The Effect of Fair Value Accounting on the Performance Evaluation Role of Earnings

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Abstract

Contracting theory asserts that the income statement's primary role is to provide useful information for management performance evaluation. We study the effect of fair value accounting on this role by examining the change in earnings pay-performance sensitivity (PPS) following the 2005 worldwide adoption of IFRS. We find that while IFRS's non-fair-value provisions improve earnings PPS, its fair value provisions offset this improvement. Overall, we contribute to the literature on the contracting usefulness of fair value accounting by presenting evidence that fair value accounting impairs the usefulness of earnings in evaluating management performance.

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1. Introduction

A large body of research examines the usefulness of historical costs versus fair values in financial reporting. Most of this research focuses on whether fair value accounting improves the valuation role of accounting. The contracting literature argues that accounting's primary role is stewardship and the evaluation of management performance (Kothari, Ramanna, and Skinner, 2010). However, evidence on the role of fair value accounting in management performance evaluation is limited. This study exploits the 2005 worldwide mandatory adoption of International Financial Reporting Standards (IFRS) to explore the effects of fair value accounting on the role of earnings in evaluating management performance.

The mandatory adoption of IFRS in 2005 resulted in an increase in the use of fair value accounting relative to the local GAAP it replaced (Armstrong, Barth, Jagolinzer and Riedl, 2010, Ball, Li, and Shivakumar, 2015). We examine the effects of this increase by employing a difference-in-differences (DiD) research design that compares the usefulness of earnings in management performance evaluation before and after mandatory adoption. We capture the usefulness of earnings in evaluating management performance using the sensitivity of executive cash compensation to accounting earnings, commonly referred to as earnings pay-performance sensitivity ("earnings PPS"). An innovation in our study is the use of a *firm-level* measure of the treatment effects of IFRS's fair value provisions, constructed from the reconciliations of local GAAP to IFRS that are reported in the transition year. This is an improvement over prior IFRS studies, which generally employ aggregate *country-level* measures of the differences between IFRS and local GAAP (e.g., Li, 2010; Tan, Wang, and Welker, 2011; Ozkan, Singer, and You,

2012). In addition to directly capturing changes in firm-level accounting practices, using a firm-level treatment effect in our DiD design helps control for firm-level events that may confound our results.

Contracting theory argues that firms place greater weight on performance measures that are more sensitive to the agent's effort (e.g., Holmstrom, 1979; Banker and Datar, 1989). This suggests that the optimal measures used in evaluating management performance may differ from those used in valuing equity (which focus on future cash flows), or in debt contracts (which focus on repayment ability). Comparing earnings PPS before and after IFRS adoption allows us to provide evidence on whether fair values improve or impair the income statement's role in measuring management performance. Proponents of fair value-oriented accounting argue that it better reflects firms' underlying risks and economic performance (e.g., IASB, 2006, p. 57). Opponents, however, argue that fair values introduce noise and bias that can obscure performance. If fair value accounting improves the usefulness of earnings in evaluating management performance, we predict that IFRS adoption will result in an increase in earnings PPS among the firms most affected by IFRS's fair value provisions. Conversely, if fair value accounting impairs the usefulness of earnings in management performance evaluation, we predict that IFRS adoption will decrease earnings PPS among the firms most affected by IFRS's fair value provisions.

We test our predictions by comparing the earnings PPS of the firms most affected by IFRS's fair value provisions (the treatment firms) with the earnings PPS of the other IFRS adopters (the benchmark firms) during the three years before and after IFRS adoption. We identify the financial statement accounts most affected by IFRS's fair value provisions based on Ball et al. (2015) and measure the magnitude of the fair value effects using the reconciliations from local GAAP to IFRS that are reported in the transition year. We classify firms as most affected by IFRS's fair value provisions when the absolute values of their fair value reconciliations are above the sample median.

Our full sample consists of 21,462 executive-years for 1,654 unique non-financial firms across 22 countries that mandate IFRS adoption in 2005. Since our treatment firms may differ systematically from the benchmark firms, we also conduct tests using a propensity-score-matched (PSM) sample. In addition, we perform analyses that restrict our sample to CEOs, and include a control variable that captures the firm-level effects of IFRS's *non*-fair-value provisions.

