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Does a Change in an Accounting Standard Affect the Risk-Pricing of a Firm?

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Abstract

In 2016, a new accounting standard for Leases (IFRS 16) was issued, which substantially changes the accounting treatment of operating leases. As a result, financial ratios of firms might change dramatically, especially the leverage ratio. Using the difference-in-differences approach, this paper examines the impact of the disclosure regarding this standard, and its implementation, on the risk-pricing of firms, as measured by the yield spreads of their bonds. The results indicate that the yield spreads of the treated firms rise in the first disclosure date, compared to the control group. Thereafter, in the implementation date, there is no impact. The results are stronger in firms that are expected to violate financial covenants following the new standard

האם שינוי בתקן חשבונאי משפיע על תמחור הסיכון של חברה?

איתי קדמי

תקציר

ב-2016 הושק תקן חשבונאי חדש בנושא חכירות (IFRS 16), אשר משנה באופן מהותי את הטיפול החשבונאי בחכירות תפעוליות. כתוצאה מיישום התקן, יחסים פיננסיים של חברות עשויים להשתנות באופן דרמטי, ובמיוחד יחס המינוף. באמצעות שיטת הפרשי-הפרשים, מאמר זה בוחן את ההשפעה של הגילוי המתייחס לתקן זה, והיישום שלו בדוחות הכספיים, על תמחור הסיכון של חברות, כפי שנמדד באמצעות מרווחי התשואות של אגרות החוב שלהן. התוצאות מעלות כי במועד הגילוי לראשונה מרווחי התשואות של קבוצת הטיפול במחקר (אלו שהתקן משפיע עליהן) עלו ביחס למרווחי התשואות של קבוצת הביקורת (אלו שהתקן אינו משפיע עליהן). לאחר מכן, במועד היישום, לא נמצאה השפעה. התוצאות חזקות יותר בחברות שהיו צפויות להפר קובננטים פיננסיים בעקבות התקן החדש.

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In 2016, a new accounting standard for *Leases* (IFRS 16) was issued, which substantially changes the accounting treatment of operating leases. As a result, financial ratios of firms might change dramatically, especially the leverage ratio. Using the difference-in-differences approach, this paper examines the impact of the disclosure regarding this standard, and its implementation, on the risk-pricing of firms, as measured by the yield spreads of their bonds. The results indicate that the yield spreads of the treated firms rise in the first disclosure date, compared to the control group. Thereafter, in the implementation date, there is no impact. The results are stronger in firms that are expected to violate financial covenants following the new standard.

Keywords: Accounting, IFRS 16, Financial Information, Financial Covenants, Cost of Debt

JEL Classification code: G14, M41

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1 Introduction

In January 2016, the International Accounting Standards Board (IASB)[1] issued International Financial Reporting Standard 16 (IFRS 16) for *Leases*, which replaces IAS 17 and related interpretations. IFRS 16 changes the accounting substantially for lessees (but there is little change for lessors). The new standard eliminates a lessee's classification of leases as either operating leases or financial leases. Instead, almost all leases are 'capitalized' by recognizing a lease liability and right-of-use asset on the balance sheet. This change causes an increase in the total assets and liabilities in the firms' balance sheets, usually in the same amount. As a result, this change is accompanied by significant implications on the financial leverage and performance of firms (see Morales-Dıaz and Zamora-Ramırez 2018; and Magli, Nobolo, Ogliari, et al. 2018).

The mandatory date of the implementation was set for reporting periods beginning on or after January 1, 2019. In Israel it is relevant to the financial statements of the first quarter, 2019 (i.e, 2019:Q1 and so on). In December 2017, the Israel Securities Authority (ISA) published a position paper, in which it obligates firms that expect to have a significant impact on their financial statements to include a disclosure about the main impacts of the standard and its expected implications. Also, the ISA requires the inclusion of information about the effect on financial covenants. The demand was for the financial statements of December 2017 (i.e, 2017:Q4), at the latest the financial statement of June 2018 (i.e, 2018:Q2). Most of the firms reported detailed disclosure with the expected quantitative impacts in the financial statement of June 2018. The publication date of those financial statement is the main event in the paper. Figure 1 illustrates the timeline of the mandatory dates of IFRS 16, according to the ISA and the IASB.

[Insert Figure 1 here]

Ostensibly, the adoption of IFRS 16 is a technical accounting change and it is not supposed to affect the risk-pricing of the company. The economic essence of the firm has not changed and only the principle of reporting has changed. So the question is *why should there be an impact on the firm's risk-pricing?* There are two suggestive explanations[2], which are related to **information**.

[1] This standard was developed in collaboration with the Financial Accounting Standards Board (FASB) in the United States, but while the new FASB leasing standard shares many common features with IFRS 16, such as reporting all large leases on the balance sheet, there will be some significant differences between the two standards.

[2] There could be another explanation, such as expected change in the firm rental contracts. This is because the rent expenses are not disclosed anymore and as a result the EBITDA of the firm may improve. So this standard may distort the economics of contractual conditions, but this is impossible to check because of lack of information

The first one is *new information*, which means that the investors receive new information about the company: before IFRS 16 the information about all the leases and the long term rentals[3] was vague and not explicit, while the specific cap rate for every lease or rental contract was unknown. So one could not quantify the operating leases and assess their impact on the financial statements. It means that the new standard provides new information about all the liabilities of the firm and its real leverage. Prior studies find evidence that participants in the debt market price the operational leases (Sengupta and Wang 2011; Altamuro et al. 2014), implying that the new standard is not supposed to provide new information, but those studies examined only the US GAAP (and not the IFRS), so the disclosure requirements might be different[4].

The second explanation, which is also related to information, is its *salience*. It means that the investors have known about all the commitments and contracts of the firm, but it was not as prominent as presented in the disclosure regarding the IFRS 16. So it is not an issue of new information, but of the way it is presented. The interpretation of this channel is behavioral, and as investigated in the literature the salience of information sometimes could affect the reaction of investors (for instance, see Mugerman, Steinberg, and Wiener 2019).

According to the ISA's demand for disclosure, one could separate the public firms into two groups: (1) Firms on which the new standard is expected to impact significantly; and (2) Firms for which the new standard is not expected to have a significant impact on their financial statements. The overall affiliation to each group is done by this leading principle: if the firm reported in 2018:Q2 that the IFRS 16 has no expected significant impact or that the expected impact is smaller than 5 percent[5], then the firm was assigned to the second group (as follows: *"Unaffected Firms"*). If the expected impact is equal or bigger to 5 percent, then the firm was assigned to the first group (as follows: *"Affected Firms"*).

As described above and illustrated in Figure 1, there are some important points in time that the paper analyzes. The main time point is 2018:Q2, in which firms reported the expected impact in the relevant notes of their financial reports. Those financial reports include most of the information about the expected impact of IFRS 16. The second time point is 2018:Q4, just before the implementation of the accounting standard. This time point included information updates of firms or disclosure of

regarding new contracts.

[3]The new standard applied to both the operational leases and rentals longer than a year.

[4]According to SFAS No. 13, *Accounting for Leases*, the footnote disclosures about recognized capital leases and unrecognized operating leases are the same (Bratten, Choudhary, and Schipper 2013).

[5]This is an acceptable quantitative threshold in accounting. According to the ISA, for example, this is a measure for significant mistakes.

firms that have not been reported before (usually the latest firms belong to the unaffected firms). The last time point is 2019:Q1, in which firms actually implemented the new standard in their balance sheet for the first time. In that time point the accounting treatment regarding the IFRS 16 is updated in the balance sheet[6].

The separation between affected and unaffected firms enables me to define them into treated and control groups, respectively. As described in the review of the IFRS adoption literature by De George, X. Li, and Shivakumar (2016), IFRS studies and especially those evaluating the effects of IFRS adoption rely predominantly on the difference-in-differences (Diff-in-Diff) approach. So using this methodology I test whether the change in the accounting standard affects the yield spreads of each firm, in different time windows around the publication date of the financial statements, in three different time points (as mentioned above). Another specification of this experiment is to investigate firms with financial covenants that are expected to be violated[7] (or close to violation).

The empirical analysis indicates some key results. First, I find that the yield spreads of the affected firms, related to the unaffected firms, rise in the first disclosure date. The results are significantly stronger in firms that might violate or are close to violating their financial covenants following the expected implementation of the new standard. In addition, I show that these findings hold only in the disclosure step. Later, in the implementation step, there is no impact on the yield spreads. My findings are robust to various analyses, including using continuous variables to measure the level of the expected influence of the new standard. They are also robust when I expand the investigation by using the yield spreads of each security of the firm (instead of weighted average), as well as using a suggested measure for the probability of default and examination of sub-samples.

These findings imply that the creditors got the information, or its salience, when it was reported for the first time (in most of the firms at 2018:Q2) and it was reflected in the bond market. Later – in the quarters ahead, including in the implementation date, there was no reaction to the information, because it was already completely reflected (and in a way it is also used as a placebo test). This evidence is important because it illustrates that even a technical accounting change may embed new or salient information for investors in general, and for creditors in particular.

This paper makes several contributions to the existing literature about the economic consequences

[6] Unlike the previous quarters, in which the information was only shown in the notes of the financial reports.

[7] The distinction was made between firms which reported that their financial covenants are not expected to be violated and firms that reported so. For firms that did not refer to financial covenants, I examined whether they expect to violate the covenants (or even will close to violating) and assigned them to the suitable group. See extension in the methodological section.

of adopting new accounting standards. First, most of the studies so far have tested the impact in the financial markets of the adoption the IFRS as a full set, compared to the local accounting standard (GAAP). In this paper I test the impact of a specific accounting standard that changes the accounting treatment for operational leases under the IFRS. Moreover, I find that it is important to examine what information the new standard provides and how it affects the relevant financial market (the bond market). The Israeli bond market enables me to test the effects on the risk-pricing of a firm, which is measured by its yield spreads. Lastly, the accounting literature about recognition versus disclosure is sparse and inconclusive. In my paper, I provide evidence that participants in the bond market react differently according to the quality of the disclosure (of a certain topic: the operating leases); and in the recognition (i.e, implementation) date I show that there is no reaction because the full information about operational leases already has been provided in the mandatory disclosure date.

