Unrealized Earnings, Dividends and Reporting Aggressiveness:

An Examination of Firms' Behavior in the Era of Fair Value Accounting

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Abstract

This study explores changes in the dividend policy of companies following the adoption of fair value accounting rules. Using a sample of Israeli firms that adopted IFRS, we document a dramatic increase in the payout ratios of firms that distributed dividends based on revaluation gains from 32% of realized earnings in the pre-IFRS period to 115% in the post-IFRS period. Furthermore, we reveal that firms paying dividends from unrealized earnings are more aggressive both in their book and tax reporting behaviors. We demonstrate that this increased aggressiveness is associated with the payment of cash dividends from paper profits.

***Keywords*:** dividend policy, earnings management, fair value, IFRS, revaluation, unrealized earnings

***JEL Descriptors*:** M41 – Accounting, G35 – Payout policy

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1. Introduction

The International Financial Reporting Standards (IFRS) allow firms to recognize unrealized earnings arising from changes in the fair values of assets and liabilities such as financial instruments, investment property, and investment in other entities (e.g., subsidiaries, associates and joint ventures).[1] An interesting and hitherto unexamined aspect of the transition from cost-based accounting to fair value accounting is whether and how company dividend payout policies have changed as a result of this transition. Specifically, do firms distribute the revaluation earnings they are now allowed to recognize as dividends to shareholders?

Dividends are of first-order importance to shareholders (e.g., DeAngelo and DeAngelo, 2006). The extant dividend literature documents that firms seek to maintain a stable dividend payout policy (e.g., Shevlin, 1982; DeAngelo *et al.*, 1992; Naveen *et al*., 2008). In their study of payout policies in the twenty-first century, Brav *et al*. (2005) report that managers are willing to go to great lengths to avoid dividend cuts. Notwithstanding, the distribution of dividends creates a conflict of interests between shareholders and other stakeholders in the firm. For example, from the debtholders' perspective, dividends paid to shareholders reduce the firm's value, thereby increasing the value of the implicit put option and the probability of default (Galai and Weiner, 2015). This conflict of interests and the risk of the firm's entering financial distress are exacerbated if the payment of dividends is based on unrealized profits because the latter may reverse in the future (the clawback problem). Thus, whether firms utilize the transition to fair value accounting to distribute cash dividends from paper profits is an important question with economic implications.

We take advantage of an exogenous change in Israel's accounting environment to explore our research question. Prior to the adoption of IFRS, Israeli firms reported their financial statements in accordance with the Israeli GAAP, which was mainly influenced by the accounting principles

[1] See Benson *et al*. (2015) for a review of the studies on asset revaluations in the Asia Pacific region. We provide an outline of the international standards that allow firms to recognize revaluation earnings in Appendix A.

generally accepted in the US (US GAAP).[2] The Israeli Corporate Law that allows a firm to distribute dividends from its retained accounting earnings does not distinguish between realized and unrealized earnings. Thus, following the adoption of IFRS, the amount of earnings that could be distributed as dividends could potentially increase. We conduct multiple tests comparing the payout policy of firms in the post-IFRS period versus the pre-IFRS period. This approach allows us to estimate the difference between firms that distributed dividends from unrealized revaluation earnings after the adoption of IFRS and those that underwent the same exogenous change but did not distribute dividends from unrealized earnings.

Using firms that adopted IFRS allows us to investigate our research question in firms from various industries. In contrast to IFRS, US GAAP allow the measurement of financial instruments only at fair value.[3] Given the different reporting incentives, accounting requirements and regulatory requirements of financial firms compared to other industries (e.g., Hanlon, 2005), focusing on financial firms (as in the case of using US GAAP firms) implies that the inferences from the study would be confined to this group of companies only. In addition, using IFRS firms allows us to explore the effect of revaluation earnings arising from different types of assets (rather than just financial assets) on a firm's dividend policy.

Our sample consists of 508 Israeli public companies that adopted IFRS in 2007. We hand-collected all of the information pertaining to gains and losses arising from changes in the fair values of assets and liabilities from the annual financial statements of these firms[4] for the six years prior to the adoption of IFRS in Israel (2001-2006) and the six years following its adoption (2007-2012).[5] Of our 508 sample firms, we identify 168 firms (33%) that distributed dividends from unrealized earnings (henceforth, 'DFU firms'). On average, a DFU firm distributed dividends from unrealized

[2] For a detailed description of the differences between Israeli GAAP and IFRS, see Markelevich *et al*. (2011).
[3] See an outline of the US GAAP that allow firms to recognize revaluation earnings in Appendix A.
[4] Revaluation earnings data is unavailable on financial databases such as *Compustat* or *Bloomberg*.
[5] While IFRS was formally adopted in 2008, almost all Israeli public companies voluntarily adopted IFRS in 2007.

earnings three times during the 6-year post-IFRS period (in all, 498 DFU firm-years). In these DFU firm-years, dividend payments as a percentage of *realized* earnings increased from an average of 32% in the pre-IFRS period to an average of 115% in the post-IFRS period. The increase to more than 100% implies that DFU firms distributed all of their realized earnings and more, the latter part being paid from unrealized gains. In contrast, for non-DFU firm-years we find that the dividend payout ratio remained stable throughout the pre- and post-IFRS periods (around 32% on average). The difference in the payout ratio between DFU and non-DFU firm-years (about 82%) is highly significant.

Using both univariate and multivariate tests to distinguish between DFU and non-DFU firms as well as firm-years, we find that the former are larger in size and more profitable. However, their greater profitability is only due to the recognition of unrealized gains from the revaluations of financial instruments, investment property and investment in other entities.[6] We show that the dividend payouts in DFU firm-years are positively and directly associated with the unrealized gains arising from the revaluations of financial instruments, investment property and investments in other entities. It is important to note that unrealized gains in non-DFU firm-years are insignificant. The evidence suggests that firms with positive revaluation earnings tend to pay dividends from these earnings despite their being unrealized. Another important finding is that DFU firms have more financial leverage than non-DFU firms. Furthermore, in contrast to evidence in previous studies, the dividend payouts in DFU firm-years are positively, rather than negatively, associated with leverage. This finding is consistent with DFU firms raising debt to finance the payment of cash

[6] Investment in other entities includes investment in subsidiaries (as per IAS 27), associates and joint ventures (as per IAS 28).

dividends from unrealized profits.[7] Finally, DFU firms are less R&D intensive, implying that the increased dividend payments may come at the expense of the firm's innovation.[8]

We extend our analyses to explore whether an aggressive dividend payout policy in the form of paying dividends from unrealized earnings is associated with aggressive reporting behavior to facilitate the payout. We examine both the financial and tax reporting behaviors of DFU and non-DFU firms. Whereas upward earnings management in the books can increase the amounts legally available for distribution to shareholders,[9] downward earnings management in the tax returns can save tax payments and hence increase the amounts actually available for distribution (i.e., cash). Our findings reveal that firms that pay dividends from unrealized earnings behave differently from those that do not. Not only do the former leverage grey areas in the Corporate Law to engage in activities that contradict the intention of the legislation, but they also exploit discrepancies between the accounting and the tax rules to manipulate book *as well as* taxable earnings. As such, not only do stakeholders in DFU firms suffer the consequences of dividends paid from unrealized earnings (e.g., in the form of increased risk of default), but the public as a whole also suffers from the increased incentive of these firms to avoid tax payments.

Our results should be of interest to regulators of corporate laws, accounting standard setters, tax authorities, auditors, investors and other stakeholders in firms. Note that our findings are relevant not only for IFRS adopting countries but also for the US, given that US financial institutions are able to pay dividends from unrealized earnings arising from the revaluation of financial instruments.

[7] In a study in progress examining the impact of dividend distributions based on unrealized earnings on the firm's cost of debt, we find evidence for a direct positive association between an increase in debt and dividend payments from revaluation earnings.

[8] R&D investments require that the firm retains a large share of its operating cash flows in the company.

[9] According to sections 302-3 of the Israeli Corporate Law, a firm can pay dividends out of the highest of (1) its retained earnings or (2) its earnings accumulated over the last two years (conditional on the firm's ability to pay off all of its liabilities).

In the next section, we review the relevant literature and develop our hypotheses. Section 3 describes our data, and Section 4 presents our tests and results. Section 5 concludes.

2. Literature Review and Hypotheses

2.1. Dividend payout policy

Since Lintner's (1956) pioneering study, it has been well known that firms seek to smooth their dividend payments and maintain a relatively stable dividend payout policy (see, e.g., Shevlin, 1982; DeAngelo *et al.*, 1992). Studies show that the historical stability of dividend payouts can communicate substantial information about the firm (e.g., Brown *et al*., 1977; Dickens *et al*., 2002). In their study of payout policies in the twenty-first century, Brav *et al*. (2005) report that managers are willing to go to great lengths to avoid dividend cuts. For example, according to Brav *et al.* managers would sell assets, lay off employees, raise external funds, or even forgo positive NPV projects before cutting dividends. According to Naveen *et al*. (2008), the reluctance to cut dividends is consistent with the large negative stock price reactions observed around the announcement of dividend reductions. Studies further suggest that firms manage their dividends for certain reasons such as signaling and tax avoidance (e.g., Miller and Rock, 1985; Wood, 1997; Berk and DeMarzo, 2007, chapter 17; Guttman *et al*., 2010; Lambrecht and Myers, 2012).[10]

Based on the extensive literature documenting a clear incentive by managers to maintain a smooth dividend policy and avoid dividend cuts at almost any cost, we expect that, all other things being equal, an increase in total earnings would lead to an increase in dividend payments. That is, if the denominator of the payout ratio—total earnings—increases, then managers would seek to increase the numerator—cash dividends—so that the ratio does not decrease. Hence, if the law does not prohibit dividend distributions based on revaluation gains, we expect that a firm's dividend

[10] For a comprehensive review of dividend-related studies in the Asia-Pacific area, see Benson *et al*. (2014).

payments would increase following the recognition of such unrealized gains to avoid what investors might see as a reduction in the payout ratio (or a dividend cut). Our first hypothesis is thus:

H1: All else being equal, a firm's dividend payments will increase following the recognition of unrealized gains.

