a court managed reorganization experienced a more pronounced deterioration in their profitability—two years before the distress they exhibited better industry adjusted performance than firms completing a scheme.

I hypothesized that the owners' cash flow rights proxy for both a higher motivation to restructure the firm and a higher financial ability to do so, through the exchange of some of the equity for new funding or for debt. All distressed firms in the data are closely held by controlling owners—the 25th and 75th percentiles of insiders' equity stake are 62 and 81 percent, respectively. Given these high ownership stakes, all owners probably have high motivation to avoid liquidation. The *ability* to use equity in exchange for new funding is thus a more plausible explanation for the result of the multinomial regression. The analysis in the following section, which tracks changes to ownership during reorganization, supports this assessment, as it shows that insiders' equity stake was indeed used as a means to decrease leverage. It also strengthens the assumption that there is at least some causal effect of the ratio of insider's equity stake on distress outcomes.

The irrelevance of economic viability to the choice between completing a scheme-of-arrangement and ending up in liquidation, and in parallel, the importance of insiders' cash flow rights to this choice, are indicative of the existence of a bias toward preservation of economically unviable firms. I suggested that this bias may be present due to increased motivation and ability of owners to preserve the firm, stemming from their private benefits of control.

The analysis in this section shows that the choice of procedure is correlated with a number of firm characteristics. There is self-selection in this decision and all outcomes that follow should account for this first-step endogenous choice.

4.3. Comparison with previous studies

Table 4 presents a comparison of distress resolution procedure choices in Israel with several papers examining corporate distress in the US and one paper analysing Swedish bankruptcies. It is important to keep in mind that none of the papers in the comparison, including the current paper, analyzes the entire set of possibilities for distress resolution; each focuses only on two or three such options. De facto, there are several options for out-of-court resolutions in any jurisdiction. These include, but are not limited to, exchange offers, buyouts and mergers, or even buy-backs of debt. There are also several options for a court-supervised reorganization, depending on the granularity of the analysis. For instance, in the US, liquidations are possible through Chapter 7, but firms can also be liquidated through Chapter 11 without being formally diverted to Chapter 7. While some papers analyze the choice of initial resolution process, others look at the road down ahead and reassign firms if their case was diverted from Chapter 11 to Chapter 7. Comparisons thus should be interpreted with caution.

What is most noticeable in Table 2 is the low ratio of formal reorganizations undertaken by Israeli public firms, i.e., reorganizations that were managed by the court and involved the appointment of a court official, and at the same time, the high ratio of out-of-court reorganizations. This is true compared to the liquidation rate in other studies but also compared to the frequency of Chapter 11 "prepacks" and private workouts. In Section 2.2, similarities between US "prepacks" and Israeli out-of-court schemes are pointed out, although Israeli out-of-court schemes also share similarities with private workouts. A possible explanation for this is the absence of bank debt at significant ratios in the current sample. As the econometric analysis also showed, a company comes to an official procedure when its creditors' coordination problem is more severe. In addition, a formal procedure protects the company from secured creditors taking over its assets.

The resulting liquidation rate in Israel is similar to that found in the US and in Sweden for formal liquidations. The ratio for Israel is higher than elsewhere, though, when accounting for reorganizations that in effect resulted in a piecemeal sale of assets.

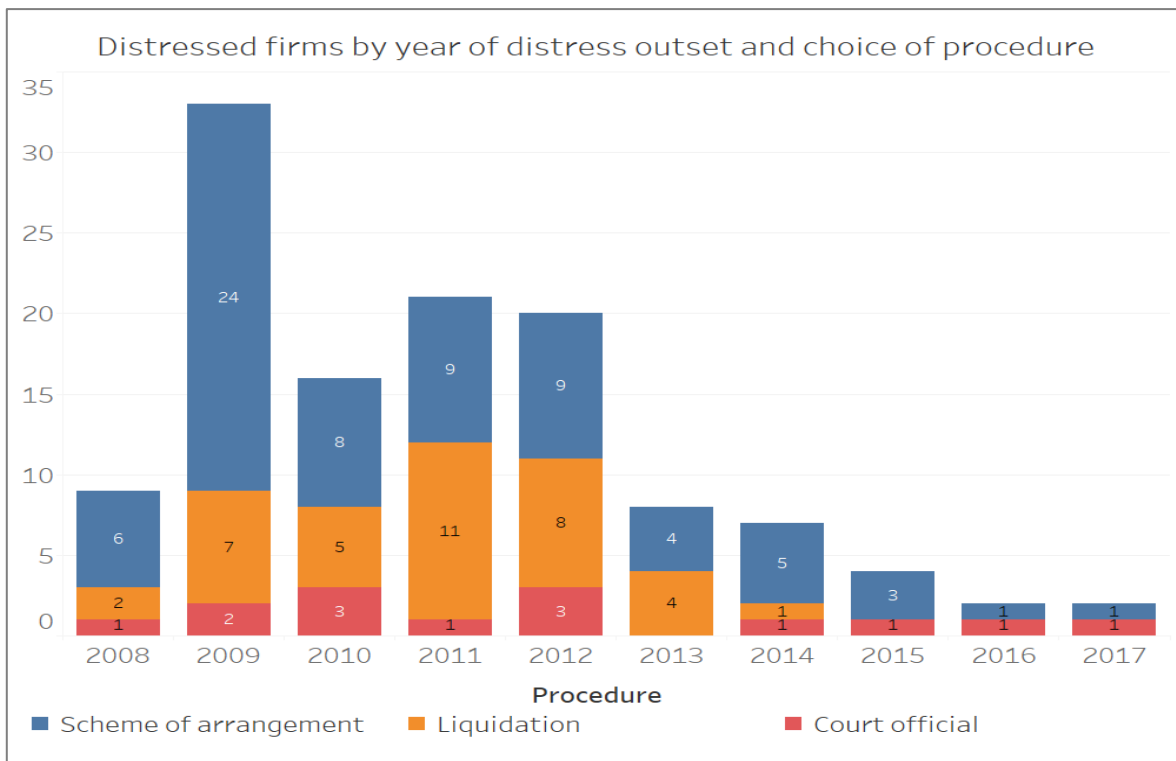
Table 4 - International comparison of distress resolution procedure choice