The remainder of the paper is organized as follows: Section 2 provides a literature review. Section 3 describes the data and the methodology. Section 4 presents the results and robustness checks, and the last section concludes.

2 Literature Review

2.1 The economic consequences of disclosure and accounting standards

Accounting standards are aimed at addressing the asymmetric information in the relationship between a company and its outside investors (Healy and Palepu 2001). There is an extensive literature that examines the influence of information and disclosure on the asset pricing in the markets, with most of them testing the impact on the cost of capital equity.

Diamond and Verrecchia (1991) show that revealing public information to reduce information asymmetry can reduce a firm's cost of capital by attracting increased demand from large investors due to increased liquidity of its securities. Botosan (1997), in an empirical investigation, finds that greater disclosure[8] is associated with a lower cost of equity capital (for firms that attract a low analyst following)[9]. Easley and O'hara (2004) show in a theoretical framework that differences in the composition of information between public and private information affect the cost of capital, with

[8]The measure of disclosure level is based on the amount of voluntary disclosure provided in the 1990 annual reports of a sample of 122 manufacturing firms.

[9]A few years later Botosan and Plumlee (2002) find that the cost of equity capital decreases in the annual report disclosure level but increases in the level of timely disclosures.

investors demanding a higher return to hold stocks with greater private information. In contrast, there is a more limited number of studies examining the effect on the cost of debt. For example, Sengupta (1998) provides evidence that firms with disclosure quality[10] enjoy a lower effective interest cost of issuing debt.

So, the question that arises is what the consequences are when new accounting standards are adopted. The main revolution in the last two decades is the introduction of the IFRS, which has been adopted by over 100 countries. De George, X. Li, and Shivakumar (2016) review the IFRS adoption literature. Following are some of the main studies presented in their paper.

Barth, Landsman, and Lang (2008) suggest that adoption of a uniform set of accounting standards, such as the IFRS, can mitigate information asymmetry and improve accounting quality. Daske et al. (2008) examine the economic consequences of mandatory IFRS reporting around the world[11] (26 countries). They find a significant increase in market liquidity, a decrease in firm's cost of capital and a corresponding increase in Tobin's q. Further studies examine the information environment. Byard, Y. Li, and Yu (2011) find that analysts' absolute forecast errors and forecast dispersion decrease for those mandatory IFRS adopters domiciled in countries with both strong enforcement regimes and domestic accounting standards that differ significantly from IFRS[12].

Those studies test the impact of the adoption the IFRS as a full set. However, there are a few studies examining the impact of a single standard. For instance, Muller III, Riedl, and Sellhorn (2011) investigate whether European real estate firms' compulsory adoption of International Accounting Standard 40 (IAS 40; Investment Property) resulted in reduced information asymmetry across market participants. They show that mandatory adoption firms exhibit a larger decline, but

[10]The firm's disclosure policy in this paper is measured by financial analysts' evaluations of corporate disclosure practices, available from the annual volumes of the *Report of the Financial Analysts Federation Corporate Information Committee*. Each volume provides evaluations of a sample of 400-500 firms based on their disclosures through annual and quarterly reports, 10k, press releases and other public announcements and discussion with financial analysts.

[11]Another paper that examines the impact of the IFRS adoption on the cost of equity capital but only in the European Union (EU) shows that, on average, the IFRS mandate reduces the cost of equity capital by 47 basis points (S. Li 2010). Armstrong et al. (2010) examine the market reaction to 16 events associated with the adoption of IFRS in Europe as well, and find generally an incrementally positive reaction.

[12]For mandatory adopters domiciled in countries with both weak enforcement regimes and domestic accounting standards that differ significantly from IFRS, they find that forecast errors and dispersion decrease more for firms with stronger incentives for transparent financial reporting. Horton, G. Serafeim, and I. Serafeim (2013) also find that after mandatory IFRS adoption consensus forecast errors decrease for firms that are required to adopt IFRS relative to forecast errors of other firms.

not necessarily elimination, in information asymmetry. Hamberg, Paananen, and Novak (2011), using Swedish data, document the accounting consequences of the adoption of IFRS 3 and the stock market's reaction[13]. They show that firms with substantial amounts of goodwill yielded abnormally high returns despite abnormally low earnings. These results imply that although it is a technical accounting change, there is an evidence for market reaction by investors. Onali and Ginesti (2014) examine the market reaction to 13 announcement dates related to IFRS 9 for over 5,400 European listed firms and find an overall positive reaction to the introduction of IFRS 9. The authors suggest that their findings are related to improvement of the quality of information.

2.2 Recognition versus Disclosure

The main issue in this paper is whether IFRS 16 provides new information for creditors. That is because the information about the commitments of a firm related to operational leases or long term rental contracts was usually shown in the notes, but was vague, not explicit and not capitalized to the publication date of the financial statement. The analysis in this paper contributes to research that investigates whether market participants treat financial report disclosures differently from recognized amounts. The previous research on recognition versus disclosure is sparse and the results are not conclusive. Davis-Friday et al. (1999) show that post-retirement benefit (PRB) disclosures are perceived by investors as less reliable than PRB recognized values. Ahmed, Kilic, and Lobo (2006) find that recognized fair values of derivatives are priced, while disclosed fair values of derivatives are not. Both experimental papers suggest that the differences in how capital market participants use disclosed versus recognized amounts might be due to information effects, such as low reliability of disclosed amounts, or to cognitive factors.

In contrast, Bratten, Choudhary, and Schipper (2013) provide evidence that disclosed items are not processed differently from recognized items when the disclosures are salient, not based on management estimates, and amenable to simple techniques for imputing as-if recognized amounts. Their research design exploits the fact that audited footnote disclosures about recognized capital leases and unrecognized operating leases are the same[14]. They find evidence that capital market participants use information about lease arrangements similarly in setting costs of debt and equity across recognition and disclosure accounting treatments, conditional on similarity in information

[13] After the adoption of this standard in January 2005 the amount of capitalized goodwill increased substantially and the adoption of this standard increased reported earnings, because goodwill impairments under IFRS are considerably lower than goodwill amortizations and impairments made under Swedish GAAP.

[14] According to SFAS No. 13, *Accounting for Leases*, which is conducted by the FASB.

attributes—that is, when the disclosed and recognized amounts are salient and have similar reliability and processing costs. In my investigation, the information about recognized capital leases and unrecognized operating leases (including long term rental) before IFRS 16 were not similar. The information on the latter was reported not explicitly, usually in the commitments note of the annual reports, while the former (according to the IAS 17 *leases*) was presented explicitly every quarter in the balance sheets with an appropriate note. So it is possible that the accounting treatment under IFRS 16 introduces new or more salient information for the market participants.

2.3 Lease accounting and the effects of capitalizing operating leases

The literature on leases began over 30 years ago. Smith Jr and Wakeman (1985), for instance, provide a unified analysis of the various incentives affecting the lease versus purchase decision. In their paper, they identify eight non-tax incentives to lease or buy. Later, in response to Statement of Financial Accounting Standard (SFAS) No. 13, 'Accounting for Leases' the paper of Imhoff Jr and Thomas (1988) documents a significant change in the capital structure of lessee firms. SFAS No. 13 changed the form of capital lease disclosures by requiring all capital leases to be reported as assets and debt – effectively moving capital leases from the footnotes to the balance sheet. Lease capitalization was expected to increase book leverage ratios and reduce accounting rates of return[15]. The most pervasive effect they find is substitution from capital leases to operating leases. They also find substitution towards non-lease financing, indicated by a decline in total leasing (operating and capital combined). Finally, they find that the standard is associated with leverage-reducing changes within non-lease sources of financing, evidenced by increases in equity and decreases in conventional long-term debt.

The presence of material long-term non-cancelable operating lease commitment for many firms encouraged Imhoff Jr, Lipe, and Wright (1991) to develop a method for constructively capitalizing these commitments. This method allows key financial statements ratios to be calculated as if the operating leases had been capitalized at their inception. This study focused exclusively on the balance sheet effects for a single period, and assumed the income statement effects were negligible. Continued study of Imhoff Jr, Lipe, and Wright (1997) cites evidence that suggests the income statement may be material, and illustrates how to estimate the impact of constructive capitalization of operating leases on both operating income (EBIT) and net income.

[15] Actually, this change is similar to the change that IFRS 16 introduces, but there is a different in the kind of leases: SFAS No. 13 is relevant for capital leases, while IFRS 16 is relevant for operational leases.

There are several studies that examine the effects of capitalizing operating leases. Dhaliwal, Lee, and Neamtiu (2011) investigate whether off-balance sheet operating leases have the same risk-relevance for explaining ex ante measures of risk as a firm's on-balance sheet capital leases. They provide evidence that there is a positive association between the ex ante cost of capital and the impact of capitalizing the operating leases on a firm's financial leverage, but it is weaker for the operating leases compared with the capital leases. These findings imply that market participants perceive operational and capital leases differently, or the information is not full for the both leases.

Other studies provide different findings, but in the aspect of the debt pricing. Sengupta and Wang (2011) examine whether the public debt market prices information on off-balance sheet debt arising from operating leases (and post retirement plans). They find that bond-rating agencies price off-balance sheet debt arising from operating leases, and that the coefficient on off-balance sheet debt measure of operating leases is similar to that of capital leases on the balance sheet. They find similar results when examining corporate bond yields on new debt issues. Another paper that investigates the pricing of operating leases is written by Altamuro et al. (2014). In their paper, they examine the effect of operating leases on loan pricing by banks. In particular, they test the differential explanatory power and model fit of as-reported financial ratios versus financial ratios adjusted for the capitalization of operating leases. They find that lease-adjusted financial ratios better explain loan spreads, especially for larger lenders. They infer that banks not only price operating leases, on average, but also make distinctions about which leases should be priced. They also explore the role of credit rating agencies and confirm that credit ratings reflect capitalized operating leases as well (however, unlike banks, rating agencies appear to capitalize all operating leases mechanically). In their conclusion, the authors raise a concern over proposed accounting that capitalizes all leases regardless of their economic characteristics (as IFRS 16 introduces).