Specifically, we expect that the ratio between cash dividends paid and the firm's *realized* earnings (i.e., excluding revaluation earnings) will increase in the post-IFRS period for firms that recognize positive revaluation earnings. When taken from total earnings (including revaluation earnings), we expect that the dividend payout ratios in the post-IFRS period did not decline compared to those in the pre-IFRS period (note that the total earnings in the pre-IFRS period do not include revaluation earnings).

2.2. Taxable earnings management to facilitate dividend payments from unrealized earnings

Companies naturally seek to reduce their tax burden. Such a reduction implies that more cash is available for other uses, including for dividend payouts (e.g., Casey and Dickens, 2000). Increasing the firm's cash reserves is essential if the company wants to distribute dividends from unrealized earning, given that unrealized earnings do not create cash flows until they are realized, when and if they are realized.

Recent studies present evidence that IFRS increase a firm's ability to engage in tax avoidance activities (Kerr, 2012; De Simone, 2013). For large, publicly traded firms in the UK, Ng (2009) establishes that firms that willingly adopt IFRS in their statutory accounts show a marginal decline in the amount of cash taxes paid relative to firms that do not adopt IFRS in their statutory accounts. The increased ability to engage in tax avoidance activities in the post-IFRS period together with the need to create cash availability to pay dividends from unrealized earnings lead us to predict that DFU firms will be more aggressive in their tax avoidance behavior. Our second hypothesis is thus:

H2: All else being equal, dividends from unrealized earnings are positively associated with tax avoidance.

2.3. Book earnings management to facilitate dividend payments from unrealized earnings

While reporting lower taxable earnings is generally viewed as favorable, the opposite is often true for book earnings. The extant literature indicates that firms tend to manage earnings upward to meet dividend thresholds (e.g., Naveen *et al*., 2008). Furthermore, recent studies present evidence that managers take advantage of the flexibility allowed by IFRS to increase earnings management (e.g., Ahmed *et al*., 2013; Karampinis and Hevas, 2013; Lai *et al*. 2013). We thus expect that earnings management following the adoption of IFRS will be positively associated with the firm's dividend payout ratio, particularly in firms that choose to pay dividends from unrealized earnings. Our third hypothesis posits:

H3: All else being equal, dividends from unrealized earnings are positively associated with book earnings management.

3. Data

Our sample selection procedure begins with all 623 Israeli public companies listed on the Tel Aviv Stock Exchange (TASE) during the sample period of 2001 to 2012: the six years prior to the adoption of IFRS (2001-2006) and the six years following its adoption (2007-2012). We acknowledge that our post-IFRS period includes the sub-prime crisis of 2008. Therefore, we have repeated all of the study's analyses excluding this period (untabulated for parsimony). The results obtained are qualitatively similar to those based on the entire post-IFRS period. We exclude financial firms from the analyses because the latter were not required to adopt IFRS with all the other firms. The exclusion is also consistent with prior research that eliminated regulated industries such as

financial institutions given that these firms have different reporting incentives, accounting requirements and regulatory scrutiny than other industries. This elimination results in a loss of 29 of the 623 companies. We also exclude the 45 companies that adopted IFRS in 2006, prior to the massive adoption of IFRS in 2007. Finally, we removed another 41 companies because they were dually listed on the TASE as well as on the US stock exchanges. Therefore, they were fully compliant with US GAAP and not required to adopt IFRS. Thus, our final sample consists of 508 companies that underwent a transition from Israeli GAAP to IFRS in 2007. Table 1 presents the sample selection procedure. The final number of firm-year observations with sufficient information required for our various analyses is 5,332 firm-years.

[INSERT TABLE 1 ABOUT HERE]

In our analyses, we deal with outliers by winsorizing extreme values (top and bottom 1%) of continuous variables. We winsorize rather than cut the extreme values to conserve data. The results of the analyses remain similar when extreme values are cut from the dataset. We obtained the financial information for our sample from the *Bloomberg Professional* database. We supplemented this data with information collected manually from the companies' financial statements. Unrealized earnings arising from the fair value measurement of the various financial statement items must be hand-collected because these data items do not appear on any financial database.

Table 2 Panel A provides the descriptive statistics for a set of selected financial information on our sample firms for the pooled sample period as well as separately for the pre-IFRS and post-IFRS adoption periods. The results show that the firms' total assets increased significantly in the post-IFRS period consistent with a transition from historical cost accounting to fair value accounting. The investment in R&D also increased, possibly due to the ability to capitalize, rather than entirely and immediately expense, part of the R&D costs under IFRS.[11] In contrast to R&D,

[11] IAS 38, *Intangible Assets* (2004).

capital expenditures declined significantly while the firms' cash balance and financial leverage increased.[12] The firms' equity beta, which captures the risk of their shares, was significantly higher in the post-IFRS period. This increase is consistent with previous evidence of higher costs of capital under fair value accounting due to the greater information risks in determining fair values (Riedl and Serafeim, 2011). Realized earnings, measured as net income minus total unrealized earnings (net of taxes) from the fair value measurement of different assets and liabilities as per IFRS, did not change significantly between the pre- and post-IFRS periods, implying that the increase in total reported earnings resulted merely from the recognition of unrealized gains. Finally, the table shows the unrealized earnings arising from the fair valuations of different types of assets—financial instruments, investment property, and investment in other entities—in the post-IFRS period [mean (median) 0.4%, 0.5% and 0.3% (0.0%, 0.0% and 0.0%) of total assets, respectively]. Panel B of Table 2 shows these earnings, by year. Our tests demonstrate that, throughout the post-IFRS period, the annual changes in the unrealized earnings recognized are insignificant for all types of assets.

[INSERT TABLE 2 ABOUT HERE]

4. Tests and results

4.1. Univariate analysis of firms' dividend payout policies in the pre- and post-IFRS periods

We begin our analyses with univariate tests to explore the levels of, and changes in, the firms' dividend payout policy during the pre-IFRS and post-IFRS adoption periods. Consistent with the literature, we define the dividend policy as the rate of the dividend payout ratio, calculated as the total cash dividend paid in year t divided by the total earnings of year t. Table 3 reports the means, medians and standard deviations of the firms' dividend payout ratios in the pre-IFRS versus the post-IFRS periods. Given that the recognition of unrealized earnings from the revaluation of

[12] See Cotter and Zimmer (1995) on the association between asset revaluations and of the firm's borrowing capacity.

assets or liabilities was not allowed in the pre-IFRS period, we use the dividend payouts from *realized* earnings to identify changes in a firm's dividend policy. When taken from *total* earnings—realized plus unrealized earnings—the dividend payout policy of firms is seemingly unchanged during the pre- and post-IFRS periods, as shown in Table 3 (33-34% on average). However, a comparison of the dividend payouts from *realized* earnings between the two periods reveals a significant increase in the payout ratio from 33% to 47% on average (p-value < 1%), consistent with our prediction (our *H1*). To determine whether the observed increase in the payout ratio is a result of dividend distributions from *unrealized* earnings, we conduct the following procedure:

a. For each post-IFRS firm-year, we classify net income into "realized" and "unrealized" categories.
b. We identify the post-IFRS firm-years in which dividends were distributed to shareholders.
c. We compare the amount of dividends distributed in each year identified with the distributing firm's *realized* earnings not distributed thus far.
d. If the amount of dividends paid is greater than these earnings, we infer that the dividends were distributed from unrealized gains. Otherwise, we surmise that the firm did not distribute dividends from unrealized gains.

Based on this procedure, we identified 498 firm-years (168 firms) with dividend distributions from unrealized gains. Hence, 33% of the sample firms seem to have utilized the ability to recognize unrealized gains in the post-IFRS period to increase dividend payments. On average, each firm paid dividends from unrealized gains three times during the sample's 6-year post-IFRS period. Importantly, both the firms that distributed dividends from unrealized earnings and those that did not (our DFU and non-DFU firms, respectively) operate in the same legal and economic environment, two major factors essential for comparing these two groups in the context of our research question.

In Table 3 we show the dividend payout ratios in the post-IFRS period for DFU and non-DFU firm-years separately, as well as a comparison between the DFU and non-DFU firm-years. In the DFU firm-years, we observe increased dividend payout ratios, even when dividend payouts are taken from total earnings, i.e., including unrealized earnings. Specifically, the ratio between dividends and total earnings is 52.3% on average. When calculated from realized earnings only, the payout ratio is 114.5%, indicating that the firms distributed all of their realized earnings and then some, apparently based on unrealized earnings. In contrast, in the non-DFU firm-years, we do not find evidence of a significant change in the dividend payout ratio compared to the pre-IFRS period, either when taken from total earnings or from realized earnings only. Note that a comparison between DFU and non-DFU firms prior to IFRS adoption shows virtually no difference in the dividend payout ratios between the two groups of firms (not tabulated for parsimony). These findings strengthen our confidence with respect to the identification of DFU versus non-DFU firms in our sample.