Our primary DiD analysis yields four major findings. First, for the benchmark firms, earnings PPS generally increases after IFRS adoption. Second, for the treatment firms, earnings PPS generally declines after IFRS adoption. Third, and most importantly, the net effect is a decrease in earnings PPS for the treatment firms, *relative* to the benchmark firms. Fourth, for the firms most affected by IFRS's *non*-fair-value provisions, earnings PPS increases after IFRS adoption. Taken together, our results are consistent with IFRS's *non*-fair-value provisions improving the performance evaluation role of earnings, but with its fair value provisions offsetting this improvement.

We also perform several analyses that provide support for the construct validity of our measure that captures the firms most affected by IFRS's fair value provisions. These tests find that: (1) the firms that we classify as most affected by IFRS's fair value provisions are also more likely to report fair value revaluation gains and losses in the post-IFRS period; (2) our results hold after restricting the analysis to an account where IFRS's fair value provisions are likely to have a dominant impact (i.e., short-term investments); and (3) our results hold after restricting the sample to countries where *non*-fair-value changes are less likely to confound our tests (i.e., countries where IFRS has a small effect on their consolidation rules). We further examine the association between executive cash compensation and fair value revaluation gains and losses after IFRS adoption. While we find little evidence that boards place a lower weight on the fair value

components of earnings, a caveat for this cross-sectional analysis is that it may suffer from low power (Dechow, Myers, and Shakespeare, 2010).

Next, we investigate the channels through which fair value accounting reduces the usefulness of earnings for management performance evaluation. These tests find that the treatment firms report increased earnings management and higher levels of the noise-to-signal ratio in reported earnings following IFRS adoption. However, we find little evidence of changes in earnings timeliness or persistence among the treatment firms.

In addition, we replicate and extend the analysis in Ozkan et al. (2012) using our data. Consistent with Ozkan et al. (2012), we find that the increase in earnings PPS following IFRS adoption is driven by firms in countries with large differences between IFRS and local GAAP ("IFRS-LGAAP differences") as captured by the GAAP differences index from Bae, Tang, and Welker (2008). We further find that the negative effects of IFRS's fair value provisions on earnings PPS are concentrated in countries with small IFRS-LGAAP differences. This is consistent with the GAAP differences index in Bae et al. (2008) being composed primarily of disclosure requirements and non-fair-value provisions, which confounds our firm-level fair value measure and weakens our results in countries with large IFRS-LGAAP differences. Finally, our results are robust to a variety of sensitivity tests, including the use of alternative samples, an alternative measure of the treatment effect, alternative standard error clustering schemes, and additional control variables.

We note that we are interested in the fundamental question of whether fair value accounting improves or impairs earnings' usefulness in evaluating management performance. As such, we are agnostic about whether or how boards may respond to the impaired usefulness of earnings in performance evaluation among companies that experience large fair value changes after adopting IFRS. For example, it is common practice for U.S. boards to use non-GAAP earnings in executive

compensation contracting (e.g., Black, Black, Christensen, and Gee, 2017; Curtis, Li, and Patrick, 2018). There is also anecdotal evidence that U.K. boards exclude the effects of fair value accounting in compensation contracts following IFRS adoption.[1] Making such adjustments, however, is consistent with a reduction in the usefulness of reported earnings in evaluating management performance and with the reduction imposing additional costs (Ball et al., 2015).

Our study contributes to the literature in several ways. One contribution is to the contracting literature in accounting, which asserts that the primary role of the income statement is to provide useful information for evaluating management performance (Kothari et al., 2010). Our findings indicate that fair value accounting impairs the income statement's ability to perform this role. We further find evidence that the channels through which fair values impair performance evaluation include increased earnings manipulation and noisier earnings.

Our study also contributes to the long line of research that examines the effects of mandatory IFRS adoption, most of which examine the valuation role of accounting information. The few studies that examine the contracting usefulness of IFRS-based accounting find mixed results. While Ball et al. (2015) conclude that IFRS reduces the usefulness of accounting information in debt contracting, other studies find that IFRS adoption increases earnings PPS (Ozkan et al., 2012) and the sensitivity of CEO turnover to earnings (Wu and Zhang, 2009, 2019).[2] Our study suggests that these mixed findings arise because there are two opposing effects of IFRS on management performance evaluation: IFRS's *non*-fair-value provisions improve the contracting usefulness of earnings, while its fair value provisions impair it.