2.3.1 IFRS 16 implications

There are some studies that examine the accounting implications of the IFRS 16 adoption, but there are no studies that investigate the economic implications. Magli, Nobolo, Ogliari, et al. (2018) analyze the potential impacts of the introduction of the IFRS 16 on financial leverage and performance of entities. They show that in the balance sheet, there will be an increase in lease assets, an increase in financial liabilities and a decrease in equity, while in the income statement, there will be an increase in EBITDA and an increase in finance costs. Morales-Dıaz and Zamora-Ramırez (2018) analyze the impact of the new accounting model on an entity's key financial ratios. In line

with the previous research they find important systematic impacts on key balance sheet financial ratios (mainly leverage ratios), at a magnitude that depends on the operating lease intensity of the sector in which the entity operates. However, they do not find a consistent result with regard to the effect on profitability ratios.

2.4 hypotheses development

Based on the theory of information asymmetry and agency problems (Akerlof 1978; Spence 1978; Stiglitz 1975; Jensen and Meckling 1976) new accounting standards are issued to decrease information asymmetries (Healy and Palepu 2001). The literature shows that the market reactions and the economic consequences of revealing information or adoption of new accounting standards, such as the IFRS, are mostly positive (Diamond and Verrecchia 1991; Botosan 1997; Sengupta 1998; Daske et al. 2008), although these studies do not discern the type of information or its salience. The adoption of IFRS 16 changes key financial ratios substantially, especially the leverage ratio (Morales-Dıaz and Zamora-Ramırez 2018). This information could be negative for creditors, because the risk-pricing before IFRS 16 might be missing, due to lack of information or not explicit information about all the entity's liabilities and its real D/E ratio.

As mentioned above, the information about the contracts of a firm related to operational leases and long term rentals usually were shown in the commitments note of the financial statements, but not explicit, sometimes vague and were not capitalized to the balance sheets' values. The literature describes that market participants perceive recognition versus disclosure information differently (Davis-Friday et al. 1999; Ahmed, Kilic, and Lobo 2006). Bratten, Choudhary, and Schipper (2013) find an opposite conclusion, but conditional on the similarity in information attributes (when the disclosed and recognized amounts are salient and have similar reliability and processing costs), which is not the case of the disclosure that was provided before the IFRS 16.

As documented in the literature, participants in the debt market, like rating agencies, banks and bonds investors (when issuing new debt) price the off-balance sheet liabilities, and specifically operating leases[16] (Sengupta and Wang 2011; Altamuro et al. 2014). So according to this literature one can infer that IFRS 16 does not provide new information for investors in the bond market. But under the IFRS[17] (before issuing the new standard), the disclosure probably was not salient

[16] According to Dhaliwal, Lee, and Neamtiu (2011) participants in the stock market price the off-balance sheet liabilities (operating leases) as well, but less than the on-balance sheet liabilities (capital leases).

[17] The accounting standard that underlies the studies of Sengupta and Wang (2011) and Altamuro et al. (2014) is SFAS 13 (conducted by the FASB)

or explicit. Thus, I argue that when the disclosure about IFRS 16 was introduced for the first time, including the capitalized amounts, the investors in the bond markets received new or salient information about the off-balance sheet liabilities and the actual leverage of a firm, and then priced them in the bond markets, which reflected in increase in the yield spreads, as a proxy to the cost of debt (according to the familiar model of Merton 1974) – the first hypothesis[18].

H1: The information that the new accounting standard (IFRS 16) provides or its salience increases the cost of debt of the affected firms, compared to the unaffected firms.

According to Bratten, Choudhary, and Schipper (2013) market participants react similarity when the disclosed and recognized amounts of leases operating are salient and have similar reliability and processing costs. Thus, I argue that the impact of the information was reflected in the bond market when the disclosure on IFRS 16 including the reliable amounts was introduced for the first time. In later quarters, and in the implementation date, there was no impact on the yield spreads – the second hypothesis:

H2: The impact of the adoption IFRS 16 is reflected in the bond markets only in the first disclosure date.

3 Data and Empirical Methodology

3.1 Sample Selection and Data

3.1.1 Sample selection

My sample selection procedure begins with all 467 Israeli public firms listed on the Tel Aviv Stock Exchange in 2018:Q2. I excluded financial firms from the analyzes, because some of them were not required to adopt IFRS or the mandatory date of the adoption was dismissed to 2020 (for them the standard should not significantly affect the financial reports). This resulted in the elimination of 31 of the 467 companies. Additionally, I excluded firms for which data were missing as well as firms with no tradable debt (bonds). This resulted in the elimination of 255 firms. Finally, I excluded another 55 companies, because they did not assess the expected impact, did not provide a detailed disclosure or pre-adopted the IFRS 16. Thus my final sample consists of 126 firms. The sample

[18]It should be noted that the first hypothesis does not assume that the information not known at all. I assume that the creditors knew the firm's commitments of operating leases and rental contracts, but they didn't know (because lack of information) precisely the capitalizing amounts. So I expect that the effect on the yield spreads would not be dramatically high.

selection procedure is presented in Table 1. In the analyses, I deal with outliers by omitting extreme values (the top and the bottom percentile) in line with the change in the yield spreads around the publication of the financial statements[19].

[Insert Table 1 here]

3.1.2 Data sets

The investigation includes 3 sets of data:

1. Firms' characteristics (i.e, size, leverage, profitability, liquidity and tangibility), based on the firms' financial statements (accordingly to the tested quarter), which are used for the control variables in the empirical analysis (see methodology section). Table 2 presents summary statistics of selected financial and accounting ratios, by groups (treated versus control). It also presents an examination of the differences between the treated group versus the control group. Specifically, I test whether a variable in one group is statistically significantly greater than the variable in the other group, based on the t-test for equality of average and the Wilcoxon rank-sum test for equality of median. In addition, the summary statistics includes the number of firms in each sector.

   [Insert Table 2 here]

   The main findings from the descriptive statistics are as follows: the control group is characterized by firms from the real estate sector (more than 50 percents of them), which are bigger (according to the total assets indicator), more leveraged (according to the debt to capital ratio) have a greater marginal operating profit (in the other indicators of profitability the differences are not statistically significant) and more tangibility. In some cases, there are significant differences between the two groups and in the empirical analysis of the significant variables, according to this comparison, should be taken into account.

2. The expected change in the assets and the liabilities following the new accounting standard (IFRS 16) was hand collected for each firm from the financial statements of 2018:Q2 and 2018:Q4. Actually, this is the main independent variable (treated versus control): if the firm reported that it does not expect a significant impact, I affiliate it to the *control group*. For the rest of the firms, I calculated the expected change in the assets related to the total assets (in

[19] The findings do not change if I include them.

the specific quarter). If the ratio is greater than 5 percent[20] I affiliate the firm to the *treated group*, otherwise I affiliate it to the *control group*.

In the bottom part of Table 2 I present the expected average and median change, by sectors, of all the firms that provided a detailed note with numeric information (the rest of the firms reported that they do not expect to a significant change). As one can see, the most affected sectors are commerce & services and gas & oil; this is mainly due to the rental contracts that those firms are committed to (similar findings found by Morales-Dıaz and Zamora-Ramırez 2018). For all the presented firms, the average is about 17 percent. If the average leverage (as calculated by the ratio of equity to assets) is about 30 percent (see summary statistics), the average leverage following the adoption of IFRS 16 is expected to increase by 440 basis points (4.4 ppts). For companies that have financial covenants with which to comply, this change could be dramatic.

Additionally, I collected information from the financial statements about the expected impacts of the IFRS 16 the remark regarding the expected violation of the financial covenants. If there was no such an information, I calculated the relevant financial ratio that the firm is committed to under covenants, and that is expected to be affected, and then examined whether the firm is expected to violate the financial covenants (or to come close to violate them).

3. The yield spreads for the tested periods[21], as a proxy for the cost of debt, measure the risk-pricing of a firm (the dependant variable). I use the Bank of Israel's calculations for corporate bond spread. Specifically, I used the basis point spread between the corporate bonds' (market value) weighted yield and government bonds with comparable duration and indexation characteristics.

   In line with the descriptive statistics above, I present in Table 3 summary statistics of the main dependent variable, which is the average yield spread of each group (treated versus control). I examine the statistically significant differences between those groups and the differences after the publication day of the financial statements (*Post*) and before (*Pre*). I do it for all the 3 time windows that are investigated in the empirical analysis, by t-test for equality of average. Actually this is a simple Diff-in-Diff test without controlling on more variables, when the findings show that there is a statistically significant difference, in all the time windows. The

[20] This is an acceptable threshold in accounting.

[21] In the paper I examined 3 periods around the publication date of the financial statements: 2018:Q2, 2018:Q4 and 2019:Q1.

results indicate an increase in 10–20 basis points of the yield spreads in the treated group, compared to the control group.

[Insert Table 3 here]

3.2 Methodology

The new accounting standard actually affects the firm's balance sheet only if it is committed in an operational lease (as a lessee) or in a long term rental (over a year). Otherwise, the new standard has no impact on the firm. Thus, one could separate the public firms into two groups: (1) Firms that the new standard is expected to impact significantly; and (2) Firms that are not expected to have a significant impact on their financial statements. The affiliation to each group is done according to the ISA's requirement for disclosure some quarters before the implementation date.

The first time the firms described the expected impact of the new standard on their balance sheets was a potential information event. So, this event makes it possible to analyze the first hypothesis (*H1*). In order to investigate it, I divide the firms into two groups: if the firm reported in 2018:Q2 that IFRS 16 has no expected significant impact or that the expected impact is smaller than 5 percent, then the firm was assigned to the *"Unaffected Firms"*. If the expected impact is bigger or equal to 5 percent, then the firm was assigned to *"Affected Firms"*.