4.2. Descriptive analysis of DFU versus non-DFU firm-years

Table 4 presents the descriptive statistics of our selected financial information for DFU and non-DFU firm-years separately. With the exception of unrealized earnings, these financial variables have been associated in previous studies with a firm's dividend payout policy (e.g., Rozeff, 1982; Fama and French, 2001). Specifically, empirical studies document that a firm's size, liquidity and profitability are positively associated with its dividend payouts, whereas sales growth, R&D and capital expenditures, which capture future growth, are negatively associated with dividend payouts. Leverage and beta, both measuring risk, have been shown to be negatively associated with dividend payouts, as is ownership concentration. As indicated, the association between unrealized earnings and dividend payouts has not been examined thus far.

We observe differences between our DFU and non-DFU firm-years in size, *unrealized* earnings, R&D expenditures and leverage (all significant at the 1% level). In contrast, DFU and non-DFU firm-years do not differ significantly in sales growth, capital expenditures, *realized* earnings, beta and ownership concentration. The results show that DFU firms are significantly larger than non-DFU firms. In addition, they recognize more unrealized earnings in DFU firm-years. Specifically, whereas total unrealized earnings in DFU firm-years are significantly positive [mean (median) 6.0% (3.1%) of total assets], we observe zero unrealized earnings (mean as well as median) in non-DFU firm-years. Specifically, mean (median) unrealized earnings from revaluations of financial instruments, investment property and investment in other entities are 0.7% (0.5%), 0.7% (0.5%) and 4.6% (3.0%) of total assets, respectively, in DFU firm-years compared to 0.3% (0.0%), 0.3% (0.0%) and -0.6% (0.0%) in non-DFU firm-years. These observed differences in unrealized earnings between DFU and non-DFU firm-years suggest that companies tend to pay dividends from unrealized profits.

DFU firm-years exhibit less R&D intensity and greater financial leverage than non-DFU firm-years. To finance the increased dividend payments, companies may need to take on more debt. We point out that we repeated the univariate as well as the multivariate analyses with the cash balance and leverage of year t-1 to avoid the potential endogeneity of these variables in year t to the dividends in year t. The results using the lagged values of the variables are qualitatively similar to those obtained when using end-of-year values.

Table 5 displays the industrial affiliation of our sample firms according to whether they are DFU or non-DFU companies. The results reveal many real estate firms and few high-tech firms within the DFU group (50% and 5%, respectively, compared with 27% and 30% in the non-DFU group). High-tech firms tend to retain a large share of their operating cash flows in the company to finance costly R&D activities and are thus less likely to dilute their cash reserves by distributing

cash dividends from paper profits. As for real estate firms, IAS 40 *Investment Property* which applies specifically to land and buildings is particularly relevant to these firms. This fact, together with the prevalence of real estate DFU firms may, at least partially, explain the higher revaluation earnings from investment property recognized by DFU firms. We point out that the results from all of our analyses remain qualitatively unchanged even when real estate firms are removed from the sample. Moreover, there is no evidence that changes in the value of real estate assets are different than the changes in the value of financial instruments or other assets with respect to their suitability for supporting dividend payments[13] (see Panel B of Table 2). These findings suggest that our results hold for different types of industries and are not driven by the fact that the majority of firms in the sample are real estate companies. In the multivariate analyses that follow, we control for the impact of industrial affiliation, thereby estimating the direct association between dividend payments from unrealized earnings and the variables documented in prior literature as having a potential effect on a firm's dividend payout policy.

4.3. Logit regressions

We run specifications of logistic regressions where the dependent variable is an indicator variable that equals one if the firm distributed dividends from unrealized earnings, and zero otherwise (*DFU*):

$$\begin{aligned} DFU = \; & \alpha_o + \alpha_1 Size + \alpha_2 SalesGrowth + \alpha_3 RE + \alpha_4 URE + \alpha_5 R\&D + \alpha_6 CAPEX \\ & + \alpha_7 Cash + \alpha_8 Leverage + \alpha_9 Beta + \alpha_{10} OwnersConc + \alpha_{11} TaxAvoid \\ & + \alpha_{12} Year + \alpha_{13} Industry + \varepsilon \end{aligned} \quad (1)$$

Size is the log of total assets. *SalesGrowth* is the percentage change in annual sales.[14] *RE* is realized earnings, calculated as net income minus total unrealized earnings (net of taxes). *URE* is the total

[13] We thank an anonymous referee for this observation.

[14] We also run the regressions with book-market ratio to control for a firm's growth opportunities. The results are robust to the growth proxy used.

unrealized earnings. Both *RE* and *URE* are scaled by lagged total assets. *R&D* is research and development expenditures divided by lagged total assets. *CAPEX* is capital expenditures divided by lagged total assets. *Cash* is cash and cash equivalents divided by total assets. *Leverage* is the ratio of total debt divided by total assets. *Beta* is the firm's equity beta calculated as per Riedl and Serafeim (2011). *OwnersConc* is the share ownership of managers, directors and 5% or greater beneficial owners. *Year* and *Industry* are dummy variables capturing industry and year fixed effects. To test our hypothesis that an aggressive dividend policy in the form of payments based on unrealized earnings is associated with aggressive financial and tax reporting behavior, we add a proxy for earnings management to the regression. First, we include a measure of *taxable* earnings management (*TaxAvoid*) in the model. In the next phase, we repeat regression (1) but with earnings decomposed into "managed earnings"—a proxy for *book* earnings management—and "unmanaged earnings."

The accounting and tax literatures offer various measures of book and taxable earnings management. As a proxy for tax avoidance, we use a prominent measure from the literature, the firm's book-tax difference (*BTD*). To avoid the risk of a measure-drawn conclusion, we repeat our analyses using another widely accepted measure of tax avoidance, the firm's Cash Effective Tax Rates (*Cash ETR*s; Dyreng *et al*., 2008). The results obtained using *Cash ETR*s (untabulated for parsimony) are qualitatively similar to those obtained when using the *BTD* measure. A detailed description of the estimation process of *BTD* and that of *Cash ETR*s is presented in Appendix B.

Table 6 presents the Spearman and Pearson correlations between the variables included in Eq. (1), and Table 7 displays the results of the regressions. The estimation results listed in column (1) of Table 7 show that after controlling for time and industry effects, the likelihood that a firm pays dividends from unrealized earnings increases with the firm's size, realized earnings, unrealized earnings, liquidity, leverage and tax avoidance, and decreases with its R&D and capital

expenditures as well as with equity beta. The firm's sales growth, and ownership concentration do not seem to be directly associated with the likelihood of being a DFU firm. We repeat the regression with total unrealized earnings (*URE*) decomposed into unrealized earnings from the revaluation of financial instruments (*URE-IAS39*), unrealized earnings from the revaluation of investment property (*URE-IAS40*), and unrealized earnings from the revaluation of investment in other entities (*URE-other*). The results, displayed in column (2) of Table 7, indicate that the probability that a firm is distributing dividends from unrealized earnings increases significantly with the firm's unrealized earnings from all sources—*URE-IAS39*, *URE-IAS40* and *URE-other*. Our percentage correctly classified is 86%.

Our finding that the likelihood of distributing dividends from unrealized earnings increases with tax avoidance is consistent with our *H2*. A comparison of the *BTD*s between DFU and non-DFU firm-years in the post-IFRS period, presented in Table 8, shows significantly greater tax avoidance in DFU firm-years (an average *BTD* of 10.8% of total assets compared with -0.4% for non-DFU firm-years). Note that a comparison of the *BTD*s between DFU and non-DFU firms (rather than firm-years) yields similar qualitative inferences. We conduct the comparisons on the firm level as well because tax avoidance associated with dividend distributions may take place not (only) in the year the dividend was paid. We point out that a comparison of the *BTD*s of DFU and non-DFU firms in the pre-IFRS period shows insignificant differences between the two groups of firms (*BTD* of around 8.4% of total assets on average). However, in the post-IFRS period the two groups of firms diverge significantly from each other with the *BTD*s declining significantly for non-DFU firms and increasing for DFU firms. Chen and Gavious (2014) document a reduction in tax reporting aggressiveness for Israeli firms in general during the post-IFRS period. Since the Israeli Tax Authority (ITA) did not accept the use of IFRS for tax purposes,[15] publicly traded companies

[15] ITA guidance No. 07/2010.

adopted IFRS for accounting purposes, but for tax purposes continued to report according to the Israeli GAAP. The immediate impact has been a significant decline in the level of book-tax conformity (an increase in book-tax differences) in Israel.[16] Under a lower level of conformity between the tax and the accounting rules, the tax rules diverge significantly from the accounting rules, allowing managers to plan complicated tax avoidance activities with little effect on book earnings (see, e.g., Blaylock *et al.*, 2012). Yet, the evidence documented in Chen and Gavious (2014) reveals that Israeli firms in general reduced, rather than increased, their tax avoidance following the adoption of IFRS and the resulting decline in book-tax conformity. Chen and Gavious provide direct evidence showing that this reduction is associated with increased tax authority enforcement in Israel concomitantly with the adoption of IFRS. Our results, based on the same sample of firms, but divided into DFU and non-DFU firm(-years), indicate that while the increased tax enforcement was effective for firms in general, it was not particularly effective for companies that chose to pay dividends from unrealized earnings. Moreover, it seems that not only did the latter not reduce their tax avoidance, but they also increased it further despite the increased scrutiny of the Israeli Tax Authority. Note that the results of the multivariate logit model imply that this excessive tax reporting aggressiveness is directly associated with the firm's being DFU. This finding is further supported by results obtained from additional multivariate specifications of dividend models reported in the next sub-section.