The table presents a comparison of distress resolution outcomes in different jurisdictions. As the legal structure available for debt distress resolution varies from one jurisdiction to another, "reorganization" and "liquidation" procedures might have different characteristics in different countries. In general, reorganization provides relief from financial distress by debt and/or assets restructure. This changes can be accomplished either through a formal court-adjudicated process or in a voluntary out-of-court workout. In a liquidation, firm's assets are usually sold piecemeal by a court official. A detailed explanation of the distress resolution regime in Israel and how it compares to the US appears in Section 2.2.

Country	Israel	US	US	US	Sweden
		Franks and Torous (1994)	Kalay et al. (2007)	Bris et al. (2006)	Thorburn (2000)
Time period of sample	2008–18	1983–88	1991–98	1995–2011	1988–1991
Type of firms	All public Israeli firms with previously issued traded debt that emerged from a court authorized debt reorganization or were liquidated.	161 firms that were downgraded to CCC or below by Standard and Poor's	Firms with at least one publicly traded security that filed for Chapter 11	All corporate bankruptcies that filed under Chapter 7 and Chapter 11 in the Federal Bankruptcy Courts of Arizona (AZ) and Southern New York (NY).	263 Firms with more than 20 employees that filed for bankruptcy and underwent a public cash auction
Out-of-court reorganization	70 (57 percent)	76 (49 percent) (distressed exchanges)	65 (14 percent) (pre-packaged Chapter 11)		
Formal reorganization	14 (11 percent)	78 (51 percent) (Chapter 11)	394 (86 percent) (other types Chapter 11)	221 (78 percent) (Chapter 11)	195 (74 percent) (sold as a going concern)
Liquidation	39 (32 percent)			61 (22 percent) (Chapter 7)	63 (26 percent) (liquidated piecemeal)

Figure 4 indicates that the various distress resolution procedures are distributed in a similar manner across the time span of the analysis.

Figure 4 - Distribution of Distressed Firms by Year of Distress Outset and Choice of Procedure



5. Ownership turnover during reorganization

The ultimate goal of insiders is not only to avoid the liquidation of the firm but also to preserve their cash flow rights as much as possible. However, to be able to do that, they have to improve the financial resilience of the firm during reorganization—in essence, "buy" the firm "back" from creditors. The following analysis focuses on what happens to ownership during the reorganization process, whether in an out-of-court reorganization or via formal bankruptcy under the management of a court official.

Ownership structures differ between firms—some firms have one large equity blockholder holding as much as 90 percent of the firm's equity, while others have several equity blockholders belonging to one or more families or corporations. For the first case, determining ownership turnover is straightforward, by looking at the insider's cash flow rights after emergence from reorganization. For the latter case, and especially if the firm is controlled by representatives of more than one family/business group, it is more challenging. Determining that an ownership turnover occurred was thus based on a discretionary

assessment of detailed insiders' equity holdings data, accounting for the connections between different insiders, and complemented by information from the media.

The analysis in this section excludes PBCs because their ownership structure at the outset of reorganization is not readily available. The sample includes 48 firms that completed a scheme-of-arrangement and 13 firms that completed a court-managed reorganization.

The previously presented conjecture, namely that owners will prefer a scheme to a court managed reorganization if the coordination problem between multiple creditors is not severe, is backed up by the results of the post-reorganization ownership structure; among the 13 firms that required the involvement of a court official, only 2 (15 percent) emerged under the ownership of their original owners. This is in contrast to firms completing a scheme-of-arrangement, where 31 of the 48 firms (65 percent) did not experience a turnover of ownership.