[1] For example, Alliance & Leicester's 2005 Annual Report (p. 36) notes that the Remuneration Committee "has agreed that calculation of the underlying EPS should exclude fair value accounting volatility."

[2] Like ours, these are cross-country studies. Single country studies include Ke, Li, and Yuan (2016) and Voulgaris, Stathopoulos, and Walker (2014).

In addition, our findings add to the limited and inconclusive research that examines whether boards consider the separable components of fair value measurement in earnings, such as fair value gains and losses, in determining executive compensation (Dechow et al., 2010; Livne, Markarian, and Milne, 2011; Manchiraju, Hamlin, Kross, and Suk, 2016; Chen and Tang, 2017).[3] While these studies provide insights into the heterogeneous reliability and informativeness of different fair value components, we complement this research by testing whether an increase in the use of fair value accounting improves or impairs the usefulness of earnings in evaluating management performance. In addition, because prior studies focus on fair value gains and losses that are disclosed as components of earnings, they are necessarily confined to a small set of industries and accounts. In contrast, our focus on aggregate earnings allows us to investigate a broader set of firms and industries.

Finally, we contribute to the literature by using a research design that helps alleviate endogeneity concerns. Prior literature suggests that the association between earnings and compensation depends on the ability of earnings to reflect managerial effort and align incentives (Baber, Kang, and Kumar, 1998; Bushman, Engel, and Smith, 2006). Because earnings properties are determined by managerial actions, the endogeneity issue is inherently challenging in cross-sectional studies. We complement prior research by using a shock-based research design that employs a DiD analysis with a firm-specific measure of the treatment effect, which collectively helps alleviate endogeneity concerns (Atanasov and Black, 2016).

[3] For example, Livne et al. (2011) look at 152 U.S. banks and find that boards do not consider fair value components in compensating CEOs. Manchiraju et al. (2016) look at 87 oil and gas firms and find that boards reward CEOs for hedge derivative gains and penalize them for hedge derivative losses. Chen and Tang (2017) look at a sample of 70 Hong Kong property companies and find that boards reward CEOs for revaluation gains but not losses. A related literature examines how compensation contracts affect management's use of fair values (e.g., Shalev, Zhang, and Zhang, 2013). Our study is also broadly related to studies that examine how firms back out non-fair-value items from executive compensation (e.g., Dechow, Huson, and Sloan, 1994; Adut, Cready, and Lopez, 2003).

2. Hypothesis development

2.1. Mandatory IFRS adoption and fair value accounting

The 2005 mandatory IFRS adoption resulted in an increase in the use of fair value accounting relative to prior local GAAP.[4] The costs and benefits associated with IFRS's fair value provisions are hotly debated (Ball et al., 2015; DeFond et al., 2015). Proponents argue that fair values better reflect firms' underlying risks and economic performance, a view that is held by the IASB:

> *"In many accounting pronouncements, the Board has concluded that fair value information is relevant, and users of financial statements generally have agreed."* (IASB, 2006, p. 57)

Opponents of fair value, however, argue that it introduces noise and obscures firm performance. For example, an article from the Financial Times states:

> "*Many company directors are still disputing whether fair value accounting gives a more meaningful insight into a company's economic performance than other measures."* (Hargreaves, 2005).

Consistent with this view, the Association of French Financial Analysts states:

> *"The use of fair value can confuse interpretation of a company's operational results. Fair value accounting is less reliable, allows greater manipulation of results and introduces volatility."* (Comments from the Association of French Financial Analysts, Hawkins, Dessain, and Barron, 2008).