In addition to managing taxable earnings downward, a firm may also manage its book earnings upward to meet dividend thresholds. To test our hypothesis that dividends from unrealized earnings are positively associated with book earnings management (*H3*), we repeat the regression analysis with earnings decomposed into managed earnings (*ME*) and unmanaged earnings (*UME*). We proxy for the firm's managed earnings using alternative measures of earnings management

[16] See Chen and Gavious (2014) for an elaborated discussion of the adoption of IFRS in Israel and the resultant decline in the level of book-tax conformity in the country.

from the literature. Unmanaged earnings are defined as the discrepancy between the firm's net income and the proxy for book earnings management. Our first measure of book earnings management is the widely used measure of Performance-Matched Discretionary Accruals, *PMDA*, as per Kothari *et al*. (2005). Previous studies (e.g., Kothari *et al*., 2005) advocate the use of non-empirical measures in addition to the discretionary accruals to address empirical concerns regarding the Jones (1991) model. Therefore, we repeat the analyses using a non-empirical measure from the literature, the firm's non-operating accruals (*NOA*) as per Givoly and Hayn (2000). The estimation procedures of *PMDA* and *NOA* are described in Appendix B. Note that both the empirical and non-empirical measures include in them revaluation earnings and should thus capture any possible manipulation in these unrealized earnings. Hence, the estimated average values of 1.9% and 4.4% of total assets for *PMDA* and *NOA*, respectively,[17] in DFU firm-years in the post-IFRS period should capture any possible manipulation embedded in the 6% unrealized ROA recognized in these firm-years. As Table 8 shows, in contrast to DFU firm-years, we document negative *PMDA* (i.e., income decreasing management) for non-DFU firm-years. Specifically, the mean (median) *PMDA* is -0.3% (-8.6%) of total assets. The *NOA* measure (untabulated) supports similar inferences. This result, together with the finding that the total unrealized earnings in non-DFU firm-years is zero, on average as well as median, implies that for in non-DFU firm-years an inflation of earnings to achieve some dividend threshold did not take place. The results obtained from our multivariate analyses provide further support for this inference. Column (3) of Table 7 shows the estimation results of the logistic regression model with earnings decomposed into managed and unmanaged earnings as proxied by *PMDA*. Untabulated results document that using *NOA* instead of *PMDA* does not alter any of our inferences. The results in Table 7 show that the likelihood that a firm distributes dividends from unrealized earnings increases significantly with book earnings

[17] As expected, the values of *PMDA* are substantially smaller than those of *NOA*, as the former are residuals of cross-sectional regressions.

management. This finding supports our *H3*. All other inferences from the model remain qualitatively similar to those reported above. The percentage correctly classified is 85%.

A comparison of the book earnings management behaviors of DFU versus non-DFU firms in the pre- and the post-IFRS periods yields inferences similar to those obtained for taxable earnings management. Our tests show no difference between DFU and non-DFU firms in book earnings management in the pre-IFRS period, but such management became significantly different following IFRS adoption. Specifically, *PMDA* increased significantly for DFU firms, but decreased for non-DFU firms. Similar inferences are obtained when using the non-empirical measure of book earnings management. For Israeli firms, Chen *et al*. (2014) document a general reduction in book reporting aggressiveness following the adoption of IFRS. Merging psychological and accounting theories, they suggest that the greater flexibility of the international standards allowed managers to experience higher levels of control and ownership over their work, and increased their perceived sense of choice and autonomy. According to Chen *et al*., such an environment is associated with feelings of trust and, consequently, a higher quality of book reporting, rather than an exploitation of the lenient policy. Our study reveals that, when paying dividends from unrealized earnings, firms behave differently from those that do not pay dividends from unrealized earnings. These companies differ not only in their exploitation of grey areas in the corporate law by engaging in activities that contradict the intention of the legislation, but also by leveraging discrepancies between the accounting and the tax rules to manipulate book *as well as* taxable earnings.

4.4. Multivariate analysis of firms' dividend payout policies in the pre- and post-IFRS periods

We supplement our tests with multivariate dividend payout regressions designed to allow us to estimate the difference between DFU and non-DFU firm-years and examine the direct effect

of fair value accounting as per IFRS on the firms' dividend policy, while minimizing the effect of confounding variables. We estimate various specifications of:

$$\begin{aligned} Div = {} & \alpha_o + \alpha_1\, IFRS + \alpha_2\, DFU + \alpha_3\, RE + \alpha_4\, RE{*}DFU + \alpha_5\, URE + \alpha_6\, URE{*}DFU + \alpha_7\, Cash \\ & + \alpha_8\, Cash{*}DFU + \alpha_9\, R\&D + \alpha_{10}\, R\&D{*}DFU + \alpha_{11}\, SalesGrowth \\ & + \alpha_{12}\, SalesGrowth\ {*}DFU + \alpha_{13}\, CAPEX + \alpha_{14}\, CAPEX{*}DFU + \alpha_{15}\, Leverage \\ & + \alpha_{16}\, Leverage{*}DFU + \alpha_{17}\, Beta + \alpha_{18}\, Beta{*}DFU + \alpha_{19}\, OwnersConc \\ & + \alpha_{20}\, OwnersConc{*}DFU + \alpha_{21}\, TaxAvoid + \alpha_{22}\, TaxAvoid{*}IFRS + \alpha_{23}\, TaxAvoid\ {*}DFU \\ & + \alpha_{24}\, Industry + \varepsilon \end{aligned} \qquad (2)$$

where *Div* is the dividend payout ratio calculated as the total cash dividend paid divided by total realized earnings. *IFRS* is an indicator variable that equals one for the post-IFRS period, and zero otherwise. Note that *IFRS* in Eq. (2) captures the aggregate factors that would cause changes in the dividend policy in the absence of an exogenous change that enables the distribution of dividends from unrealized gains. *DFU* is our main variable of interest. It equals one for a firm-year with dividend distributions from unrealized earnings. *URE*, *RE*, *Cash*, *Leverage*, *CAPEX*, *R&D*, *SalesGrowth*, *Beta*, *OwnersConc*, and *TaxAvoid* are as defined in Eq. (1). Each control variable is also interacted with the *DFU* indicator to allow for a different association of these dividend policy determinants with the payout ratios in the post-IFRS period if the firm distributed dividends from unrealized earnings. Note that for the pre-IFRS period we find no differences between DFU and non-DFU firms in the associations between either of the control variables and the dividend payout ratios. We also do not observe differences in these associations between the pre- and the post-IFRS periods for non-DFU firms with two exceptions—book and taxable earnings management. Thus, in Eq. (2) we include an interaction variable between the measure of earnings management (book as well as taxable earnings management) and *IFRS*. We discuss these differences in our interpretations of the results of Eq. (2).

Table 9, column (1) shows the results of regression model (2). The coefficient on *IFRS* is insignificant, indicating the absence of factors other than the ability to distribute dividends from unrealized earnings that could cause changes in the dividend policy in the post-IFRS period. The coefficient on *DFU* is significantly positive (2.431, p-value < 1%), capturing the substantial increase in the dividend payout ratio in post-IFRS DFU firm-years. The coefficient on realized earnings (*RE*) is, as expected, significantly positive (0.380, p-value < 1%). The significantly positive coefficient on *RE*DFU* (0.639, p-value < 1%) is consistent with the assumption underlying our DFU classification according to which all realized profits are distributed before any unrealized profits are distributed. Note that while the coefficient on unrealized earnings (*URE*) is insignificant for non-DFU firm-years (-0.284), it is significantly positive for DFU firm-years (4.900, p-value < 1%). This result is consistent with DFU firms exploiting the opportunity to distribute unrealized earnings as dividends. As Table 4 shows, total unrealized earnings in (non-)DFU firm-years are, on average and median, positive (zero). The (in)significant coefficient on unrealized earnings in (non-)DFU firm-years indicates that companies' dividend payouts are positively associated with positive unrealized earnings. Thus, in the presence of significant and positive unrealized earnings, a significant and positive impact on the dividend payouts is evident.

In addition to realized and unrealized earnings, the coefficients on *Leverage* and *TaxAvoid* also differ between DFU and non-DFU firm-years following the adoption of IFRS. Specifically, whereas for non-DFU firm-years the dividend payouts in the pre- as well as in the post-IFRS periods decline with leverage (-0.160, p-value < 1%), for DFU firm-years these associations are in the opposite direction in the post-IFRS period (the sum of the coefficients on the raw and the corresponding interaction variable is 1.060, p-value < 1%). Again, this divergence from the expected association between dividends and leverage suggests that companies may be raising debt to finance the payment of cash dividends from paper profits. Finally, we find that tax avoidance is significantly

and positively associated with the dividend payouts for both groups of firms in the pre-IFRS period (0.170, p-value < 10%). However, while this association is eliminated for non-DFU firm-years in the post-IFRS period (the sum of 0.170 and -0.165), it increases substantially for DFU firm-years at that time (the sum of 0.170 and 1.518, p-value < 1%). All of the other coefficients on the model's control variables do not differ for DFU and non-DFU firm-years, and are with the expected sign and significance.

Column (2) in Table 9 presents the results of Eq. (2) with the unrealized earnings variable, *URE*, decomposed into unrealized earnings from the revaluation of financial instruments (*URE-IAS39*), investment property (*URE-IAS40*), and investment in other entities (*URE-other*). This decomposition reveals that the dividend payouts in DFU firm-years are positively associated with unrealized gains from all types of assets. Thus, it seems that DFU firms take full advantage of IFRS' fair-value rules and utilize the earnings arising from the fair valuations to increase dividend payments.