A comparison with restructurings of US public firms is not very informative because there is usually no concentrated ownership that would make the concept of ownership turnover relevant. In addition, equity holders are not an important party to the restructuring process of US distressed public firms, and thus, their interests are not represented. Usually, during a Chapter 11 restructuring, most of the equity is distributed to creditors. That does not mean that all equity value is wiped out in restructurings. I return to the subject of equity holders' compensation in distress resolutions in the US in Section 6, when I explore the ownership structure of firms after reorganization and analyze deviation from APR. The proportion of ownership persistence in Stromberg (2000), where owners can retain ownership if they win the bid over the distressed firm, is 79 cases out of a sample of 205 (39 percent), somewhere in the middle between the current results for schemes-of-arrangement and court-managed reorganizations.

For most of the period covered by this paper, the scheme-of-arrangement regime did not allow creditors to submit their own reorganization plan, and bondholders were limited to accepting or rejecting reorganization plans proposed by the company. Acquisition by means of a bid was made possible under formal bankruptcy procedure or in occasions when owners waived the right to propose reorganization schemes and "handed" the firm over to the creditors, or at least on one occasion when creditors managed to get a court ruling that allowed them to propose a competing reorganization plan. Usually, the result of changed ownership after emerging from a scheme-of-arrangement was obtained when original

owners found an investor who bought out their cash flow rights. This ownership transfer is an integral part of the reorganization plan that includes debt forgiveness as well, and as such, had to be approved by the creditors. Sometimes, new investors turned out to be secondary equity blockholders who bought out the stake of the primary blockholder.

Table 5 compares the characteristics of firms at the outset of distress based on the eventual result of ownership turnover. Ownership persistence ratios reported earlier point to the fact that choice of procedure is important to the outcome regarding ownership turnover. Determinants that lead to choosing a court-managed reorganization almost inevitably lead to ownership turnover. In order not to confuse the determinants of procedure choice with determinants of ownership turnover, and to simplify the analysis, I limit the following investigation to firms completing a scheme.

Insiders' equity stake is slightly lower upon entering distress for firms that did not experience an ownership turnover. In contrast, related-party debt ratio is higher in this group. The presence of related-party debt seems to be consistently associated with preserving ownership. However, both these differences are statistically insignificant.

Leverage at distress outset was higher in firms where owners were eventually replaced. Possibly, such firms required a larger capital injection which made it difficult for the current owner to provide all the needed funding. Alternatively, the high leverage ratio is evidence of the company's flawed management by the current controlling owners.

Probit regression analysis (unreported) reaffirms that the differences in Table 5 are the only ones with any explanatory power with regard to the question of ownership turnover. Statistically, the strongest effect is that of related-party debt—a higher fraction of this type of debt is associated with lower probability of ownership turnover. None of the financial indicators, market indicators, firm performance, ownership structure or other debt structure variables have explanatory power in regression analysis. Presumably, the owners' financial constraints affect ownership turnover. This has been suggested in the media on several occasions.¹⁰

¹⁰Aura is a real estate company that became distressed in the end of 2011. The distress was resolved via a reorganization and stay on assets was employed. As part of the reorganization Aura was bought by a new owner, Yaakov Atrakchi, who in exchange of an investment of NIS 3 million became the owner of 90 percent of the firm's equity. Atrakchi also pledged that he would invest another NIS 35 million in the future. In an interview in 2012 to "TheMarker", Atrakchi said that "the previous owners did not reach deep enough into his pocket" in explaining how he became the new owner.

**Table 5 - Summary Statistics at Outset of Distress with Respect to the
Result of Ownership Turnover**

The table presents summary statistics for selected characteristics of the 48 firm-defaults completing a scheme-of-arrangement, separated by the result with respect to ownership at emergence from reorganization. Figures are based on the last available quarter predating the outset of distress. Exact definitions of the variables appear in Table 1. *, **, and *** denote statistically significant differences at the 10%, 5%, and 1% level, respectively, based on a non-parametric Wilcoxon signed rank test (Mann-Whitney test) of differences in medians.