IFRS studies and especially those evaluating the effects of IFRS adoption rely predominantly on the difference-in-differences (Diff-in-Diff) approach (De George, X. Li, and Shivakumar 2016). In order to analyze the effect of the new standard on the cost of debt, the baseline empirical strategy I use in the paper is Diff-in-Diff, when the date of the treatment is the publication day of the financial statements. Specifically, I apply the following model:

$$\frac{\sum_1^t Y_i}{t} = \beta_0 + \beta_1 Impact + \beta_2 Post + \beta_3 Impact \times Post + Controls + \epsilon_{i,t} \quad (1)$$

where Y is the daily weighted average of the yield spreads of the firm's i bonds (the weights are the market value of the bonds), averaged arithmetically in t trading days before or after the publication day. In the paper, I examine 3 time windows (t): 30, 20 and 10 trading days; *Impact* is a dummy variable that takes the value of 1 if the expected change following IFRS 16 in the total assets is greater than 5 percent (i.e, the treated group), and 0 otherwise (i.e, the control group); *Post* is a dummy variable that takes the value of 1 after the publication day of each firm and 0 before; *Impact*×*Post* is the interaction variable which is examined in that model; and *Controls*

include financial and accounting characteristics of the firm, which were published in the financial statements of the tested quarter (size, leverage, profitability, liquidity and tangibility). In particular, by category, I use the variables that were found to be statistically significant different between the control and the treated group. This is to control for variables that may explain some of the differences between the two groups. I use sector fixed effect (in all the specifications) and the standard errors are clustered at the firm level. The main variables are defined in Table 4.

[Insert Table 4 here]

In order to examine the second hypothesis (*H2*), I analyze both of the groups in 3 different dates. The first is when the firms provided the disclosure for the first time (most of them at 2018:Q2, as mentioned above). The second date is a quarter before the implementation (at 2018:Q4). And the third date is the actual implementation (at 2019:Q1). According to my hypothesis, if the information was already reflected in the bond market through an increase in the yield spreads (*H1*), in the quarters ahead, including in the implementation date, the impact in the bond market has already been assimilated (*H2*).

3.2.1 Covenants specification

I expand the analysis by testing the impact of the new accounting standard on firms that expect to violate financial covenants (or come close to violating) following the new standard. The ISA's demand in the disclosure about the new standard is to include a remark if the firm's financial covenants are expected to be violated. Under the *Affected Firms*, I made a distinction between firms which reported that their financial covenants are not expected to be violated and firms that expect to violate the financial covenants. For firms that did not refer to financial covenants I made a specific examination, as follows: I segmented the contractual financial covenants for which I expect to see a change (the main is equity to assets ratio, which measures the leverage), and tested the expected ratio (with the impact of the new standard). If the firm's contractual ratio is expected to be violated (or close to) I assigned it to *"Covenants Impact"* group. The examination of this specification is made in all the time windows and dates mentioned above.

Therefore, I modify Equation 1 by adding a dummy variable for covenants impact and an interaction variable between the covenants impact and the post variable. I estimate the following equation:

$$\frac{\sum_1^t Y_i}{t} = \beta_0 + \beta_1 Impact + \beta_2 Post + \beta_3 Impact \times Post + \beta_4 CovenantsImpact + \beta_5 CovenantsImpact \times Post + Controls + \epsilon_{i,t} \quad (2)$$

where *CovenantsImpact* is a dummy variable that takes the value of 1 if the firm expects to violate financial covenants following the implementation of the new standard, and 0 otherwise. *CovenantsImpact*×*Post* is the interaction variable which is examined in that model.

Actually, this specification is a triple Diff-in-Diff, in which I test, among the treated group, the firms that are expected to experience the biggest effect from the new standard, compared to the other treated firms. It should be noted that in triple Diff-in-Diff methodology I should add to the model the two interaction variables: (1) ***Impact*** × ***CovenantsImpact*** and (2) ***Impact*** × ***CovenantsImpact*** × ***Post***, but because of the covenants impact group is among the treated group those interaction variables are omitted from the regressions because of multicollinearity (for example *Impact* × *CovenantsImpact* is equal to *CovenantsImpact*).

4 Results

4.1 Main results

The main event that is examined in the paper is when the information about the expected impact of the new standard is disclosed for the first time. Focusing on the period surrounding the publication date of the financial statements, Figure 3 illustrates the average yield spreads of the treated group versus the control group around the publication day of each firm. As one can see, before the publication, there is a parallel trend with an average difference of about 20 basis points. It means that the control group provides the appropriate counterfactual of the trend that the treated group would have followed if it had not been treated - that is, that the two groups would have had parallel trends.

After the publication (day 0), the difference between the two groups is closed and almost doesn't exist, which implies that the treatment is reflected in the bond market. As illustrated in Figure 2, the period surrounding the publication date of 2018:Q2 is characterized in decreased yield spreads of corporate bonds of 30 basis points. Thus, it is not surprising that the trend in Figure 3 is similar, especially for the control group. The treated group probably experienced the same trend, but another event, which is examined in the paper, occurred in that period and offset the effect of the trend. Actually, using Diff-in-Diff methodology, the dummy variable for the post holds this

trend in the market bonds. So even though the tested period was characterized by a decrease of the yield spreads, because of the parallel trend before the publication day of the financial statements it is very plausible that an exogenous shock caused to the difference between the two groups to be closed after the publication date. In this section I investigate the treatment of the new standard as an exogenous shock that affected the yield spreads.

[Insert Figure 2 & Figure 3 here]

The first finding of the empirical investigation as shown in Table 5 columns (1)-(3) is that in the disclosure date, which includes the information about the expected impact of IFRS 16, there is a positive and statistically significant effect on the yield spreads, in three different time windows. While in the first time window [-10 , 10] the yield spreads increase by 10 basis points (0.1 ppts) in the treated group compared to the control group, in the other time windows [-20 , 20] and [-30 , 30] the yield spreads increase by about 20 basis points and it's more statistically significant than the first window. In columns (4)-(6) there is another specification for firms that expect to violate or to come close to violating their financial covenants. This specification indicates that the effect on the yield spreads for those firms is positive and even stronger. Actually, this specification focuses the effect on firms in which the expected impact of the standard is more crucial and it implies that the creditors have not taken into account the operating leases and have not priced them in the covenants and the risk measure (as measured by the yield spreads).

[Insert Table 5 here]

4.2 The forthcoming quarters as hypothesis and placebo tests

As explained above, the first disclosure date is the publication of the financial statements in 2018:Q2. It means that the new information, or only its salience, has already been shown. So according to the second hypothesis (H2) the impact on the yield spreads in the quarters ahead might disappear, including in the implementation date. The forthcoming quarters can also be used as placebo tests for the treatment that is examined in the paper. It means that the effect of the treatment and the statistically significant difference it creates between the two groups (treated versus control), does not exist when it "should not" exist.

Thus, as shown in Table 6 and Table 7, in the forthcoming quarters[22], there is no impact of

[22]It should be noted that the number of the tested firms decreased. The reason is the bonds of three firms matured, while the bond of other firm were issued.

the treatment on the yield spreads, including in the implementation date. In 2018:Q4 (Table 6) the information is still in the disclosure level and the impact is positive, but weaker and not statistically significant. In 2019:Q1 (Table 7) the new standard is already implemented and the impact is even negative (but at most not statistically significant). The results are also obtained when examining the specification of the impact on the financial covenants in columns (4)-(6). The findings imply that the information, or its salience, of the new standard was reflected in the bond market when the disclosure was presented for the first time. They are also used as placebo tests in which there is no statically significant difference between the treated and control groups, when other periods are tested.

[Insert Table 6 & Table 7 here]

It should be noted that, in Table 6 and Table 7 I examine the impact only on the firms that have been tested in the first disclosure date, i.e, at 2018:Q2 (Table 5). As described in Table 1, from 2018:Q2 to the implementation date additional firms reported the information as a disclosure. All the additional firms (except one) report that IFRS 16 does not have an expected impact on their financial statements. So according to the findings above, the results do not change dramatically when I analyze the impact for all the firms.

4.3 Robustness Checks

4.3.1 Using a continuous variable

The baseline of the methodology investigated above is using a dummy variable for the treated group. The affected firms are classified as the treated group if the expected impact on the assets is equal or greater than 5 percent, i.e.:

$$\frac{\Delta^e \ Assets}{Assets} \geq 5\% \tag{3}$$

The numerator in Equation (3) represents the expected increase in the assets, and the denominator represents the total assets as of the end of the tested quarter. This is a measure for the expected growth of the leverage. When a firm reported that there is no a significant impact the equation is equal to zero. Thus, using Diff-in-Diff methodology as well, I apply the LHS in Equation (3) as a continuous variable in Equation (1), instead of the dummy variable. Particularly, I use this equation:

$$Y_{i,t} = \beta_0 + \beta_1 \frac{\Delta^e \ Assets}{Assets} + \beta_2 Post + \beta_3 \frac{\Delta^e \ Assets}{Assets} \times Post + Controls + \epsilon_{i,t} \tag{4}$$

The findings presented in Table 10 show in the same time windows that there is a positive and statistically significant effect on the yield spreads. As the window time is greater the impact is bigger.

[Insert Table 8 here]

In the specification of Equation 2 I also use a dummy variable for covenants impact, that takes the value of 1 if the firm expects to violate financial covenants (or to come close to violating) following the new standard, and 0 otherwise. However, the negative effect on the yield spreads may be stronger, the closer the firm is to breaching the covenant. So I measure the distance to the violation using the following equation for each firm:

$$\theta_i = \frac{FinancialRatio - ExpectedFinancialRatio}{FinancialRatio - FinancialCovenants} \tag{5}$$

when the denominator represents the gap between the covenants to which the firm is committed and the current situation. The numerator represents the gap between the present financial ratio and the expected ratio following the implementation. For example, if the financial covenant is *at least equity to assets ratio of 15 percent*, and the firm is now standing at 20 percent, the denominator is 5 percent. However, the expected ratio following the implementation is 17 percent, so the counter is equal to 3 percents. Thus θ is equal to $\frac{3}{5} = 60\%$, and it means that the distance to violation of the financial covenants decreases by 60 percent. I use θ as a continuous variable in Equation 1. Particularly, I use this equation:

$$\frac{\sum_1^t Y_i}{t} = \beta_0 + \beta_1 \theta_i + \beta_2 Post + \beta_3 \theta_i \times Post + Controls + \epsilon_{i,t} \tag{6}$$

In order to measure θ_i I collected the financial covenants from the financial reports of June 2018. The most common covenants are equity to assets ratio, net financial debt to EBITDA, net financial debt to CAP and net financial debt to Assets. The first covenant is expected to be affected negatively by the standard, because the effect on the equity is usually negligible, but the assets will increase, so the firm is presented as more leveraged (as mentioned above IFRS 16 is expected to have an effect mainly on the leverage). However the other covenants are not expected to be affected. That is because the new lease liability in the financial reports is not included in the traditional net financial debt (e.g, bonds or bank loans).