Finally, we repeat the regression with book earnings deconstructed into unmanaged and managed earnings. The results, displayed in column (3) of Table 9, show that the manipulation of book earnings is positively associated with dividend payments for both groups of firms in the pre-IFRS period (0.249, p-value < 5%). However, while this association declines significantly for non-DFU firm-years in the post-IFRS period (the sum of 0.249 and -0.197, p-value < 5%), it increases substantially for DFU firm-years (the sum of 0.249, -0.197 and 0.492, p-value < 1%).

Overall, our results are consistent with the hypothesis that an increase in earnings due to the recognition of unrealized earnings leads firms to increase their dividend payouts. Importantly, we show that the observed increase in dividend payout ratios following the adoption of fair value accounting rules is directly associated with the recognition of unrealized gains. Moreover, our results are consistent with the expectation that an aggressive dividend payout policy in the form of

paying dividends from paper profits is associated with aggressive reporting behavior in the firm's financial statements as well as in its tax returns.

4.5. Robustness tests

The classification of firms (or firm-years) as DFU versus non-DFU is a key element of this study. To increase the likelihood that our determination about whether a firm has distributed unrealized earnings as dividends is correct, our classification scheme assumes that all realized profits are distributed before any unrealized profits are distributed.[18] Nevertheless, we examine the robustness of the results to an alternative classification scheme. The alternative procedure of DFU classification is based on the assumption that companies tend to maintain a relatively stable dividend policy, avoiding dividend cuts. This assumption is consistent with the vast dividend literature (see Section 2). Based on this assumption, if a firm's earnings increase, for example, due to the recognition of unrealized gains, it will increase the amount of dividends paid so that the ratio of dividend payments to *total* earnings does not decline. In such a case, we should observe an increase in the ratio of dividend payments to *realized* earnings (i.e., total earnings excluding unrealized gains) compared to the level that existed when the firm could not recognize unrealized gains. Hence, to identify dividend distributions from unrealized earnings, we compare the firms' payout ratios in the post-IFRS period with those that existed prior to the adoption of IFRS. Specifically, for each firm:

a. We calculate the dividend payout ratio in each of the pre-IFRS years (the amount of dividend paid in year t divided by the amount of total earnings in year t. Note that total earnings in the pre-IFRS years are all realized earnings);
b. We retain the highest pre-IFRS dividend payout ratio from the pre-IFRS period;
c. We identify post-IFRS firm-years in which dividends were distributed to shareholders.

[18] We thank an anonymous referee for this observation.

d. For each distribution identified in the post-IFRS period, we determine whether the distributing firm recognized positive unrealized earnings prior to the payout.
e. If criterion d is satisfied, we calculate the payout ratio from *realized* earnings (the amount of dividend paid in year t divided by the amount of realized earnings in year t).
f. We compare each payout ratio calculated as per criterion e with the highest payout ratio of the firm in the pre-IFRS period.
g. If this post-IFRS payout ratio is greater than the firm's highest payout ratio during the pre-IFRS period, we multiply the difference in the ratios by the firm's realized earnings in post-IFRS year t to obtain the amount of dividends 'suspected' of coming from unrealized gains.
h. If the amount of this 'suspected' dividend is less than or equal to the firm's accumulated unrealized gains (not distributed thus far), we infer that the increase in the payout ratio is due to the recognition of unrealized gains. In other words, the firm has distributed dividends from unrealized earnings. Otherwise, we surmise that the firm did not distribute dividends from unrealized earnings.

Note that we use the highest payout ratio throughout the pre-IFRS period as a benchmark for the pre-IFRS payout policy rather than, for example, the average payout ratio, to increase the likelihood that our determination about whether a firm has distributed unrealized earnings as dividends is correct. Further note that in this classification scheme, the assumption that all realized profits are distributed before any unrealized profits are distributed is relieved. Based on this alternative classification, we identify 215 DFU firms (650 firm-years). On average, each DFU firm paid dividends from unrealized earnings three times during the sample's 6-year post-IFRS period. We repeat the entire analyses using the alternative DFU classification. Our results are robust to either classification scheme used.

In addition to an alternative DFU classification, we conduct the following separate sensitivity analyses. First, rather than a *firm-year based* coding of DFUs (i.e., DFU is coded "1" only for post-IFRS firm-years in which dividends were distributed from unrealized earnings), we repeat the analyses using *firm-based* coding. In other words, if a firm distributed dividends from unrealized earnings at least once during the post-IFRS, it is coded as DFU for the entire post-IFRS period. This approach of DFU coding puts the focus on the characteristics of firms that tend to utilize the recognition of revaluation earnings to increase dividend payments. In contrast, a *firm-year-based* coding of DFU puts the focus on the incidence of dividend payments from unrealized earnings. Importantly, our tests reveal that the qualitative results are robust to the coding approach.

Second, we repeat all of the analyses with the dividend payout ratio calculated as the current cash dividend divided by the previous year's—rather than the current year's—earnings. Note that dividend studies usually use the current year's earnings to calculate the dividend payout ratio. Using lagged earnings to compute the dividend payout ratio yields similar qualitative inferences from the analyses.

5. Summary and concluding remarks

The transition from cost-based accounting to fair value accounting has offered firms opportunities to increase their dividend payouts as long as no law exists that prohibits the distribution of dividends based on unrealized earnings. Using a sample of 508 Israeli public companies that adopted IFRS in 2007, we document a substantial increase in dividend distributions in firms that recognized positive revaluation earnings. We also establish that this increase is directly associated with the revaluation gains recognized. The evidence further reveals that firms paying dividends from unrealized gains are more financially leveraged and less innovative than firms that did not pay dividends from unrealized gains. Moreover, the former are more aggressive in their book and tax reporting behaviors. Specifically, it seems that firms inflate their book earnings on

one hand and reduce their taxable earnings for their tax returns on the other, to facilitate the payment of dividends from unrealized earnings.

Dividend distributions dilute the firm's real financial resources, thereby increasing the risk for all of the firm's stakeholders, particularly debt holders. This increase in the firm's financial risk is exacerbated when dividends are based on unrealized earnings because the latter do not create cash flows until they are realized, when and if they are realized. Our results showing that firms that pay dividends from unrealized earnings also increase their financial leverage reveal a major factor affecting a company's financial stability. The impact of the global financial crisis on financial markets around the world, which included debt-restructuring processes in many firms, including some major companies, underscores the need for improving our understanding of the factors affecting the likelihood of a company encountering financial distress. The relationship we have established between paying dividends from unrealized earnings and taking on increased debt is one step in accomplishing this goal.

Our results should be of interest to academics as well as practitioners, including regulators of corporate laws, accounting standard setters, tax authorities, auditors, investors and other stakeholders in firms. We contend that the intersection of accounting rules, corporate law and corporate governance issues is a fertile ground for the development of latent risks that can be detrimental to the financial soundness of the firms and the economy as a whole.

Future research should investigate additional aspects of the payment of dividends from unrealized earnings. Of particular interest should be the effect of this dividend policy on the firm's solvency. An examination of the consequences of dividend payouts from unrealized earnings in terms of market measures (e.g., the impact on the firm's cost of debt) and in terms of accounting measures (e.g., the impact on the firm's future accounting-based performance) may provide additional insights into this intriguing issue. Furthermore, given the growing interest in dividends

and buybacks as alternative payout mechanisms, future research should explore whether the increase in dividends due to the recognition of unrealized earnings is matched by a corresponding decrease in buybacks.[19]

[19] We thank an anonymous referee for this suggestion for future research.

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TABLE 1: Sample selection procedure

Israeli public companies listed on the TASE during the sample period	623
Excluding financial firms	29
Excluding firms that had adopted IFRS in 2006	45
Excluding dually listed firms not required to adopt IFRS	41
Final sample	508

TABLE 2: Descriptive statistics

This table provides descriptive statistics for our sample of 508 Israeli public companies listed on the Tel Aviv Stock Exchange that have been fully compliant with IFRS since 2007. The sample period extends from 2001 to 2012: the six years prior to the adoption of IFRS (2001-2006) and the six years following the adoption of IFRS (2007-2012). Panel A displays the information for the pooled sample period, as well as for the pre- and post-IFRS sub-periods separately. Panel B presents the unrealized earnings reported by the firms in the post-IFRS period by year. The sample includes a total of 5,332 firm-year observations with sufficient information required for our various analyses (2,575 for the pre-IFRS period and 2,757 for the post-IFRS period). Extreme values (top and bottom 1%) of continuous variables are winsorized. Asterisks indicate that the post-IFRS value is significantly different than the corresponding pre-IFRS value. ***, **, and * denote significance at the 1%, 5% and 10% (two-tailed) levels, respectively.