	Original owners remained (N)	Original owners replaced (N)	Original owners remained (median)	Original owners replaced (median)
Ownership characteristics				
Insiders' equity stake (%)	31	17	72.00	77.04
Fraction of related-party debt	27	14	0.06	0.00
Financial characteristics				
Total assets (NIS thousand)	31	17	234,152	402,791
Total liabilities (NIS thousand)	31	17	172,629	373,547
Debt solo (NIS thousand)	27	14	289,768	264,286
Long term debt to assets	31	17	0.35	0.50
Leverage	31	17	0.61	0.73*
Cash and cash equivalents to assets	31	17	0.04	0.04
Economic viability				
Expected bon recovery	28	17	0.51	0.44
Asset return (subtracting industry median)	31	17	-0.02	-0.01
Asset return (subtracting industry median) 1 year prior to distress	31	17	-0.01	-0.01
Asset return (subtracting industry median) 2 years prior to distress	31	17	-0.01	-0.01
Return on sales (subtracting industry median)	31	17	-0.58	-0.13
Return on sales (subtracting industry median) 1 year prior to distress	31	17	-0.07	-0.04
Return on sales (subtracting industry median) 2 years prior to distress	31	17	-0.06	-0.07
Creditor's coordination problem				
Multiple issues (dummy)	31	17	0.00	1.00
Accounts payable	31	17	0.07	0.11
Fraction of public debt	27	14	0.65	0.79*
Fraction of bank debt	27	14	0.04	0.00

For publicly listed firms emerging from reorganization, details of the reorganization plan are publicly disclosed. Reviewing reorganization plans reveals that there were many different ways in which owners "bought-back" their ownership—a new loan extended by the owner or by a related-party firm; forgiveness of an existing loan; capital injection in return for new issuance of equity, etc. Two popular forms of equity injection were downgrading the seniority of related-party debt (exchanging it for equity) and committing to a cut down on the salary of managers-owners. Occasionally, controlling shareholders

hold formal management positions in the firm. Due to their senior position, their salary might account for a non-negligible expense. Holding a management position, again, attests to a strong emotional and financial connection of the owner to the firm.

This circumstantial evidence supports my hypothesis that related-party debt has a causal effect on ownership persistence. When this debt was initially extended to the firm is not examined in the current study. Its presence upon entering distress may indicate a previous attempt by the owner to avoid default, especially if it was already difficult for the owner at that point to obtain external financing. Alternatively, the owner might have extended this debt intentionally to strengthen her grip over the firm in anticipation of default.

I proceed to investigating distressed firms upon emergence from reorganization. The main interest is the impact of ownership on reorganization outcomes and post-bankruptcy performance. One alternative is that reorganization outcomes are largely pre-determined by firm characteristics at the outset of reorganization. A second alternative is that ownership turnover—which seems, according to the analysis thus far, to be less related to firm-specific financial characteristics and more to ownership structure and owners' financial constraints—has its own effect. This is explored in the next section.

6. Emergence from distress, post-resolution performance, and the relation to ownership turnover

6.1. Firms' transformation.

I first compare the transformation of firms during reorganization. The sample consists of 41 firm-defaults, representing firms that completed a scheme-of-arrangement, and have available ownership information and financial statements for both pre- and post-reorganization periods. Because several firms re-entered distress before fulfilling all reorganization commitments or soon after completing the reorganization, some post-reorganization financial disclosures are missing; firms that post-reorganization have neither public bonds nor equity also did not disclose financial reports after emergence. This leads to sample reduction relative to the previous section by seven firm-defaults. Table 6 presents statistics comparing entrance and emergence information for firms

completing a scheme, and either emerging with a new primary owner or under the same ownership.

Table 6 – Firms' Transformation during Reorganization

The table presents summary statistics for selected characteristics of the 41 firm-defaults completing a scheme-of-arrangement, with available financial information upon entrance and emergence, separated by the result with respect to ownership at emergence from reorganization. Figures at entrance to distress are based on the last available quarter predating the outset of distress. Figures upon emergence from distress are based on the first available quarter after the approval of the reorganization plan by the court. Precise definitions of the variables appear in Table 1. *, **, and *** denote statistically significant differences at the 10%, 5%, and 1% level, respectively, based on a non-parametric Wilcoxon signed rank test (Mann-Whitney test) of differences in medians.

	Owners remain (N)	Owners replaced (N)	Owners remain (median)	Owners replaced (median)
Ownership characteristics				
Insiders' equity stake at entrance (%)	27	14	72.00	75.12
<i>Insiders' equity stake upon emergence (%)</i>	27	14	68.40	58.36
Insiders' equity stake of remaining owners at entrance (%)	27	14	68.49	0.00***
<i>Insiders' equity stake of remaining owners at emergence (%)</i>	27	14	61.43	0.00***
Institutionals' equity stake at entrance (%)	27	14	0.00	0.00
<i>Institutionals' equity stake upon emergence (%)</i>	27	14	0.00	0.00
Fraction of related-party debt at entrance	24	12	0.08	0.00
<i>Fraction of related-party debt upon emergence</i>	26	13	0.00	0.00
Financial characteristics				
Total Assets at entrance (NIS thousand)	27	14	197,368	581,892
<i>Total Assets upon emergence (NIS thousand)</i>	27	14	100,893	241,042
Total Liabilities at entrance (NIS thousand)	27	14	170,473	555,845
<i>Total Liabilities upon emergence (NIS thousand)</i>	27	14	116,111	203,495
Debt solo at entrance (NIS thousand)	24	12	261,372	264,285
<i>Debt solo upon emergence (NIS thousand)</i>	26	13	104,471	42,785
Leverage at entrance	27	14	0.61	0.70
<i>Leverage upon emergence</i>	27	14	0.61	0.53
Number of bond issues at entrance	27	14	1.00	2.00
<i>Number of bond issues upon emergence</i>	27	14	1.00	0.50**
Fraction of public debt at entrance	24	12	0.64	0.73
<i>Fraction of public debt upon emergence</i>	26	13	0.71	0.30**