The IASB's motivation for moving toward the increased use of fair value accounting is predicated on the assumption that GAAP's primary objective is equity valuation. In contrast, the economics-based accounting literature argues that GAAP's principal role is to provide information that is useful in stewardship and management performance evaluation (Kothari et al., 2010). Financial reports that fulfill this role serve as a mechanism for stockholders and creditors to incentivize and monitor management behavior. While such a reporting system may generate information that is also useful in equity valuation, this is not its primary objective. Fair values that

[4] IFRS defines fair value as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date" (IFRS 13: Fair Value Measurement).

are based on observable prices in liquid secondary markets may be useful in facilitating performance evaluation and monitoring, but in the absence of verifiable markets they are subject to potential management manipulation that reduces their reliability. Thus, advocates of the "positive theory of GAAP" argue that historical costs are the appropriate measurement basis for financial reporting and that fair values are likely to impair its usefulness (Kothari et al., 2010).

2.2. The effects of fair value accounting on earnings PPS

Contracting theory suggests that when multiple performance measures are present, optimal incentive-compatible contracts should place greater weight on measures that are more precise and more sensitive to the agent's effort (e.g., Holmstrom, 1979; Banker and Datar, 1989). Thus, the measures used in evaluating management performance can differ from those used in valuing equity, which focus on the estimation of future cash flows (Natarajan, 1996). They can also differ from the measures used in fulfilling accounting's stewardship role, which focus on the firm's ability to meet its contractual debt obligations (Ball et al., 2015).

Fair value accounting may increase the usefulness of earnings in evaluating management performance by reflecting management's contribution to firm performance in a timelier manner (De George, Li, and Shivakumar, 2016). While fair value accounting permits both write-downs and write-ups of current asset values, historical cost accounting requires assets to be valued at their initial cost, and only permits write-downs when their recoverability is in question. In addition, Ozkan et al. (2012) argue that increased transparency and comparability should improve the usefulness of earnings in performance evaluation. Thus, if fair value accounting increases transparency and comparability it should render earnings a more precise measure of managerial effort.

On the other hand, there are arguments that suggest fair value accounting may impair the usefulness of earnings in evaluating management performance. One is that fair value accounting

facilitates earnings management, which can reduce the ability of earnings to reflect managers' true performance. This is consistent with Dechow et al. (2010), who find that managers use the discretion in the fair value accounting rules for securitization to boost earnings. It is also consistent with Kothari et al. (2010), who argue that the lack of verifiability of many fair value measurements decreases their usefulness in contracting, Other arguments suggest that fair values introduce uncontrollable market-wide movements into earnings (Sloan, 1993; Baber et al., 1998) and that the use of fair value accounting lowers the distinction between earnings and stock prices (De George et al., 2016).

In summary, if fair value accounting improves the ability of earnings to reflect management's effort and contribution to profitability, we predict that earnings PPS will increase among firms for which IFRS's fair value provisions have a relatively large impact. Alternatively, if fair value accounting results in more opportunistic reporting and/or increases the noise in earnings, we predict that earnings PPS will decrease. This leads to our hypothesis, which is non-directional:

Hypothesis: *Earnings PPS may either increase or decrease in response to the subsequent increase in the use of fair value accounting under IFRS adoption.*

3. Data and research design

3.1. Data and sample selection

We restrict our analysis to countries that mandatorily adopted IFRS in 2005 in order to maintain identical economic and regulatory environments across our benchmark and treatment firms. We classify mandatory adopters as firms that adopt IFRS for the first time on or after December 31, 2005. Our sample period consists of the three fiscal years prior to adoption (i.e., the pre-adoption period) and the first three fiscal years after adoption (i.e., the post-adoption period).

We exclude the first year of IFRS adoption because firms may need time to adjust their compensation contracts after adopting IFRS (Ozkan et al., 2012).

We obtain firm-level financial data from Worldscope and executive-level cash compensation data from S&P Capital IQ. Capital IQ contains detailed cash compensation and information on firms' executives in more than 100 countries.[5] To ensure comparability across countries, we require the sample firms to have positive pre-tax income, market capitalization greater than ten million U.S. dollars, and minimum annual executive cash compensation of ten thousand U.S. dollars. To compute our firm-level measure of the impact of fair value accounting, we require the sample firms to report data on the reconciliation of local GAAP with IFRS in the first year of IFRS adoption. We exclude observations with firm-level continuous variables at the top and bottom one percentile of their distributions, yielding a sample of 21,462 executive-year observations for 5,032 firm-years of 1,654 unique non-financial firms (one-digit SIC code is not "6") from 22 IFRS adoption countries. Compared to Ozkan et al. (2012), our sample of IFRS adopters is substantially larger due to the greater coverage of Capital IQ as compared with BoardEx.