Panel A: Pre & post-IFRS

	Pooled (N=5,332)			**Pre-IFRS** (N=2,575)			**Post-IFRS** (N=2,757)		
Variable	**Mean**	**Median**	**SD**	**Mean**	**Median**	**SD**	**Mean**	**Median**	**SD**
Total Assets	517.824	68.434	1754.062	403.186	61.425	1328.251	622.722***	72.932***	1934.079
Sales Growth	0.263	0.070	1.619	0.260	0.083	1.624	0.264	0.033	1.616
R&D	0.024	0.000	0.094	0.017	0.000	0.069	0.030***	0.000	0.116
CAPEX	0.040	0.018	0.067	0.048	0.023	0.079	0.032***	0.014***	0.053
Cash	0.149	0.059	0.294	0.133	0.055	0.257	0.163***	0.061***	0.310
Leverage	0.725	0.688	0.704	0.682	0.674	0.505	0.765***	0.696***	0.786
Beta	1.039	0.772	2.157	0.882	0.525	2.786	1.114***	0.824***	2.104
Realized ROA	0.047	0.027	0.197	0.045	0.024	0.171	0.048	0.030	0.206
Unrealized ROA- Total							0.012	0.000	0.080
Unrealized ROA from revaluation of:									
Financial instruments							0.004	0.000	0.021
Investment property							0.005	0.000	0.033
Investment in other entities							0.003	0.000	0.093
Ownership Concentration	0.605	0.701	0.282	0.609	0.704	0.280	0.602	0.700	0.284

TABLE 2: *Cont.*

Panel B: Mean (median) unrealized earnings recognized in the post-IFRS period, by year

	2007	2008	2009	2010	2011	2012
Unrealized ROA from revaluation of:						
Financial instruments	0.017	0.002	0.003	-0.000	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Investment property	0.009	0.003	0.005	0.004	0.008	0.003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Investment in other entities	0.009	0.003	0.006	-0.007	0.002	0.003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Variable definitions:

Total Assets is total assets in the firms' balance sheets in $millions. *Sales Growth* is the percentage change in annual sales. *R&D* is research and development expenditures divided by lagged total assets. *CAPEX* is capital expenditures divided by lagged total assets. *Cash* is cash and cash equivalents divided by total assets. *Leverage* is the ratio of total debt divided by total assets. *Beta* is the firm's equity beta calculated as per Riedl and Serafeim (2011). *Realized ROA* is net income minus total unrealized earnings (net of taxes), scaled by lagged total assets. *Unrealized ROA- Total* is the total unrealized earnings, manually extracted from each firm's annual financial statements throughout the sample period, scaled by lagged total assets. *Unrealized ROA from revaluation of financial instruments* and from *investment property* is unrealized earnings (scaled by lagged total assets) arising from changes in the fair values of financial instruments (as per IAS 39) and of investment property (as per IAS 40), respectively. *Unrealized ROA from revaluation of investment in other entities* is unrealized earnings (scaled by lagged total assets) arising from changes in the fair values of investment in subsidiaries (as per IAS 27) as well as of investment in associates and joint ventures (as per IAS 28). *Ownership Concentration* is the share ownership of managers, directors and 5% or greater beneficial owners.

TABLE 3: Univariate analysis of dividend payout ratios

This table reports the means, medians and standard deviations of the firms' dividend payout ratios in the pre-IFRS versus the post-IFRS periods. The values reported are for the pooled sample, as well as for the sub-samples of DFU and non-DFU firm-years separately. The table further reports the differences in the means and medians of the dividend payout ratios between the pre- and post-IFRS periods as well as between DFU and non-DFU firm-years. *Dividend/total earnings* is the rate of the dividend payout ratio, calculated as the total cash dividend paid to common and preferred shareholders divided by total earnings. *Dividend /realized earnings* is the total cash dividend paid to common and preferred shareholders divided by realized earnings, where realized earnings is net income minus total unrealized earnings (net of taxes). ***, **, and * denote significance at the 1%, 5% and 10% (two-tailed) levels, respectively.

	Pre-IFRS			**Post-IFRS**			**Difference between post- and pre -IFRS**	
	Mean	**Median**	**SD**	**Mean**	**Median**	**SD**	**Mean**	**Median**
Pooled sample (N=5,332)								
Dividend /total earnings	0.326	0.101	0.800	0.345	0.112	0.798	0.019	0.011
Dividend /realized earnings	0.326	0.101	0.800	0.471	0.225	1.290	0.145***	0.124***
Only DFU firm-years (N=498)								
Dividend /total earnings				0.523	0.213	0.778		
Dividend /realized earnings				1.145	1.173	1.469		
Only Non-DFU firm-years (N=2,259)								
Dividend /total earnings				0.306	0.076	0.722		
Dividend /realized earnings				0.323	0.119	0.726		
Difference between DFU and Non-DFU firm-years								
Dividend /total earnings				0.217***	0.137***			
Dividend /realized earnings				0.822***	1.054***			

TABLE 4: Descriptive statistics for DFU versus non-DFU firm-years: Post-IFRS period

This table provides descriptive statistics for DFU versus non-DFU firm-years over the post-IFRS period (498 and 2,259 firm-years, respectively). The variables are as defined in Table 2. Asterisks indicate that the non-DFU firm-years' value is significantly different than the corresponding DFU firm-years' value. ***, **, and * denote significance at the 1%, 5% and 10% (two-tailed) levels, respectively.

	DFU firm-years (N=498)			**Non-DFU firm-years** (N=2,259)		
Variable	**Mean**	**Median**	**SD**	**Mean**	**Median**	**SD**
Total Assets	1071.815	179.945	2498.618	524.439***	49.261***	1383.175
Sales Growth	0.261	0.030	1.499	0.265	0.033	1.540
R&D	0.009	0.000	0.064	0.050***	0.001***	0.174
CAPEX	0.028	0.016	0.037	0.030	0.011	0.056
Cash	0.158	0.082	0.243	0.164	0.054	0.319
Leverage	0.871	0.803	0.431	0.741***	0.685***	0.313
Beta	1.068	0.932	1.678	1.253	0.884	1.944
Realized ROA	0.041	0.030	0.150	0.049	0.030	0.208
Unrealized ROA- Total	0.060	0.031	0.135	0.000***	0.000***	0.011
Unrealized ROA from revaluation of:						
Financial instruments	0.007	0.005	0.032	0.003***	0.000***	0.020
Investment property	0.007	0.005	0.040	0.003***	0.000***	0.033
Investment in other entities	0.046	0.003	0.148	-0.006***	0.000***	0.088
Ownership Concentration	0.608	0.696	0.271	0.599	0.700	0.277

TABLE 5: Industrial affiliation of firms that distributed dividends versus firms that did not distribute dividends from unrealized earnings

	No. of firms		
	Pooled	DFU firms	Non-DFU firms
Final sample	508 (100%)	168 (100%)	340 (100%)
By industrial affiliation:			
Real estate	177 (35%)	84 (50%)	93 (27%)
High-technology	109 (21%)	8 (5%)	101 (30%)
Technology-other	102 (20%)	25 (15%)	77 (22%)
Commerce and services	71 (14%)	17 (10%)	54 (10%)
Investment and holdings	49 (10%)	34 (20%)	15 (11%)

TABLE 6: Correlations matrix

This table presents the Spearman (above the diagonal) and Pearson (below the diagonal) correlations between the various variables used in our analyses. Note that *div. payout ratio* in this table is the cash dividends divided by realized earnings. *BTD*, our proxy for a firm's taxable earnings management, is the discrepancy between the pre-tax book income and the taxable income deflated by lagged total assets. Taxable income is calculated as per Hanlon *et al*. (2005). *PMDA*, our proxy for a firm's book earnings management, is performance-matched modified Jones model discretionary accruals. Performance matching is as per Kothari *et al*. (2005). All of the other variables are as defined in Table 2. ***, **, and * denote significance at the 1%, 5% and 10% (two-tailed) levels, respectively.

	Div. payout ratio	*Realized ROA*	*Unrealized ROA*	*Cash*	*R&D*	*Sales Growth*	*CAPEX*	*Leverage*	*Beta*	*BTD*	*PMDA*	*Owners. Conc.*
Div. payout ratio	1	0.276***	0.189***	0.090***	-0.100***	-0.035**	-0.197***	-0.131***	-0.057**	0.305***	0.362***	0.050***
Realized ROA	0.069***	1	0.141***	-0.014**	-0.123***	0.198***	0.234***	-0.278***	0.036***	0.398***	0.074***	0.060***
Un-realized ROA	0.265***	0.058	1	-0.034**	-0.072***	0.064***	0.079***	-0.019	-0.013	0.125***	0.064***	-0.006
Cash	0.017**	-0.090***	-0.014	1	0.318***	0.052***	0.011	-0.182***	-0.001	-0.041***	0.075***	0.038**
R&D	-0.045***	-0.073***	-0.046***	0.059***	1	0.022**	0.019**	-0.202***	0.040***	-0.053***	-0.038**	0.064***
Sales Growth	-0.006	0.023**	0.006	0.062***	0.029**	1	0.190***	0.040***	0.014	0.114***	-0.004	0.051***
CAPEX	-0.201***	0.236***	0.068***	0.053***	0.079***	0.088***	1	-0.101***	-0.023*	0.100***	-0.106***	0.115***
Leverage	-0.045**	-0.568**	-0.059**	-0.120***	0.007	0.030**	0.035*	1	0.018	-0.042**	0.020	0.039**
Beta	-0.034**	0.006	-0.026	0.002	0.027*	-0.004	-0.005	0.003	1	0.016	-0.011	-0.096***
BTD	0.171***	0.074***	0.103***	-0.009	-0.040***	0.070***	0.028**	-0.034**	0.012	1	0.194***	-0.039**
PMDA	0.245***	0.011	0.032***	0.038***	-0.010	0.025**	-0.056***	0.008	-0.014	0.155***	1	0.019**
Owners. Conc.	0.005	0.007	-0.012	-0.006	0.011	0.017	0.052***	0.028**	-0.097***	-0.012**	0.059***	1

TABLE 7: Multivariate analysis of factors affecting the probability of distributing dividends from unrealized earnings in the post-IFRS period: Logit regressions

This table presents the DFU logit regression results based on specifications of

$$DFU = \alpha_o + \alpha_1 Size + \alpha_2 SalesGrowth + \alpha_3 RE + \alpha_4 URE + \alpha_5 R\&D + \alpha_6 CAPEX + \alpha_7 Cash + \alpha_8 Leverage + \alpha_9 Beta + \alpha_{10} OwnersConc + \alpha_{11} TaxAvoid + \alpha_{12} Year + \alpha_{13} Industry + \varepsilon$$