Table 6 shows that the ownership of reorganized firms remained highly concentrated regardless of ownership turnover, although concentration decreased relative to distress outset for firms that emerged with new owners. For a median firm that remained under the same ownership, the "surviving" insiders' cash flow rights decreased by 10 percent during the reorganization. There is no increase in equity blockholding by institutional investors after reorganization and there are no more than a couple of firms with no

prominent blockholders postreorganization. This leads me to infer that the distribution of equity to creditors was of limited scope. The decline in the equity stake of the original owners was accompanied by the emergence of new insiders after reorganization; overall, the median equity stake held by insiders is almost unchanged. In firms where ownership was replaced, the original owners were left with no equity stake after the reorganization. Reorganization outcomes with regard to ownership and equity possession differ substantially compared with Chapter 11 reorganizations; in the US, the common practice is that the equity of firms is largely transferred to creditors during restructuring. For example, Gilson (1990) reports that an average of 80 percent of the common stock in a reorganized Chapter 11 firm is distributed to creditors. Special types of investors such as vulture capitalists (Hotchkiss and Mooradian, 1997) and hedge funds (Jiang et al., 2012) gain post-restructure ownership by initially investing in debt claims. Chapter 11 involves relatively few cases of acquisitions of the bankrupt firm as a whole by other operating companies (Hotchkiss and Mooradian, 1997). Gilson, Hotchkiss, and Ruback (2000) find equity investments occur for 12 of the 63 firms (19 percent) in their sample, resulting in the investors owning a median of 54 percent of the reorganized firm's equity. The sources for re-financing distressed firms in Israel and in Chapter 11 differ; for the first case, financing comes from equity injection by owners and some debt forgiveness. In Chapter 11, refinancing is almost entirely based on exchanging debt for equity.

The related-party debt is smaller at emergence for firms that did not experience ownership turnover, which supports the claim that this debt was often converted to equity.

Measuring by their assets and liabilities, firms emerging from reorganization are half the size they were when entering it. Firms experiencing an ownership turnover show an especially large reduction in debt. Unsurprisingly, these firms also have significantly lower leverage upon emergence, even though their leverage was higher when entering the reorganization. The composition of their debt also changes considerably; the ratio of public bond debt is significantly lower than at entrance and compared with firms emerging with the same ownership; in addition, many of the firms that experienced an ownership turnover emerged from reorganization with no public debt whatsoever.

Overall, firms that emerge from a scheme-of-arrangement without experiencing an ownership turnover are not much transformed. Their ownership structure changes slightly

to allow for some new equity investment, and they decrease their assets and liabilities, but not enough for their leverage to significantly improve. In contrast, firms experiencing an ownership turnover seem quite different compared with distress outset. They completely change ownership, they experience extensive debt and leverage reduction; and they are left with only small public debt upon emergence.

6.2. Payoff to stakeholders

Debt recovery rates, defined as the payoff to creditors post-reorganization as a fraction of the face value of their initial claims, are used in the literature to compare different reorganization regimes in different jurisdictions and to assess direct and indirect reorganization costs. The present analysis focuses on recovery rates to bondholders, constituting the largest debt class of distressed firms. Due to data limitations, measures of recovery rates are often based on book value of newly issued securities or on estimates reported to the court. The advantage of using data from Israel is that most bonds are traded on the stock exchange and I can use bond market prices during the time the firm negotiates a reorganization plan, as well as after the approval of the plan up until the implementation of the reorganization plan, or the redemption of the bond, whichever comes first. Although I do not have detailed information on the means of conversion from the distressed bonds to different types of securities (new bonds, cash or equity), I rely on the fact that the price at which the bonds are traded when the reorganization plan is known to everyone represents the expected value of that conversion.

The measure of recovery rates to bondholders is based on the market price of bonds. In most reorganizations, recovery is based on the average market price of bonds in the month preceding reorganization approval by the court. I use average price to minimize the effects of sharp price movements. There are four firms for which market prices are unavailable in this point in time and thus instead, I measure recovery based on market prices in the time between reorganization approval and implementation. I do not limit the analysis to firms that remained public or had traded bonds post reorganization. To extend the analysis to as many firms as possible, I do not require that the reorganization be carried out to the fullest. The only restriction imposed is that firms had to have bonds with an up-to-date market price close to the completion of the reorganization plan; bonds that were suspended from trade are excluded.