The collection of the data by company took into account these different impacts. If the company reported that there is no significant impact and did not provide a numeric disclosure the measure was equal to 0 (47 percent of the sample). Otherwise I collected the *equity to assets* ratio to measure θ (43 out of the 67 companies are committed to this covenant). If this covenant was non-existent I collected the other covenants (18 from 67 companies), but there was no impact on the measure presented by θ. Six companies did not have financial covenants, and for them θ got the value of 0. The findings presented in Table 9 show that there is a positive and statistically significant effect on the yield spreads when using a continuous variable for the covenants impact, in all the time windows tested.

[Insert Table 9 here]

4.3.2 Using yield spreads of each security

So far the investigation in the paper has been based on the weighted average of the yield spreads of all the traded debt securities of each firm (as described in the methodology section). The weight of each security is its market value. So the required analysis is to deepen the experiment using the yield spreads of each security, for two reasons. First, using the market value as weights might skew the dependant variable, and as a results the findings might be biased. Second, using the yield spread of each security makes it possible to enlarge the tested sample (in fact, the sample is more than doubled).

Therefore, I use the yield spreads of each security in the same methodology of Diff-in-Diff, the same intervals, and in the same specifications mentioned above (Equation (1) & Equation (2)). Table 10 presents the results in the period surrounding the publication date of 2018:Q2 (the main event). As one can see, in columns (1)-(3), the interaction variable (treated$\times$post) is positive and statistically significant. In columns (4)-(6) I examine again the specification for firms with expected impact on the financial covenants and the results are similar to presented results in Table 5. These findings strengthen the main results in this paper.

[Insert Table 10 here]

4.3.3 Probability of Default as dependent variable

The main measure for risk-pricing in this paper is based on the yield spreads of the traded debt of the tested companies. It is the most fitting indicator to measure the risk-pricing for creditors,

especially in a perfect bond market, where the prices are quoted daily. However, in order to examine the robustness of the findings, I challenge them by an indicator that was developed in the Bank of Israel. This indicator tries to evaluate the probability of default of each security, using the cost of corporate debt, the cost of government debt and an assumption on the recovery rate[23].

In my analysis, I examine the period surrounding the publication date of 2018:Q2 (the main event), under two different assumptions: (1) recovery of 50 percent; and (2) an extreme assumption of no recovery. The results are presented in Table 11, as usual, in three time windows. Columns (1)-(3) present the results according to the first specification, and columns (4)-(6) present the results according to the second specification. In all the specifications the interaction variable (treated×post) is positive and statistically significant. These findings testify that the results in the paper are robust.

[Insert Table 11 here]

4.3.4 Including interactions: financial variables with the post

The main results in the paper might be explained by other things which are not necessarily the treatment. The first one is related to the tested period in the paper. This period is accompanied by publication of financial statements that include a lot of information (like profitability, leverage and liquidity), which could affect the yield spreads of the bonds.

In Equation 1 and Equation 2 I control for all the financial variables from the specific financial statements that may affect the spreads. But in order to control for new information and to check that those financial variables do not motivate the results, I make interaction variables between the financial characteristics and the post variable. I do it for each financial characteristic separately and all of them together.

In Table 12 I add those interactions to the main regression and check the impact on the average yield spreads in the middle time window that I examine in the paper (20 days before and after the publication day). As one can see there are some interaction variables that are indeed statistically significant that impact the yield spreads (for example, leverage and profitability), but the main finding is that in all of the specifications the effect of the treatment with the post is still positive and highly statistically significant. The economic impact does not change and still I get that it is about 20 basis points. The main results in the paper do not change when I check these specifications in all of the time windows.

[Insert Table 12 here]

[23] For extension, see Box 3, in Financial Stability Report for the first half of 2020, the Bank of Israel.

Another possible explanation of the main findings is that there was something else that affected the control group in that period and that led to the trend that is illustrated in Figure 3. In order to negate this hypothesis, in the next robustness checks, I examine sub-samples of the whole sample, by analyzing the tested sectors.

4.3.5 Challenging the analysis excluding the Real Estate sector

As presented in Table 2, over 50 percent of the control group is associated with firms from the Real Estate sector. In contrast, hand there are only 2 firms from this sector in the treatment group. In Israel, the Real Estate sector represents a massive part of the non-financial corporate bond market (more than 50 percent in market value). So, the question that arises is whether the Real Estate sector leads to the results of this paper. Although in the empirical framework that I use in the paper I control for sectors in the regressions, I challenge the investigation by excluding the Real Estate sector.

In Figure 2 there is a declining trend in the bond market. Because Real Estate is an important component in the bond market, it is possible that this sector pulls the yields down, and all the effect in the control group in Figure 3 is explained by this sector. Therefore, I first exclude the Real Estate sector from that figure. As one can see in Figure 4, the declining trend in the control group is very similar. The parallel trend is still saved and the main finding from this figure is that before the publication date the yield spreads of the two groups were pretty much the same, but after the publication date, there is a different of about 20 basis points between the two groups.

[Insert Figure 4 here]

Second, I again use Equation 1 and Equation 2, but exclude the firms' observations from the Real Estate sector. Table 13 presents the results and as expected, they are very similar to those in Table 5. These findings also support the results in the paper.

[Insert Table 13 here]

4.3.6 Analyzing another sub-sample

After excluding the Real Estate sector there are still sectors that are affected differently by the new standard. Thus it could be that there are some sectors in the control group that were not affected and actually drive the effect that this paper captures when I include them in the regressions. Although I control for sectors, I try to negate this thesis by focusing on a sub-sample that includes

sectors that are highly affected by the standard and that are as similar as possible in their financial characteristics. Focusing on highly affected sectors may prove that the treatment is the cause of the Diff-in-Diff results between the groups. Similar financial characteristics imply that the impact is driven by the treatment and not something else like a big difference between the tested groups.

The whole sample in the paper is not so big and the number of firms in each sector is pretty small, so it is hard to characterize a sub sample and get statistically significant results. However, as one can see in Table 2, the most affected sectors are Commerce & Services and Gas & Oil. It's not surprising because the Commerce & Services sector is mainly affected due to the long term rentals, and the Gas & Oil sector is affected due to gas stations and service places which the firms lease. It means that in this aspect the sectors are similar in a certain way. Thus, grouping those sectors to sub-samples creates two sub-groups of treated and control which are identical in the number of firms in each group, and analyzing the financial characteristics from the financial statements in Table 14 indicates that on average they are not different in a statistically significant way (except for the operating profit variable which is used as a control variable in the investigation).

[Insert Table 14 here]

These findings allow an investigation of the sub-sample with less fear that the control group leads all of the action. In Table 15, I examine Equation 1 only for the sub-sample and even though the sample is small, the results are statistically significant and the coefficients of the interaction variable are even greater than the main results in Table 5. It should be noted that the Post variable is still negative and highly statistically significant, which means that this period, even in a small sample, is characterized by a declining trend of the yield spreads. The results do not change if I also include the Industry sector in the sub-sample.

[Insert Table 15 here]

5 Conclusion

The IFRS revolution, which began in the early years of the 2000s, continues with significant changes in specific standards, some of them are even made in collaboration with FASB. IFRS 16 is one of those changes. It corrects a historical distortion[24], in which operating leases remained off-balance sheet, while capital leases are capitalized to the balance sheet. Some will say that this is a far-reaching change–that even the long term rental contracts (over a year) are also entered into the balance sheet[25] (Altamuro et al. 2014), but there is no doubt that the accounting standard boards are interested in reporting that is as informative as possible.

In my study, I investigate whether the change in the accounting treatment of operating leases (according to IFRS 16) increases the risk-pricing of a firm. Specifically, I examine whether the information or its salience, which is provided by IFRS 16, affects the reaction of creditors in the bond markets. Using the Diff-in-Diff approach, I find a statistically significant increase in the yield spreads of the treated group, compared to the control group. This increase was observed only in the first mandatory disclosure. In the quarters ahead the treatment did not affect on the risk-pricing, including in the mandatory implementation date. These results imply that the reaction by creditors was reflected in the markets in the first disclosure date, when the information was full and salient, in line with Bratten, Choudhary, and Schipper (2013).

These findings indicate that the information, or its salience, about the firm's off-balance sheet liabilities and its actual leverage, as reflected by the disclosure of the expected effects of IFRS 16, raised the measure for risk of firms that were affected by the standard. As such, it may be said that even a change in a *specific* accounting standard may have an impact on the market reaction, and particularly on the firm's risk-pricing, a topic that so far has been examined in a limited way in the academic literature.

[24] Evidence of this distortion can be found in a historical paper of Imhoff Jr and Thomas (1988).

[25] The reason is that the new standard takes into account all the rentals and leases as financial contracts rather than operational ones. But there are firms, that rent retail space and this contract is not a financial one. However, there are firms which actually lease airplanes, for example, instead of buying them by loan, i.e, financial contract.