	(1)	(2)	(3)
Intercept	-2.413***	-2.401***	-1.193***
Size	0.454***	0.574***	0.470***
SalesGrowth%	0.004	0.029	0.017
RE	3.632***	2.609***	
URE	8.236***		
URE-IAS39		12.804***	
URE-IAS40		5.998**	
URE-other		6.252***	
UME			0.332***
ME			0.353***
Cash	0.482**	0.291*	0.454**
R&D	-0.578*	-0.415*	-0.870*
CAPEX	-3.956**	-2.700*	-2.263*
Leverage	0.508***	0.403***	0.575**
Beta	-0.192***	-0.187***	-0.210***
OwnershipCon	-0.404	-0.528	-0.396
TaxAvoid	0.852**	0.536*	0.885**
Pseudo R^2	0.173	0.190	0.142
No. of Obs.	2,757	2,757	2,757
Goodness of fit	85.8%	85.8%	85.2%

TABLE 7: *Cont.*

Notes:

DFU is a dummy variable indicating that the firm distributed earnings from unrealized earnings. *Size* is the log of total assets. *SalesGrowth* is the percentage change in annual sales. *URE* is the total unrealized earnings and *RE* is realized earnings, calculated as net income minus total unrealized earnings (net of taxes), both scaled by lagged total assets. *URE-IAS39*, *URE-IAS40* and *URE-other* are unrealized earnings (scaled by lagged total assets) arising from changes in the fair values of financial instruments (as per IAS 39), investment property (as per IAS 40), and investment in other entities (as per IAS 27 and IAS 28), respectively. *ME* is managed earnings, proxied by the performance-matched modified Jones model discretionary accruals (our *PMDA*). Performance matching is as per Kothari *et al*. (2005). *UME* is unmanaged earnings, calculated as the discrepancy between the firm's net income and the proxy for book earnings management (*PMDA*). *R&D* is research and development expenditures divided by lagged total assets. *CAPEX* is capital expenditures divided by lagged total assets. *Cash* is cash and cash equivalents divided by total assets. *Leverage* is the ratio of total debt divided by total assets. *Beta* is the firm's equity beta calculated as per Riedl and Serafeim (2011). *OwnersConc* is the share ownership of managers, directors and 5% or greater beneficial owners. *TaxAvoid* is a measure of tax avoidance, proxied by our *BTD* measure. *BTD* is calculated as the discrepancy between the pre-tax book income and the taxable income deflated by lagged total assets. Taxable income is calculated as per Hanlon *et al*. (2005). *Year* and *Industry* are dummy variables capturing industry and year fixed effects. ***, **, and * denote significance at the 1%, 5% and 10% (two-tailed) levels, respectively.

TABLE 8: Univariate analysis of tax avoidance and book earnings management

This table reports the means, medians and standard deviations of the firms' book and taxable earnings management in the pre-IFRS versus the post-IFRS periods. The values reported are for the pooled sample, as well as for the sub-samples of DFU and non-DFU firm-years separately. The table further reports the differences in the means and medians of book and taxable earnings management between the pre- and post-IFRS periods as well as between DFU and non-DFU firm-years. *BTD* is our proxy for taxable earnings management (tax avoidance) and *PMDA* is our proxy for book earnings management. *BTD* and *PMDA* are as defined in Table 6. ***, **, and * denote significance at the 1%, 5% and 10% (two-tailed) levels, respectively.

	Pre-IFRS			**Post-IFRS**			**Difference between pre- and post-IFRS**	
	Mean	**Median**	**SD**	**Mean**	**Median**	**SD**	**Mean**	**Median**
Pooled sample								
BTD	0.084	0.086	0.158	0.016	0.005	0.180	-0.068***	-0.081***
PMDA	0.011	0.000	0.167	0.000	-0.077	0.531	-0.011**	-0.077**
Only DFU firm-years								
BTD				0.108	0.102	0.188		
PMDA				0.019	0.009	0.553		
Only Non-DFU firm-years								
BTD				-0.004	0.000	0.149		
PMDA				-0.003	-0.086	0.165		
Difference between DFU and Non-DFU firms								
BTD				0.112***	0.102***			
PMDA				0.022***	0.095***			

TABLE 9: Multivariate regressions of dividend payout ratios

This table presents the estimation results of various specifications of the dividend regressions. The model is designed to allow us to estimate the difference between DFU and non-DFU firm-years, as well as the direct effect of IFRS on the firms' dividend policy. The dependent variable is the dividend payout ratio calculated as the total cash dividend paid divided by total realized earnings. *IFRS* is an indicator variable that equals one for the post-IFRS period, and zero otherwise. *DFU* is our indicator variable for firm-years with dividend payments from unrealized earnings in the post-IFRS period. In each regression we also control for industry fixed effects. T-statistics based on robust standard errors clustered by industry and year are displayed in parentheses. ***, **, and * denote significance at the 1%, 5% and 10% (two-tailed) levels, respectively.

	(1)	**(2)**	**(3)**
Intercept	0.304*** (7.909)	0.374*** (6.585)	0.411*** (7.888)
IFRS	-0.006 (-0.388)	-0.006 (-0.953)	-0.009 (-0.760)
DFU	2.431*** (12.644)	1.985*** (8.641)	1.658*** (9.051)
RE	0.380*** (3.431)	0.389*** (3.262)	
*RE*DFU*	0.639*** (8.780)	0.644*** (6.068)	
URE	-0.284 (-1.162)		
*URE*DFU*	4.900*** (9.404)		
URE-IAS39		-1.167 (-1.363)	
*URE-IAS39 *DFU*		13.335*** (5.345)	
URE-IAS40		-0.048 (-0.078)	
*URE-IAS40 *DFU*		0.330*** (3.189)	
URE-other		-0.197 (-0.918)	
*URE-other *DFU*		3.611*** (7.670)	
UME			0.363*** (3.426)
*UME*DFU*			0.467*** (3.300)
ME			0.249** (2.642)
*ME*IFRS*			-0.197** (2.640)
*ME*IFRS*DFU*			0.492*** (3.048)
Cash	-0.064 (-1.197)	-0.079 (-1.370)	-0.070 (-1.290)
*Cash*DFU*	0.346 (1.040)	0.261 (1.213)	0.276 (1.594)
R&D	-0.152* (-1.929)	-0.176* (-1.954)	-0.248** (2.465)
*R&D*DFU*	0.498 (0.792)	0.803 (1.291)	0.298 (0.957)

TABLE 9: ***Cont.***

	(1)	**(2)**	**(3)**
SalesGrowth%	-0.009** (-2.027)	-0.007** (-2.699)	-0.008** (-2.515)
*SalesGrowth% *DFU*	0.015 (0.470)	0.014 (0.432)	0.017 (0.460)
CAPEX	-0.240* (1.708)	-0.390* (1.722)	-0.243* (1.795)
*CAPEX *DFU*	0.047 (0.055)	-0.620 (-0.639)	-0.819 (-0.926)
Leverage	-0.160*** (-3.035)	-0.149***(-3.634)	-0.174*** (-3.241)
*Leverage *DFU*	1.220*** (5.427)	0.759*** (3.007)	0.527*** (3.379)
Beta	-0.003** (-2.500)	-0.004** (-2.559)	-0.003** (-2.455)
*Beta*DFU*	-0.037 (-1.455)	-0.013 (-0.483)	-0.015 (-0.605)
OwnershipCon	0.025 (0.504)	0.014 (0.253)	0.039 (0.752)
*OwnershipCon*DFU*	-0.120 (-0.727)	-0.122 (-0.650)	-0.084 (-0.499)
TaxAvoid	0.170* (1.745)	0.170* (1.914)	0.115* (1.801)
*TaxAvoid*IFRS*	-0.165* (1.661)	-0.161* (1.710)	-0.114* (1.617)
*TaxAvoid*IFRS*DFU*	1.518*** (4.051)	1.376*** (3.322)	2.227*** (5.932)
Adj. R^2	0.467	0.456	0.436
No. of Obs.	5,332	5,332	5,332

APPENDIX A

Unrealized earnings from fair value reporting as per IFRS and US GAAP

IFRS

The international financial standards that allow firms to recognize unrealized earnings arising from changes in the fair values of assets and liabilities (revaluation earnings) include IAS No. 39 *Financial Instruments: Recognition and Measurement* (as revised in 2005), IAS No. 40 *Investment Property* (as revised in 2005), IAS No. 27 *Consolidated and Separate Financial Statements* (as revised in 2005) and IAS No. 28 *Investment in Associates and Joint Ventures* (as revised in 2005).[20]

According to IAS 39, a gain or loss arising from a change in the fair value of a financial asset or a financial liability that is not part of a hedging relationship shall be recognized as follows: (a) a gain or loss on a financial asset or financial liability classified as held-for-trading, meaning, it was acquired or incurred principally for the purpose of selling or repurchasing it in the near term,[21] shall be recognized in profit or loss; (b) a gain or loss on an available-for-sale financial asset[22] shall be recognized in other comprehensive income, except for impairment losses and foreign exchange gains and losses, until the financial asset is derecognized. At that time, the cumulative gain or loss previously recognized in other comprehensive income shall be reclassified from equity to profit or loss as a reclassification adjustment (see IAS No. 1 *Presentation of Financial Statements* (as revised in 2007)).

[20] IAS 39 is to be replaced in Israel by IFRS 9 *Financial Instruments*; IAS 28 is to be replaced by IFRS 11 *Joint Arrangements*. Notably, these replacements of IAS by IFRS has no impact on those parts of the standards relevant to our research.