The analysis in the previous sections suggests that at the outset of distress, expected recovery rates were similar, whether firms eventually experienced an ownership turnover or not (Table 5). Expectations were also similar among firms that reached formal bankruptcy under management of a court official, or in an out-of-court scheme (Table 2). Eventual recoveries to bondholders, however, display very different results, as evident from the comparison in Table 7. For comparison purposes, Table 7 includes both scheme-of-arrangement and formal bankruptcy firms. The latter constitute a very small sample. Median recovery to bondholders in firms that experienced an ownership turnover, whether the reorganization was carried out out-of-court or under court management are equal to 25 percent, almost 30 percentage points lower than those in firms that remained under the same ownership after an out-of-court scheme and emerged with median recovery to bondholders of 52 percent.

Table 7 – Payoff to Stakeholders

The table presents payoff to stakeholders and time spent in reorganization assessed upon the confirmation in court of the reorganization, for firm-defaults completing a scheme-of-arrangement and firm-defaults completing a court-managed reorganization, separated by the result with respect to ownership at emergence from reorganization. Exact definitions of the variables appear in Table 1.

	Scheme		Court-managed		Scheme		Court-managed	
	Owners remain (N)	Owners replaced (N)	Owners remain (N)	Owners replaced (N)	Owners remain (median)	Owners replaced (median)	Owners remain (median)	Owners replaced (median)
Payoff to stakeholders								
Bond recovery upon emergence	27	12	-	8	0.52	0.25	-	0.25
Deviation from APR in favor of equity	26	9	-	6	0.14	0.04	-	0.05
Time spent in reorganization (months)	31	17	2	11	11.60	20.40	36.63	10.00

I offer three possible explanations for the seemingly large difference between recoveries in different groups. One is that firms where owners were replaced had lower economic value. This explanation fits the case of court-managed reorganizations, but is less compatible for firms emerging from a scheme-of-arrangement with new ownership, because these firms did not portray different economic characteristics upon entrance compared with firms that did not change ownership during a scheme. The second

explanation is that external investors have lower private benefits of control and their valuation of the firms is lower than original owners. When original owners are financially able to retain control, they contribute to the firm more than an external investor would have. When a firm is sold to a new investor, its true value is lower. A third explanation is that schemes that involved ownership turnover took considerable time to finalize, during which firm-specific and general-economy circumstances changed; replacing the existing owner, or finding a new investor, took for the median firm 20 months, twice as long as a swift scheme that left the firms in the hands of the original owners. During this period, when the existing owner is not very motivated to exert effort in managing the firm knowing that the firm is about to be sold, firm value might have eroded. As for firms emerging from a court-managed reorganization, it is plausible to assume that direct costs were much higher and this lowered recovery. Distinguishing between the possible explanations requires tracking the changes in market based recovery rates along significant stations in the negotiation process. That is beyond the scope of the current study. Both median and average recovery rates support the existence of significant differences in recovery rate to bondholders upon emergence between groups. This reassures that the difference is not accidental, as the number of observations is small.

Market-based recovery rates for Chapter 11 bankruptcies are scarcely available; Franks and Torous (1994) report a median *market* recovery rate of 41.1 percent in Chapter 11 reorganizations, compared with a median of 73.8 percent in distressed exchanges. Bris et al. (2006) document average total *reported* recovery rates (secured and unsecured) in Chapter 11 of 69 percent (median 79 percent). Tashjian et al. (1996) report that creditors of publicly traded firms filing for Chapter 11 “prepacks” recover 73 percent, on average, of the face value of their debt claims. Altman (2014) argues that after the Reform Act in 2005, expected recovery rates on corporate bonds have increased. In Swedish bankruptcy, creditors’ claims are paid with the cash generated in the auction. Thorburn (2000) reports average (median) recovery rates of 35 (34) percent. Recovery rates for the current sample thus seem low, especially considering the fact that they are the result of an out-of-court reorganization, where direct costs are expected to be small.

Under the principle of APR, a restructuring that requires creditors to “take a haircut” on their claims should fully wipe out equity holders. Empirically, deviations from this rule occur often in favor of more junior claimholders, including equity holders. This happens

both in out-of-court restructuring and in Chapter 11. Franks and Torous (1994) find that deviations from APR in favor of equity are higher in exchanges compared with formal Chapter 11 procedures. They conjecture that the difference in deviations between informal and formal reorganizations can be interpreted as a lower-bound estimate of the higher costs of formal reorganization, since it represents what creditors are willing to give up to avoid Chapter 11.