Table 1 reports the distribution of our sample by country and year, and shows that the number of firms and executive-years vary widely across countries. Australia and the U.K. have the largest number of executive-years and firms, while Austria has the smallest. Panel B of Table 1 reports the sample distribution by calendar year. Because we restrict our sample to firms that adopted IFRS in 2005, the number of observations in 2006 and 2009 is relatively small. For December 31 year-end firms, the pre-adoption period falls in calendar years 2002–2004 and the post-adoption period falls in calendar years 2006–2008; and for non-December 31 year-end firms, the pre-

[5] We study cash compensation of key executives, flagged by *KEYEXECFLAG*=1 in Capital IQ.

adoption period falls in calendar years 2003-2005, and the post-adoption period falls in calendar years 2007-2009.

3.2. Measuring the impact of fair-value changes under IFRS

To create our treatment variable, we begin by constructing a firm-level continuous variable (ΔFV). Following Hung, Li, and Wang (2015), we measure ΔFV using the difference between the financial statement accounts computed under IFRS and under local GAAP. IFRS adopters are required to report these reconciliations during the first year of IFRS adoption, along with a reference to the IFRS standards that explain the differences. While Hung et al. (2015) capture the overall effects of IFRS in their analysis, we focus on the accounts most affected by IFRS's fair value provisions. We identify these accounts based on the list of IFRS's fair value provisions in Ball et al. (2015). Specifically, ΔFV equals the reconciliation amounts reported for each of the following eight financial statement accounts, with the IFRS standards shown in parentheses: (1) PP&E (IAS 16: Property, Plant, and Equipment; IAS 40: Investment Property), (2) Short-term investments (IAS 39: Financial Instruments), (3) Long-term investments (IAS 39: Financial Instruments),[6] (4) Intangibles (IAS 22: Business Combinations; IAS 38: Intangible Assets), (5) Provisions (IAS 37: Provisions, Contingent Liabilities and Contingent Assets), (6) Post-retirement benefits (IAS 19: Employee Benefits),[7] (7) Stock options (IFRS 2: Share-based Payment), and (8)

[6] Long-term investments include investments in associated companies. For example, Bollore's 2005 annual report states (p. 70): "The restatement on January 1, 2005 of the holdings accounted for by the equity method mainly consists of the valuing at fair value of the Vallourec shares (29 million Euros)."

[7] While Cascino and Gassen (2015) suggest that local GAAP in countries such as Germany used similar valuation methods for employee benefits before IFRS adoption, Hung and Subramanyam (2007, Table 2, accounting treatment for pensions) point out that under German GAAP the discount rate is generally fixed at 6% and there is no consideration of expected future compensation levels. Thus, the difference in employee benefits under German GAAP versus IFRS likely results from the consideration of market interest rates and future compensation levels, which are fair value-oriented. This is consistent with Elringklinger AG's 2005 annual report, which states (p. 77): "The valuation of the pension obligation in the HGB financial statements was computed on the basis of the entry-age method that is recognised for tax purposes. The IFRS value is computed by the projected unit credit method in accordance with IAS 19, under which the discount rate reflects the economic development, in contrast to the measurement under HGB...The valuation of the provisions for pensions under IFRS as at January 1, 2004, was EUR'000 7,807 higher than under German commercial law."

Discontinued operations (IFRS 5: Non-current Assets Held for Sale and Discontinued Operations).[8] We measure ΔFV as the sum of the absolute values of the local GAAP-to-IFRS reconciliations, scaled by shareholders' equity (as in Hung and Subramanyam, 2007).