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Figures

Figure 1: IFRS 16 Adoption - Time Line

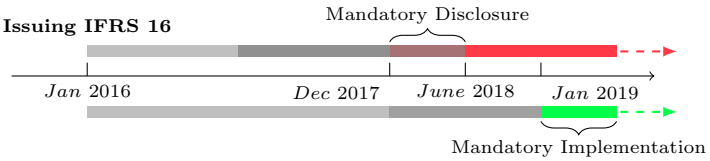
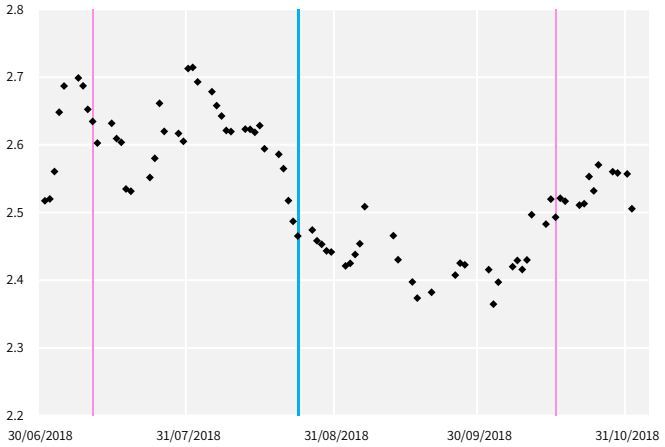
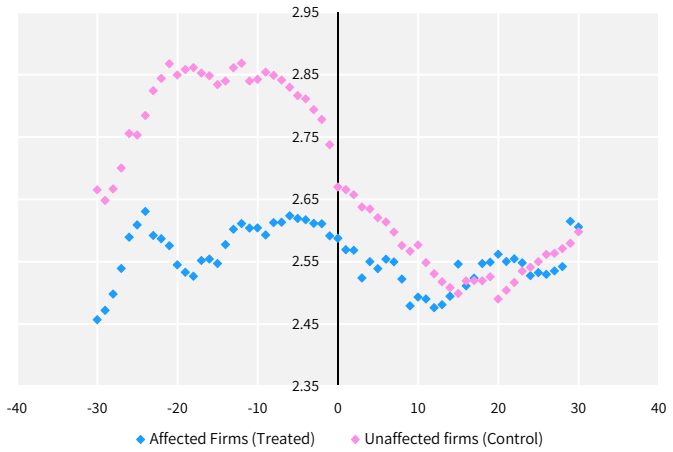


Figure 2: The Average Yield Spreads of Corporate Bonds



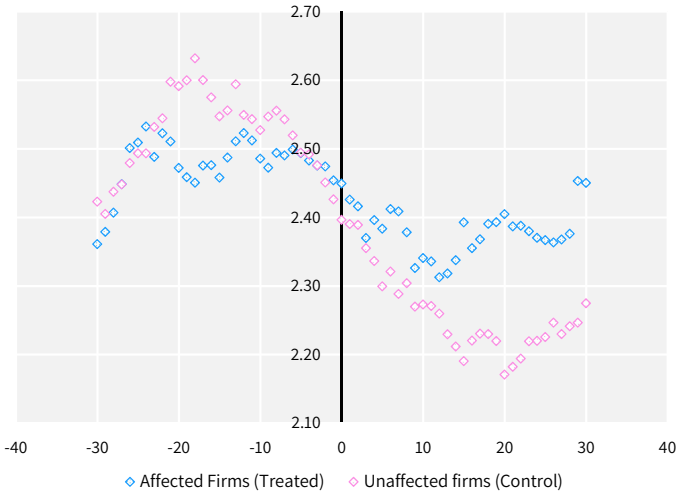
Note: This figure illustrates the trend of the yield spreads of Israeli corporate bonds during the publication period of financial statements at 2018:Q2. The blue vertical line indicates the average publication day, and the pink vertical lines indicate 30 trading days before and after the average publication day of the financial statements

Figure 3: Treated vs. Control



Note: Figure 3 illustrates the average yield spreads of the treated group versus the control group around the publication day of the financial statements, where the information about the expected impact of IFRS 16 is disclosed for the first time (most of the firms at 2018:Q2). The horizontal scale is the trading days before and after the publication date of each firm (day 0 is the publication day).

Figure 4: Treated vs. Control (excluding Real Estate Sector)



Note: Figure 4 illustrates the average yield spreads of each group (like Figure 3), but excludes the Real Estate sector.

Tables

Table 1: Sample selection procedure

Israeli public companies listed on the Tel Aviv Stock Exchange during the sample period	467
(–) Excluding financial firms (banks & insurance companies)	31
(–) Excluding firms with no tradable debt	255
(–) Excluding firms with no an assessment or a detailed disclosure about IFRS 16	45
(–) Excluding pre-adoption firms	10
Final firm sample in 2018:Q2 regressions	**126**[a]
(–) Excluding firms that their debt matured after the 2018:Q2	2[b]
(+) Including firms with a detailed disclosure about IFRS 16 after the mandatory date	32[c]
Final firm sample in 2018:Q4 & 2019:Q1 regressions	**156**[d]

[a] In the regressions two outliers observations are omitted, according to the 1st percentile and 99th percentile of the change in the yield spreads (before and after the publication date of the financial statements). The findings do not change if I include them.

[b] Actually 3 firm's bonds were matured and other firm's bond was issued.

[c] All of them, except to one, reported that they do not expect to a significant impact following the adoption of IFRS 16 (i.e. *unaffected firms)*.

[d] See footnote a above.

Table 2: Summary Statistics

Category	Variable	Treated		Control	
		Average	Median	Average	Median
Size	Assets (thousands NIS)	2,848,080	1,187,351	9,613,324**	3,057,290***
	Sales (thousands NIS)	758,162	229,051*	521,371	148,454
Leverage	Equity to assets	0.325	0.294	0.289	0.272
	Debt to capital	0.532	0.556	0.619**	0.646***
Profitability	Operating profit	0.056	0.047	0.360	0.207***
	Return on assets	0.010	0.013	0.015	0.011
	Return on equity	0.018	0.016	0.021	0.023
Liquidity	Current ratio	1.522	1.392	1.424	1.263
	Immediate ratio	0.394	0.217	0.438	0.263
Tangibility	Intangible assets to total assets	0.087***	0.050***	0.022	0.001

Sector	Expected change[a] in %	Count	Count
Bio-med & Technology	4.6 (5 0)	3	4
Commerce & Services	31.0 (11.0)	14	11
Financial Services	2.8 (1.0)	1	4
Gas & Oil	28.2 (25.0)	4	7
Holdings	6.0 (6.0)	3	9
Industry	9.8 (10.0)	6	5
Real Estate	3.3 (2.5)	2	51
Total observations (firms)	**16.9 (5.5)**	**33**	**91**

***, **, * indicate that the average (the median) of the tested variable in one group is greater than the variable in the other group statistically significant in a level of 1%, 5% and 10%, respectively, based on t-test for equality of average (Wilcoxon rank-sum test for equality of median).

[a]This column presents the average (median) expected change in assets as a rate of total assets, according to the disclosure of each firm, *for all the firms* that provided a numeric disclosure about the expected impact, by sectors.

Table 3: The average yield spreads - Treated vs. Control

	10 Trading Days			20 Trading Days			30 Trading Days		
	Treated	Control	Difference	Treated	Control	Difference	Treated	Control	Difference
Post	2.613	2.757	-0.144	2.609	2.708	-0.100	2.621	2.704	-0.083
Pre	2.692	2.934	-0.241	2.668	2.957	-0.289	2.657	2.934	-0.276
Difference	-0.080	-0.177	**0.098****	-0.059	-0.248	**0.189*****	-0.036	-0.230	**0.194*****

*** p<0.01, ** p<0.05, * p<0.1, based on t-test for equality of average.

Table 4: Definitions of the Main Variables

Variable	Definition
Yield spreads (the main dependent variable)	Yield spreads[a] are calculated as a corporate bond's yield minus a government bond's yield (adjusted for the relevant duration and indexation). For each firm I calculate the weighted average[b] of the yield spreads of its bonds (the weights are the market value of the bonds), every day in the 60 trading days surrounding the publication date of the financial statements. Then I calculate an arithmetic average in 3 window times before and after the publication day: 10, 20 and 30.
Impact	A dummy variable that takes the value of 1 if the expected change in the total assets, according the disclosure of each firm, is equal to or greater than 5 percent (i.e, the treated group), and 0 otherwise (i.e, the control group).
$\frac{\Delta^e \textbf{ Assets}}{\textbf{Assets}}$	A measure for the expected impact of the new standard. Calculated as the expected change in the assets divided by the total assets (before the implementation).
Post	A dummy variable that takes the value of 1 after the publication day of each firm, and 0 before.
CovenantsImpact	A dummy variable that takes the value of 1 if the firm expects to violate financial covenants (or to come close to violation) following the new standard, and 0 otherwise.
Size	Calculated as the natural logarithm of the total assets.
Leverage	Calculated as the financial debt (short-term and long-term liabilities) divided by the total capital (financial debt and equity), known as "Debt to Capital Ratio".
Profitability	The marginal operational profit. Calculated as the operating profit (known as "EBIT") divided by total sales[c].
Liquidity	The current ratio, i.e, current assets divided by current liabilities.
Tangibility	The intangible assets divided by the total assets.
Sector	Sector dummy variables that are defined based on two-digit TASE codes.

[a] There are 4 companies whose bonds are not in NIS, so it is impossible to calculate the spreads. For them I use the yields. Without them the results do not change.

[b] One of the robustness checks that I examine in the paper is based on the yield spreads of each security bond, without a weighted average calculation.

[c] There are 3 companies whose their sales are equal to zero, so I use the total assets instead of the sales.

Table 5: Diff-in-Diff regression 2018:Q2

	(1) Spreads [10 10]	(2) Spreads [20 20]	(3) Spreads [30 30]	(4) Spreads [10 10]	(5) Spreads [20 20]	(6) Spreads [30 30]
Treated	-0.238	-0.280	-0.244	-0.764**	-0.766**	-0.707*
	(0.411)	(0.402)	(0.391)	(0.364)	(0.363)	(0.362)
Post	-0.177***	-0.248***	-0.230***	-0.177***	-0.248***	-0.230***
	(0.0233)	(0.0279)	(0.0273)	(0.0234)	(0.0280)	(0.0274)
Treated × Post	0.0977**	0.189***	0.194***	0.0367	0.0782**	0.0497
	(0.0461)	(0.0567)	(0.0694)	(0.0432)	(0.0392)	(0.0414)
Covenants Impact				2.244**	2.075**	1.978**
				(1.073)	(1.043)	(0.996)
Covenants Impact × Post				0.252***	0.457***	0.594***
				(0.0958)	(0.118)	(0.159)
Size	-0.468***	-0.457***	-0.441***	-0.378***	-0.370***	-0.355***
	(0.114)	(0.113)	(0.113)	(0.111)	(0.110)	(0.110)
Leverage	5.224***	5.212***	5.223***	5.329***	5.314***	5.325***
	(1.016)	(1.017)	(1.016)	(1.026)	(1.026)	(1.027)
Profitability	-0.303***	-0.300***	-0.297***	-0.314***	-0.311***	-0.308***
	(0.0916)	(0.0895)	(0.0880)	(0.0952)	(0.0929)	(0.0913)
Liquidity	-0.0762	-0.0718	-0.0664	-0.0248	-0.0219	-0.0170
	(0.136)	(0.135)	(0.134)	(0.118)	(0.117)	(0.116)
Tangibility	1.358	1.254	1.180	2.122	1.997	1.914
	(1.645)	(1.621)	(1.596)	(1.622)	(1.597)	(1.575)
Constant	6.056***	5.943***	5.674***	5.313***	5.220***	4.960***
	(1.831)	(1.826)	(1.821)	(1.791)	(1.783)	(1.778)
Sector FE	YES	YES	YES	YES	YES	YES
Number of Firms	124	124	124	124	124	124
R^2	0.390	0.390	0.386	0.451	0.449	0.445

Robust standard errors in parentheses.