I measure APR deviations in favor of minority equity holders and not in favor of controlling shareholders because I have no credible and systematic valuation of insiders' financial contribution to the firm during reorganization. In contrast, I assume no financial contribution was made on the part of minority equity holders. In addition, it is reasonable to assume that the controlling owners did not fare worse than minority equity holders, as their interest were best represented during the negotiation of the reorganization plan. The deviation is measured in percentage of value distributed to shareholders in a method similar to Eberhart et al. (1990) (*APR-deviation*). Eberhart et al. evaluate the deviation from APR as the amount ultimately paid to common shareholders in violation of the APR (the amount that should have been distributed to creditors to cover the shortage of the payment they receive in practice) divided by the total value distributed to all claimants upon confirmation of the reorganization plan. In the current study, I use one minus the recovery rate to bondholders at emergence from reorganization, multiplied by the par value of outstanding bond debt, to measure the NIS creditor deficit.¹¹ The part of creditor deficit, which is smaller or equal to the NIS market value of the firm, is the numerator of the deviation from APR in favor of equity holders. The denominator of the deviation is the total market value of equity and outstanding bond debt (in face value.)¹²

Higher recoveries to bond creditors in firms not experiencing an ownership turnover are accompanied by larger violations of APR. The APR-deviation ranges from zero to 52 percent with a mean of 15 percent and a median of 14 percent. These figures are higher than Eberhart et al.'s (1990) (max 35.71 percent, mean 7.57 percent), and higher than those reported by Franks and Torous (1994) - 9.51 percent deviation from APR in favor of

¹¹ In situations where a firm has several outstanding bond issues but not all of them have an updated market value at the time we perform the calculation, we assume the recovery rate on the actively traded bonds apply to all bond issues of the firm.

¹² This is undoubtedly a very simplifying calculation. In particular, it ignores other stakeholders of the firm such as workers and suppliers. This simplification means that creditor deficit and total value distributed to all stakeholders are underestimated in this calculation and this can cause misestimation of APR violation in both directions.

equity in distressed exchanges, and 2.28 percent deviation in favor of equity in Chapter 11 reorganizations, although their calculations are not directly comparable with the one here. Almost no deviation from APR in favor of minority equity holders is present in the other two groups in Table 7. This suggests that bond creditors were willing to accept large deviations in exchange for an agreement with existing equity holders. This either implies that transaction costs for creditors are high and that forcing the firm to a formal bankruptcy procedure requires a lot of effort in their side. Complementary, formal bankruptcy, and liquidation as well, entail significant losses to firm value, due to direct or indirect costs.

6.3. Post reorganization performance

Finally, I explore how firms fare post reorganization. Table 8 shows that firms emerging from a formal bankruptcy fare worse than firms emerging from scheme of arrangement, based on industry adjusted profitability. As for the question of ownership turnover in schemes-of-arrangement—most emerging firms fare worse than their industry peers one and two (unreported) years after completing the reorganization, regardless of ownership turnover. However, in contrast, on a firm-by-firm basis, return on assets and return on sales show slightly larger improvement from when firms entered distress and one year after reorganization was completed in firms where original owners remained. This may be interpreted as evidence of self-selection, i.e., that owners gave up ownership in firms with lower prospects for economic improvement. However, the remaining sample is small and strong conclusions should not be made.

I find that the absence of an ownership turnover during a scheme is the most prominent factor associated with recurring distress. In accordance with the construction of the data in this paper, only firms that have public debt in the form of bonds and suffer distress qualify to appear in the distressed firms' sample. This is an important point, as many firms with replaced ownership emerged without public debt and therefore, by definition, cannot reappear in the sample. However, accounting for the difference in the frequency of emerging without public debt between firms that experienced an ownership turnover and those that did not, I find that firms that did not experience an ownership turnover still exhibit a higher frequency of recurring distress: 15 out of 24 firms that emerged from a scheme-of-arrangement under their original ownership and with part of their debt in the

form of traded bonds reentered distress, compared with only two firms out of eight that experienced ownership turnover and emerged with part of their debt in the form of traded bonds.

Table 8 – Firm Performance after Reorganization

The table presents post reorganization performance indications, for 39 firm-defaults completing a scheme-of-arrangement and nine firm-defaults completing a court-managed reorganization, separated by the result with respect to ownership at emergence from reorganization. Return on assets is operating profits divided by total assets - average of last four quarters. Return on sales is operating profit divided by total revenue - average of last four quarters. For standardization, I subtract from the return evaluations of each firm the median contemporaneous return of all other public firms with the same 4 digits Israeli-adapted ISIC.

	Scheme		Court-managed		Scheme		Court-managed	
	Owners remain (N)	Owners replaced (N)	Owners remain (N)	Owners replaced (N)	Owners remain (median)	Owners replaced (median)	Owners remain (median)	Owners replaced (median)
Economic performance								
Return on assets (subtracting industry median) 1 year following completion of reorganization	25	14	1	8	-0.01	0.00	-3.16	-0.04
Return on sales (subtracting industry median) 1 year following completion of reorganization	25	14	1	8	-0.02	-0.03	0.00	-0.61

A similar analysis on post-reorganization performance was performed by Hotchkiss (1995) for firms emerging from Chapter 11; she finds that 32 percent of her sample firms restructured a second time either through a private workout, a second bankruptcy, or an out-of-court liquidation; she also finds that the continued involvement of the original management in the restructuring process is strongly associated with the likelihood of post-bankruptcy failure.