We note that ΔFV is necessarily measured with noise. For example, ΔFV potentially includes reconciliation amounts that are affected by IFRS's *non*-fair-value provisions. To help mitigate this measurement error, we transform ΔFV into a binary indicator variable, *High* ΔFV, which takes a value of one if ΔFV is greater than the sample median, and zero otherwise.[9]

Table 2 provides summary statistics for the firm-level reconciliation items that arise from the accounting provisions related to fair value accounting under IFRS. Panel A presents statistics for the eight individual accounts used in constructing ΔFV. For each financial statement account we report the number of observations with non-zero values, the corresponding mean and median of the scaled absolute values, and the related IFRS standards. This panel shows that intangibles, PP&E, and provisions have the largest number of non-zero observations. The two accounts with the largest adjustments are post-retirement benefits (14.6% of shareholders' equity) and provisions (11% of shareholders' equity). The bottom row of Panel A reports that the aggregate firm-level measure of ΔFV has a mean of 0.346 and a median of 0.130, indicating that the reconciled amounts are economically significant. Panel B presents summary statistics of ΔFV by country and indicates that there is reasonable variation across countries.

To assess the validity of our fair value measure, we test its association with the likelihood of reporting revaluation gains and losses during the post-IFRS period 2005-2016. We define *PRGL*

[8] The first six items are from the balance sheet and the last two are from the income statement. We do not use the reconciled equity account in order to avoid double counting some fair value provisions. Also, the reconciled equity may underestimate the overall impact of IFRS adoption as fair value increases can be offset by fair value decreases.

[9] Another potential source of measurement error in ΔFV is that some fair value changes may not flow through earnings. For example, if a company chooses to apply fair values to PP&E, the adjustment goes through other comprehensive income. However, this revaluation would eventually be reflected in net income through future depreciation charges (Christensen and Nikolaev, 2013).

as one if a firm reports non-zero revaluation gains and losses in the income statement, and zero otherwise. We regress *PRGL* on our variable of interest (*High* Δ*FV*), firm-level controls (*STDCF*, Δ*E*, *RET*, *BM*, and *SIZE*), and country, industry, and year fixed effects. Appendix A provides the variable definitions. Table 2, Panel C presents the results. In column (1) we find that *High* Δ*FV* is positively associated *PRGL*. In column (2), we decompose the fair value measure into two indices: fair value changes related to short-term investment accounts (*High* Δ*FV_SINV*) and fair value changes related to other accounts (*High* Δ*FV_OTH)*. We find that both indices are positively related to *PRGL*. Thus, the analysis in Panel C lends support to the validity of *High* Δ*FV* in capturing changes in fair value accounting that arise from IFRS adoption.

3.3. Research design

We test our hypothesis using a DiD design that compares the change in earnings PPS for the treatment firms most impacted by IFRS's fair value provisions versus the firms least impacted by IFRS adoption. Specifically, we regress the change in the natural logarithm of annual cash compensation (Δ*COMP*) on two performance measures (changes in earnings, Δ*E*, and stock returns, *RET*), an indicator variable that captures the post-adoption period (*POST*), a firm-level indicator that captures the treatment effect (*High* Δ*FV*), their interactions, and control variables.

We include stock returns as an alternative performance measure because prior studies show that executive compensation is associated with stock performance (e.g., Gibbons and Murphy, 1990). Including stock returns also allows us to determine whether a general trend in the efficiency of setting compensation contracts around IFRS adoption drives our results (Ozkan et al., 2012).

Our regression model is:

$$\begin{aligned}\Delta COMP_{i,j,t} = {} & \beta_0 + \beta_1 \Delta E_{j,t} + \beta_2 \Delta E_{j,t} \times POST + \beta_3 \Delta E_{j,t} \times POST \times High\ \Delta FV_j + \beta_4 \Delta E_{j,t} \times High\ \Delta FV_j \\ & + \beta_5 RET_{j,t} + \beta_6 RET_{j,t} \times POST + \beta_7 RET_{j,t} \times POST \times High\ \Delta FV_j \\ & + \beta_8 RET_{j,t} \times High\ \Delta FV_j + \beta_9 POST \times High\ \Delta FV_j + \beta_{10} POST + \beta_{11} High\ \Delta FV_j \\ & + \beta_{12} BM_{j,t} + \beta_{13} SIZE_{j,t} + \beta_{14} CEO_{i,j,t} + \beta_{15} LnAGE_{i,j,t} + \beta_{16} LnTENURE_{i,j,t} \\ & + Country\ and\ Industrial\ Fixed\ Effects + \mu \end{aligned} \quad (1)$$

A positive (negative) coefficient on $\Delta E \times POST \times High\ \Delta FV$ indicates that earnings PPS increases (decreases) subsequent to IFRS adoption for the treatment firms relative to the benchmark firms. In addition to the control variables from Ozkan et al. (2012) we also include country and industry fixed effects. We use robust standard errors clustered by firm to evaluate the significance of regression coefficients in all our analyses.