[21] This type of financial asset/liability is referred to as "at fair value through profit or loss."

[22] Available-for-sale financial assets are those non-derivative financial assets not classified as (1) financial assets at fair value through profit or loss, (2) loans and receivables or (3) held-to-maturity investments. Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. Held-to-maturity investments are non-derivative financial assets with fixed or determinable payments and fixed maturity that an entity has the intention and ability to hold to maturity.

IAS 40 applies to the accounting for property (land and buildings) held to earn rentals or for capital appreciation or both. According to IAS 40, a gain or loss arising from a change in the fair value of investment property shall be recognized in profit or loss for the period in which it arises.

When an entity becomes an investment entity, it shall account for an investment in a subsidiary at fair value through profit or loss in accordance with IAS 27. If a parent is required to measure its investment in a subsidiary at fair value through profit or loss, it shall also account for its investment in a subsidiary in the same way in its separate financial statements. If, in accordance with IAS 28, an entity elects to measure its investments in associates or joint ventures at fair value through profit or loss, it shall also account for those investments in the same way in its separate financial statements. In compliance with IAS 28, many of the procedures appropriate for the application of the equity method are similar to the consolidation procedures described in IAS 27. Furthermore, the concepts underlying the procedures used in accounting for the acquisition of a subsidiary are also adopted in accounting for the acquisition of an investment in an associate. Nevertheless, an entity may choose to measure its investments in associates or joint ventures at fair value through profit or loss.

US GAAP

Fair value measurements as per the US GAAP focus on financial instruments. The standards that allow firms to recognize revaluation earnings from changes in the fair values of financial instruments are FASB Statements No. 115 *Accounting for Certain Investments in Debt and Equity Securities* (1993), FASB Statements No. 133 *Accounting for Derivative Instruments and Hedging Activities* (1998), and FASB Statements No. 159 *The Fair Value Option for Financial Assets and Financial Liabilities* (2007).

As per SFAS 115, unrealized gains and losses from trading securities[23] shall be recognized in profit or loss. Unrealized gains and losses from available-for-sale securities[24] (including those classified as current assets) shall be excluded from earnings and reported as a net amount in a separate component of the shareholders' equity until realized.

According to SFAS 133, gains and losses on a qualifying fair value hedge (that is, the change in fair value) shall be accounted for as follows: (a) The gain or loss on the hedging instrument shall be recognized in profit or loss for the period in which it arises; (b) The gain or loss on the hedged item attributable to the hedged risk shall adjust the carrying amount of the hedged item and be recognized in profit or loss for the period in which it arises.

Finally, SFAS 159 expands the use of fair value measurement by permitting all entities to choose to measure eligible items including deposit liabilities and interest in a variable interest entity that the firm is required to consolidate at fair value at specified election dates. A business entity shall report unrealized gains and losses on items for which the fair value option has been elected in profit or loss (or another performance indicator if the business entity does not report earnings) at each subsequent reporting date.[25]

[23] Trading securities are debt and equity securities bought and held for the purpose of selling in the near term.

[24] Available-for-sale securities are debt and equity securities not classified as either held-to-maturity or trading securities. Held-to-maturity securities are debt securities that the firm has the intent and ability to hold to maturity.

[25] Note that, in 2007, FASB Statement No. 157 *Fair Value Measurement* was adopted with the aim of providing a framework for the measurement of instruments at fair value. In order to provide financial statement users with information on the sources (inputs) used to estimate reported fair values, the standard requires firms to distinguish between among levels of inputs: level 1, reflecting observable inputs consisting of quoted prices in active markets for identical assets or liabilities; level 2, reflecting observable inputs other than quoted prices; and level 3, reflecting unobservable inputs.

APPENDIX B

Measuring Book and Tax Reporting Aggressiveness

Tax Avoidance Measures

To proxy for tax reporting aggressiveness, we employ two tax avoidance measures. For our first measure of tax avoidance, we use the total book-tax differences (*BTD*). *BTD* is calculated as the discrepancy between the pre-tax book income and the taxable income deflated by lagged total assets.[26] We follow Hanlon *et al.* (2005) in calculating taxable income. Our measure of taxable income (*TI*) for firm j at time t is estimated as follows:

$$TI_{j,t} = (CTE_{j,t} / SRate_{t}) - (NOL_{j,t} - NOL_{j,t-1}) \quad (3)$$

where *CTE* is current income tax expense,[27] and *SRate* is the Israeli statutory tax rate for year *t*. *NOL* is net operating loss carryforwards.[28] A positive *BTD* indicates that earnings for tax purposes are lower than the accounting earnings and may thus imply an understatement of taxable earnings to reduce the tax burden (e.g., Lisowsky, 2010) and/or an upward earnings management (Blaylock *et al.*, 2012). Blaylock *et al.* (2012) provide evidence that investors are able to detect the source of large, positive book-tax differences.

[26] Most of the book-tax differences concern revenues and expenses that are related to the level of the firm's activity. Hence, an alternative deflator for the *BTD* is the firm's sales (see, e.g., Chan *et al*., 2010). Our results are robust to the deflation of book-tax differences either by sales or by total assets. For consistency with the other model's variables, we base the tabulated results on the *BTD* deflated by total assets.

[27] We collected data about the firms' current tax expense manually from their financial statements. When that information was missing, we replaced it with total tax expense less deferred taxes (when available). Following Atwood *et al*., (2012), we deleted observations where current tax expense was missing and also when total tax expense or deferred taxes were missing.

[28] Grossing up current tax expense by the statutory tax rate to estimate taxable income is subject to well-known measurement errors (Hanlon, 2003). Subtracting the change in the *NOL* is intended to capture changes in taxable income that are not captured by the current tax expense because the firm is a tax-loss firm, and the current tax expense is thus reported as zero (or negative if they have *NOL* carrybacks).

For our second measure of tax avoidance, we use the firm's Cash Effective Tax Rates (*Cash ETR*s). *Cash ETR*s are taxes actually paid divided by pretax income. Current taxes paid is calculated as current tax expense (*CTE*) minus the change in deferred taxes. As with *CTE*, we had to gather the change in deferred taxes manually from financial statements. Dyreng *et al*. (2008) use one-year, five-year, and ten-year *Cash ETR* measures. They show that long-term tax avoidance measures (five-year and ten-year) are less variable and more predictable than one-year measures. Notwithstanding, in our analyses, we use measures of annual *Cash ETR* instead of the long-term measures recommended by Dyreng *et al*. (2008) because of data restrictions that substantially reduce the size of the sample. Although long-term *Cash ETR* is a measure of corporate tax avoidance that contains less measurement error than annual *Cash ETR*, our difference-in-differences design investigating changes in our tested variables precludes the use of long-term *Cash ETR*. Annual *Cash ETR*, however, is suitable in this context. Moreover, our use of annual *Cash ETR* in a change specification is consistent with Dyreng *et al*. (2010).

Book Earnings Management Measures

To proxy for book reporting aggressiveness we estimate the widely used measure of book earnings management, performance-matched abnormal accruals (*PMDA*) as per Kothari *et al.* (2005). We start by estimating the cross-sectional version of the modified Jones (1991) model for each industry and year, using *Bloomberg* data:

$$TA_{i,t} = \alpha_i + \beta_{1i} * (\Delta REV_{i,t} - \Delta AR_{i,t}) + \beta_{2i} * GPPE_{i,t} + \varepsilon_i \qquad (4)$$

where *TA* is total accruals, calculated as the difference between net income before extraordinary items and discontinued operations and operating cash flows, ΔREV is the change in revenues from the previous year, ΔAR is the change in accounts receivable, and *GPPE* is gross fixed assets. Each variable, including the intercept, is deflated by beginning-of-year total assets. The residual in this

model (ε) is the measure of unexpected – discretionary – accruals. The industry-year-specific coefficient estimates from Equation (1) are then used to estimate expected accruals as a percentage of lagged total assets for each firm in our sample. Unexpected accruals are accruals (scaled by lagged total assets) less expected accruals. To calculate performance-matched abnormal accruals (our *PMDA*), following Kothari *et al*. (2005), we obtain the closest return on assets (*ROA*)-matching firm in the same industry and year for each of our firm-year observations. We then calculate unexpected accruals for the matched firms in the manner described above. The *PMDA* for the sample firms is the difference between the unexpected accruals of each sample firm and that of its respective *ROA*-matched firm.

To address empirical concerns regarding the Jones (1991) model, we also use a non-empirical measure in our analyses, the firm's non-operating accruals (*NOA*) as per Givoly and Hayn (2000) (see also, e.g., Geiger *et al*., 2005; Chen *et al*., 2013). Non-operating accruals are calculated as net income plus depreciation and amortization, minus cash flows from operations, minus operating accruals. Operating accruals are defined as: Δ Accounts Receivables + Δ Inventories + Δ Prepaid Expenses - Δ Accounts Payable - Δ Taxes Payable. To control for size effects, we scale non-operating accruals by beginning-of-year total assets, consistent with the scaling of the modified Jones model. Givoly and Hayn (2000) explain that, given that non-operating accruals include items that are under the discretion of management (in terms of timing and/or estimation of recorded amounts), they are used to indicate whether firms actively engage in earnings manipulation. Specifically, non-operating accruals consist primarily of such items as losses and bad debt provisions, gains/losses from the revaluation of assets, gains/losses on the sale of assets, restructuring charges, accrual and capitalization of expenses, the effect of changes in estimates, and deferrals of revenue and their subsequent recognition.