Is recurring distress associated with the persistence of ownership or with preliminary firm characteristics? The analysis in the previous sections indicates that firms going through scheme-of-arrangement, whether they later experienced an ownership turnover or not, were quite similar at the time they entered distress. It is also evident that during reorganization, firms underwent different degrees of transformation, and possibly, the more extensive restructuring in firms experiencing an ownership turnover is related to lower chances for reentering distress. But then why do such firms go through more

profound restructuring? The original owner's bargaining power may not be absolute. Creditors constantly consider the option of liquidation in their gatherings while negotiations over reorganization are going on. Because of this threat, in order not to lose control, owners may be apprehensive to propose very profound reorganization plans with substantial debt forgiveness. Gilson (1997) finds that for listed distressed firms in the US, it is difficult to decrease leverage ratios when reorganizing out of formal procedure. He claims and provides evidence that transaction costs in out-of-court restructurings are higher than in Chapter 11, and these costs make it extremely costly for such firms to write down debt and/or issue equity. Similarly, leverage at emergence (Table 6) is higher for firms that do not change ownership.

Emerging from reorganization with too much debt is exactly what might push the firm back into distress. A debt-overhang problem arises when the burden of existing debt is large and the firm is constantly in the vicinity of default. This causes a distortion in the incentives to invest, causing the firm to pass up on otherwise profitable investment opportunities. This problem was first discussed by Myers (1977). The reason the firm will underinvest has to do with who makes investment decisions and who reaps the benefits of the investments; the owner-manager decides whether to make new investments, but will split any increase in the firm's value with the firm's creditors, since if the firm will end up in default they can claim ownership. Debt overhang also distorts the composition of firms' investments, in terms of their riskiness. Although debt overhang depresses safe investments, it may encourage riskier projects. Everything else equal, the owner has an incentive to undertake risky projects because equity holders benefit from the upside of lucky outcomes, while the creditors bear the downside risks. If the chances for default are already high, the owner has less to lose if the investment goes south.

Another possibility for the observed high ratio of recurring distress among firms with unchanged ownership is that less competent owners remained in these firms. A third, related, explanation is that original owners find it hard to start over with a new business vision for their firm, simply due to cognitive limitations.

If emerging firms that do not change ownership are at higher risk for another distress, why do bond recovery rates not reflect this? Possibly reentering distress is not expected to be costly since another reorganization under the same ownership can be achieved the next time as well. Indeed, back-to-back distress is not associated with higher risk to be

liquidated or with higher chances to undergo ownership turnover during reorganization (Table 3). Alternatively, the possibility of future insolvency is accounted for in bond recovery rates, which means that the gap between firms that experience ownership turnover and those that do not in terms of "economic" value at emergence distributed to bond creditors is even higher.

7. Conclusions

This paper presents a comprehensive investigation of the role of concentrated ownership—the possession of a significant part of the shares by large, non-institutional, shareholders—in public, financially distressed, firms. The underlying question is whether concentrated ownership is beneficial to bond creditors, and what its effect on economic efficiency is. The analysis points to ownership characteristics being important determinants of the choice of distress resolution procedure and of ownership turnover. In particular, owners' financial claims on the firm—higher cash flow rights, but also previously provided related-party financing—are associated with firms successfully reaching a reorganization agreement, avoiding liquidation and formal bankruptcy, and preserving their original ownership. This has consequences on the payoff to bondholders as they receive the highest recovery rates when firms reorganize out-of-court and emerge from the reorganization under their original ownership.

In the setting explored in this paper, it is claimed that bond creditors were at considerable disadvantage compared to owners. The majority of firms managed to reorganize out-of-court, and bond creditors were unable to force the firm into a formal procedure. They were limited to accepting or rejecting reorganization plans proposed by the owner, without a time limit on this exclusivity, having only the alternative of requesting a (costly) liquidation. The inferiority of bond creditors is evident from the extent of deviation from APR in reorganizations where original owners remained. Possibly payoff to creditors would have improved across all alternatives, if the threat of formal bankruptcy had been more real or if creditors could have proposed their own reorganization plans.

In parallel, the current balance of power results in economic inefficiencies with a bias toward firm survival and reorganizations that result in unimpressive post-distress performance and a high probability to re-enter distress. Owners are insufficiently

motivated to propose a more economically efficient and fair arrangement to bondholders. In turn, owners might be "paying" below market price for the buy-back of the distressed firm, incapable managers remain, and the problem of debt overhang persists.

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