Standard errors are clustered at the firm level.

*** p<0.01, ** p<0.05, * p<0.1

Table 6: Diff-in-Diff regression 2018:Q4

	(1) Spreads [10 10]	(2) Spreads [20 20]	(3) Spreads [30 30]	(4) Spreads [10 10]	(5) Spreads [20 20]	(6) Spreads [30 30]
Treated	-0.203	-0.203	-0.213	-0.847*	-0.854*	-0.878*
	(0.545)	(0.543)	(0.544)	(0.482)	(0.473)	(0.468)
Post	-0.0299	-0.0999**	-0.196***	-0.0299	-0.0999**	-0.196***
	(0.0365)	(0.0497)	(0.0554)	(0.0366)	(0.0499)	(0.0557)
Treated × *Post*	0.0340	0.0691	0.139	0.139	0.206	0.312
	(0.118)	(0.166)	(0.209)	(0.117)	(0.164)	(0.218)
Covenants Impact				2.830**	2.862**	2.926**
				(1.308)	(1.313)	(1.322)
Covenants Impact × *Post*				-0.482	-0.627	-0.788
				(0.303)	(0.442)	(0.506)
Size	-0.813***	-0.811***	-0.817***	-0.720***	-0.719***	-0.726***
	(0.111)	(0.111)	(0.112)	(0.118)	(0.118)	(0.119)
Leverage	6.857***	6.755***	6.805***	7.057***	6.952***	7.000***
	(1.187)	(1.154)	(1.178)	(1.196)	(1.162)	(1.187)
Profitability	-1.584	-1.896	-1.677	-3.764	-4.041	-3.810
	(7.327)	(7.364)	(7.326)	(6.960)	(6.922)	(6.904)
Liquidity	-0.0641	-0.0644	-0.0734	0.0371	0.0351	0.0255
	(0.304)	(0.301)	(0.302)	(0.289)	(0.287)	(0.288)
Tangibility	1.849	1.987	1.931	2.658	2.783	2.722
	(1.709)	(1.720)	(1.740)	(1.720)	(1.742)	(1.767)
Constant	9.600***	9.601***	9.657***	8.918***	8.930***	8.990***
	(1.424)	(1.431)	(1.423)	(1.486)	(1.492)	(1.483)
Sector FE	YES	YES	YES	YES	YES	YES
Number of Firms	122	122	122	122	122	122
R^2	0.531	0.528	0.526	0.567	0.564	0.562

Robust standard errors in parentheses.

Standard errors are clustered at the firm level.

*** p<0.01, ** p<0.05, * p<0.1

Table 7: Diff-in-Diff regression 2019:Q1

	(1) Spreads [10 10]	(2) Spreads [20 20]	(3) Spreads [30 30]	(4) Spreads [10 10]	(5) Spreads [20 20]	(6) Spreads [30 30]
Treated	0.157	0.0963	0.0473	-0.414	-0.498	-0.580
	(0.641)	(0.608)	(0.586)	(0.820)	(0.756)	(0.700)
Post	0.0114	0.0205	-0.0590	0.0114	0.0205	-0.0590
	(0.0492)	(0.0659)	(0.0590)	(0.0495)	(0.0662)	(0.0593)
Treated × *Post*	-0.127*	-0.0712	-0.0493	-0.102	-0.0295	0.0256
	(0.0724)	(0.110)	(0.128)	(0.0628)	(0.0835)	(0.0994)
Covenants Impact				2.128	2.215*	2.345**
				(1.393)	(1.250)	(1.158)
Covenants Impact × *Post*				-0.103	-0.172	-0.309
				(0.185)	(0.326)	(0.392)
Size	-0.762***	-0.760***	-0.743***	-0.694***	-0.690***	-0.671***
	(0.138)	(0.132)	(0.123)	(0.168)	(0.159)	(0.147)
Leverage	6.588***	6.559***	6.491***	6.522***	6.491***	6.421***
	(1.457)	(1.540)	(1.547)	(1.400)	(1.492)	(1.503)
Profitability	-0.786**	-0.779**	-0.733**	-0.797*	-0.790*	-0.745**
	(0.398)	(0.386)	(0.347)	(0.416)	(0.405)	(0.365)
Liquidity	0.0304	0.0404	0.0454	0.0885	0.100	0.107
	(0.343)	(0.337)	(0.327)	(0.338)	(0.329)	(0.317)
Tangibility	0.765	0.742	0.990	1.674	1.675	1.949
	(2.623)	(2.573)	(2.500)	(2.879)	(2.779)	(2.670)
Constant	8.108***	8.110***	8.058***	7.782***	7.775***	7.714***
	(1.719)	(1.671)	(1.595)	(1.836)	(1.778)	(1.690)
Sector FE	YES	YES	YES	YES	YES	YES
R^2	0.396	0.404	0.411	0.421	0.430	0.441
Number of Firms	122	122	122	122	122	122

Robust standard errors in parentheses.

Standard errors are clustered at the firm level.

*** p<0.01, ** p<0.05, * p<0.1

Table 8: Diff-in-Diff regression 2018:Q2, using continuous variable

	(1)	(2)	(3)
	Spreads [10 10]	Spreads [20 20]	Spreads [30 30]
$\frac{\Delta^e\ Assets}{Assets}$	2.375	2.284	2.211
	(1.601)	(1.533)	(1.451)
Post	-0.160***	-0.214***	-0.207***
	(0.0212)	(0.0265)	(0.0277)
$\frac{\Delta^e\ Assets}{Assets} \times Post$	0.106**	0.195***	0.363**
	(0.0482)	(0.0747)	(0.184)
Size	-0.426***	-0.416***	-0.403***
	(0.109)	(0.108)	(0.108)
Leverage	5.686***	5.665***	5.669***
	(1.074)	(1.072)	(1.070)
Profitability	-0.283***	-0.281***	-0.278***
	(0.0987)	(0.0963)	(0.0945)
Liquidity	0.00439	0.00720	0.0108
	(0.124)	(0.124)	(0.124)
Tangibility	1.039	0.941	0.900
	(1.694)	(1.671)	(1.642)
Constant	4.846***	4.747***	4.560***
	(1.662)	(1.654)	(1.655)
Sector FE	YES	YES	YES
Number of Firms	124	124	124
R^2	0.452	0.450	0.448

Robust standard errors in parentheses.

Standard errors are clustered at the firm level.

*** p<0.01, ** p<0.05, * p<0.1

Table 9: Diff-in-Diff regression 2018:Q2, using continuous variable for the covenants impact

	(1)	(2)	(3)
	Spreads [10 10]	Spreads [20 20]	Spreads [30 30]
θ^a	1.791	1.644	1.559
	(1.174)	(1.145)	(1.097)
Post	-0.169***	-0.231***	-0.226***
	(0.0205)	(0.0246)	(0.0246)
$\theta \times Post$	0.175**	0.327***	0.463***
	(0.0724)	(0.108)	(0.149)
Size	-0.372***	-0.365***	-0.353***
	(0.111)	(0.110)	(0.110)
Leverage	5.556***	5.532***	5.531***
	(1.033)	(1.033)	(1.032)
Profitability	-0.296***	-0.293***	-0.291***
	(0.0996)	(0.0971)	(0.0951)
Liquidity	0.0287	0.0293	0.0317
	(0.121)	(0.121)	(0.120)
Tangibility	1.691	1.571	1.526
	(1.532)	(1.512)	(1.483)
Constant	4.154**	4.100**	3.931**
	(1.714)	(1.702)	(1.698)
Sector FE	YES	YES	YES
Number of IssuerNo	124	124	124
R^2	0.445	0.442	0.438

Robust standard errors in parentheses.

Standard errors are clustered at the firm level.

*** p<0.01, ** p<0.05, * p<0.1

[a] $\theta_i = \frac{FinancialRatio - ExpectedFinancialRatio}{FinancialRatio - FinancialCovenants}$

Table 10: Diff-in-Diff regression 2018:Q2 – drilling down to the security level

	(1) Spreads [10 10]	(2) Spreads [20 20]	(3) Spreads [30 30]	(4) Spreads [10 10]	(5) Spreads [20 20]	(6) Spreads [30 30]
Treated	-0.000858	-0.0237	0.00375	-0.433	-0.427	-0.380
	(0.378)	(0.372)	(0.361)	(0.329)	(0.329)	(0.324)
Post	-0.175***	-0.228***	-0.196***	-0.175***	-0.228***	-0.196***
	(0.0219)	(0.0238)	(0.0295)	(0.0220)	(0.0239)	(0.0296)
Treated × *Post*	0.0851**	0.134***	0.109**	0.0439	0.0584*	0.00835
	(0.0358)	(0.0418)	(0.0533)	(0.0336)	(0.0304)	(0.0353)
Covenants Impact				2.227**	2.075**	1.971**
				(0.953)	(0.927)	(0.885)
Covenants Impact × *Post*				0.225***	0.412***	0.550***
				(0.0835)	(0.112)	(0.152)
Size	-0.484***	-0.475***	-0.470***	-0.429***	-0.421***	-0.417***
	(0.0992)	(0.0991)	(0.0967)	(0.0981)	(0.0982)	(0.0958)
Leverage	5.405***	5.470***	5.430***	5.504***	5.566***	5.525***
	(0.937)	(0.948)	(0.923)	(0.943)	(0.955)	(0.930)
Profitability	-0.305***	-0.306***	-0.304***	-0.312***	-0.313***	-0.310***
	(0.0748)	(0.0743)	(0.0753)	(0.0752)	(0.0747)	(0.0756)
Liquidity	-0.115	-0.121	-0.115	-0.0724	-0.0798	-0.0740
	(0.132)	(0.133)	(0.133)	(0.127)	(0.128)	(0.128)
Tangibility	0.847	0.748	0.650	1.614	1.496	1.387
	(1.641)	(1.630)	(1.601)	(1.593)	(1.583)	(1.555)
Constant	6.061***	5.954***	5.853***	5.673***	5.577***	5.481***
	(1.591)	(1.587)	(1.543)	(1.585)	(1.580)	(1.535)
Sector FE	YES	YES	YES	YES	YES	YES
Number of Securities	276	276	276	276	276	276
R^2	0.398	0.398	0.400	0.427	0.425	0.428

Robust standard errors in parentheses.

Standard errors are clustered at the security level.

*** p<0.01, ** p<0.05, * p<0.1

Table 11: Probability of Default, as a dependant variable

	Assumption 1: 50 percents recovery			Assumption 2: No recovery		
	(1)	(2)	(3)	(4)	(5)	(6)
	[10 10]	[20 20]	[30 30]	[10 10]	[20 20]	[30 30]
Treated	1.101	1.002	1.122	0.669	0.612	0.683
	(1.834)	(1.829)	(1.816)	(1.165)	(1.162)	(1.153)
Post	-0.818***	-1.234***	-1.280***	-0.486***	-0.738***	-0.753***
	(0.0543)	(0.0703)	(0.0825)	(0.0344)	(0.0464)	(0.0564)
Treated × *Post*	0.299**	0.507***	0.404**	0.195***	0.323***	0.254**
	(0.120)	(0.156)	(0.183)	(0.0718)	(0.0957)	(0.113)
Size	-0.169	-0.120	-0.0830	-0.0448	-0.0131	0.00619
	(0.512)	(0.510)	(0.501)	(0.341)	(0.339)	(0.333)
Leverage	20.79***	20.86***	20.76***	13.45***	13.51***	13.41***
	(4.822)	(4.808)	(4.709)	(3.353)	(3.349)	(3.267)
Profitability	-0.205	-0.224	-0.203	-0.107	-0.118	-0.106
	(0.497)	(0.489)	(0.500)	(0.308)	(0.303)	(0.309)
Liquidity	0.614	0.598	0.623	0.323	0.314	0.333
	(0.813)	(0.811)	(0.805)	(0.512)	(0.511)	(0.506)
Tangibility	15.81*	15.69*	15.45*	9.753*	9.698*	9.542*
	(8.213)	(8.156)	(8.078)	(5.112)	(5.077)	(5.018)
Constant	-3.287	-3.703	-4.249	-3.348	-3.636	-3.921
	(8.286)	(8.245)	(8.099)	(5.504)	(5.482)	(5.365)
Sector FE	YES	YES	YES	YES	YES	YES
Number of Securities	276	276	276	276	276	276
R^2	0.147	0.149	0.149	0.141	0.143	0.143

Robust standard errors in parentheses.

Standard errors are clustered at the security level.

*** p<0.01, ** p<0.05, * p<0.1

Table 12: Diff-in-Diff regression 2018:Q2 - incl. interactions: financial variables with the post

	(1)	(2)	(3)	(4)	(5)	(6)
	Size	Leverage	Profitability	Liquidity	Tangibility	All
Treated	-0.280	-0.264	-0.279	-0.280	-0.298	-0.281
	(0.405)	(0.403)	(0.402)	(0.402)	(0.407)	(0.413)
Post	-0.244	-0.0176	-0.245***	-0.260***	-0.236***	0.0893
	(0.281)	(0.0698)	(0.0287)	(0.0398)	(0.0266)	(0.316)
Treated × *Post*	0.189***	0.157***	0.186***	0.188***	0.225***	0.191***
	(0.0587)	(0.0558)	(0.0568)	(0.0569)	(0.0668)	(0.0664)
Size	-0.457***	-0.457***	-0.457***	-0.457***	-0.457***	-0.457***
	(0.115)	(0.114)	(0.114)	(0.114)	(0.114)	(0.116)
Leverage	5.212***	5.398***	5.212***	5.212***	5.212***	5.449***
	(1.019)	(1.027)	(1.019)	(1.019)	(1.019)	(1.040)
Profitability	-0.300***	-0.300***	-0.296***	-0.300***	-0.300***	-0.291***
	(0.0897)	(0.0897)	(0.0870)	(0.0897)	(0.0897)	(0.0893)
Liquidity	-0.0718	-0.0718	-0.0718	-0.0759	-0.0718	-0.0652
	(0.135)	(0.135)	(0.135)	(0.136)	(0.135)	(0.138)
Tangibility	1.254	1.254	1.254	1.254	1.529	1.622
	(1.624)	(1.624)	(1.624)	(1.624)	(1.719)	(1.727)
Size × *Post*	-0.000321					-0.000103
	(0.0178)					(0.0185)
Leverage × *Post*		-0.373***				-0.475***
		(0.119)				(0.124)
Profitability × *Post*			-0.00839			-0.0194**
			(0.0100)			(0.00913)
Liquidity × *Post*				0.00826		-0.0133
				(0.0181)		(0.0216)
Tangibility × *Post*					-0.551*	-0.737**
					(0.326)	(0.331)
Constant	5.940***	5.827***	5.941***	5.948***	5.936***	5.774***
	(1.865)	(1.834)	(1.830)	(1.832)	(1.828)	(1.881)
Sector FE	YES	YES	YES	YES	YES	YES
Number of Firms	124	124	124	124	124	124
R^2	0.390	0.390	0.390	0.390	0.390	0.391

Robust standard errors in parentheses.

Standard errors are clustered at the firm level.

*** p<0.01, ** p<0.05, * p<0.1

Table 13: Diff-in-Diff regression 2018:Q2 (excluding the Real Estate sector)

	(1) Spreads [10 10]	(2) Spreads [20 20]	(3) Spreads [30 30]	(4) Spreads [10 10]	(5) Spreads [20 20]	(6) Spreads [30 30]
Treated	-0.476	-0.506	-0.470	-0.756**	-0.768**	-0.716*
	(0.423)	(0.417)	(0.407)	(0.374)	(0.374)	(0.371)
Post	-0.205***	-0.288***	-0.278***	-0.205***	-0.288***	-0.278***
	(0.0371)	(0.0444)	(0.0410)	(0.0374)	(0.0448)	(0.0413)
Treated × Post	0.103**	0.181***	0.185***	0.0642	0.118**	0.0979*
	(0.0524)	(0.0584)	(0.0668)	(0.0528)	(0.0529)	(0.0522)
Covenants Impact				2.367	2.257	2.162
				(1.452)	(1.402)	(1.333)
Covenants Impact × Post				0.203**	0.325***	0.452***
				(0.0906)	(0.0986)	(0.165)
Size	-0.588***	-0.582***	-0.565***	-0.456***	-0.453***	-0.438***
	(0.139)	(0.138)	(0.137)	(0.129)	(0.127)	(0.127)
Leverage	4.884***	4.879***	4.890***	5.027***	5.019***	5.028***
	(0.956)	(0.946)	(0.932)	(0.992)	(0.981)	(0.970)
Profitability	-0.235	-0.270	-0.282	-0.104	-0.141	-0.155
	(1.055)	(1.037)	(1.022)	(1.120)	(1.100)	(1.084)
Liquidity	-0.127	-0.120	-0.109	-0.0222	-0.0165	-0.00740
	(0.170)	(0.166)	(0.165)	(0.142)	(0.139)	(0.138)
Tangability	1.060	0.943	0.879	1.875	1.742	1.667
	(1.686)	(1.663)	(1.644)	(1.626)	(1.605)	(1.589)
Constant	8.061***	8.007***	7.716***	6.379***	6.359***	6.088***
	(2.033)	(2.017)	(2.009)	(1.915)	(1.899)	(1.888)
Sector FE	YES	YES	YES	YES	YES	YES
Number of Firms	71	71	71	71	71	71
R^2	0.382	0.388	0.386	0.469	0.474	0.471

Robust standard errors in parentheses.

Standard errors are clustered at the firm level.

*** p<0.01, ** p<0.05, * p<0.1

Table 14: Summary statistics of the sub sample which is defined in section 4.3.6

	N	Size		Leverage		Profitability			Liquidity		Tangibility
		Assets	Sales	Equity to Assets	Debt to CAP	Operating Profit	ROA	ROE	Current Ratio	Immediate Ratio	Intangible to Assets
Treated	18	3,223,889	969,310	0.31	0.55	0.07	0.01	0.02	1.44	0.40	0.05
Control	18	9,852,592	603,684	0.24	0.65	0.33***	0.02	0.04	1.54	0.56	0.04

***, **, * indicate that the average of the tested variable in one group is greater than the variable in the other group statistically significant in a level of 1%, 5% and 10%, respectively, based on t-test for equality of average.

Table 15: Diff-in-Diff regression 2018:Q2 - sub sample which is defined in section 4.3.6

	(1) Spreads [10 10]	(2) Spreads [20 20]	(3) Spreads [30 30]
Treated	-0.383	-0.429	-0.390
	(0.570)	(0.558)	(0.539)
Post	-0.289***	-0.369***	-0.332***
	(0.0676)	(0.0782)	(0.0689)
Treated x Post	0.165*	0.244***	0.228**
	(0.0855)	(0.0922)	(0.106)
Size	-0.994***	-0.976***	-0.959***
	(0.291)	(0.283)	(0.282)
Leverage	4.752***	4.698***	4.692***
	(1.297)	(1.264)	(1.243)
Profitability	0.562	0.562	0.569
	(1.293)	(1.273)	(1.257)
Liquidity	-0.271	-0.264	-0.258
	(0.243)	(0.236)	(0.234)
Tangibility	0.403	0.286	0.102
	(4.058)	(3.929)	(3.825)
Sector FE	YES	YES	YES
Number of Firms	36	36	36
R^2	0.399	0.404	0.400

Robust standard errors in parentheses.

Standard errors are clustered at the firm level.

*** p<0.01, ** p<0.05, * p<0.1