In our expanded model, we include a control variable that captures the firms most affected by IFRS's *non*-fair-value provisions. We first create a firm-level continuous measure that captures the extent to which a firm's financial statements are influenced by IFRS's *non*-fair-value provisions (ΔNFV), which equals the absolute value of the local GAAP-to-IFRS equity reconciliation excluding ΔFV, scaled by shareholders' equity. We then create an indicator variable, $High\ \Delta NFV$, that equals one for firms with ΔNFV greater than the sample median, and zero otherwise. Including $High\ \Delta NFV$ controls for the effect of changes unrelated to fair value accounting under IFRS. By controlling for $High\ \Delta NFV$, the firms least affected by IFRS adoption (i.e., those with $High\ \Delta FV=0$ and $High\ \Delta NFV=0$) are implicitly used as the benchmark firms.

While our DiD design assumes comparability across the benchmark and treatment firms, the firms most affected by IFRS's fair value provisions may differ systematically from those that are least affected. In an attempt to mitigate this concern, we perform a PSM analysis of firms selected from the full sample. Appendix B provides a detailed description of the PSM procedure. An advantage of the PSM sample is that the treatment and benchmark firms are comparable on dimensions such as size, and there is less risk from misspecification of the functional form of the earnings PPS regressions (DeFond, Erkens, and Zhang, 2017; Shipman, Swanquist, and Whited, 2017). A limitation of the PSM sample is that matching reduces the sample size. Because of the

above trade-offs, we consider the results from both the full and PSM samples in drawing our conclusions.[10]

3.4. Descriptive statistics

Table 3 presents summary statistics of key variables used in our primary analysis. Panel A reports descriptive statistics for the treatment firms of high ΔFV (*High* ΔFV = 1) and the benchmark firms of low ΔFV (*High* ΔFV = 0) separately. The average annual cash-based executive compensation (*COMP*) is 576.3 and 393.9 thousand U.S. dollars for high ΔFV firms and low ΔFV firms, respectively, and the difference across the two groups is statistically significant. However, the mean value of our dependent variable, $\Delta COMP$, for the high ΔFV firms is not significantly different than for the low ΔFV firms. For the treatment group, the mean and median $\Delta COMP$ is 0.159 and 0.094, respectively, indicating that the average (median) ratio of cash compensation in year *t* over that in year *t-1* is 1.17 (1.10).[11]

Panel B reports the correlation matrix based on the full sample for the variables used in our regressions. $\Delta COMP$ is positively correlated with both accounting- and market-based performance measures (ΔE and *RET*). We also find a positive correlation between *High* ΔFV and *High* ΔNFV.

4. Hypothesis tests

Table 4 presents the results of testing our hypothesis. We estimate equation (1) using the full sample in column (1) and using the PSM sample in column (2). In column (3) we restrict the sample to CEOs only. In column (4) we also include *High* ΔNFV and its associated interactions

[10] In additional analyses (untabulated), we use a balanced sample that requires IFRS adopters in our full sample to appear in both the pre- and post-adoption periods. We also use an expanded sample that includes the treatment firms in our full sample and benchmark firms that consist of local GAAP users in 15 non-IFRS adoption countries (i.e., Argentina, Bermuda, Brazil, Canada, Cayman Islands, Chile, China, India, Indonesia, Malaysia, Taiwan, Thailand, Tunisia, the U.S., and Virgin Islands), or in two dominant non-IFRS adoption countries (the U.S. and Canada). We find robust results with these alternative samples.

[11] $\Delta COMP$ = Ln$COMP_t$ - Ln$COMP_{t-1}$ = Ln($COMP_t/COMP_{t-1}$). Thus, the mean and median values of $COMP_t/COMP_{t-1}$ are 1.17 (Exp(0.159)) and 1.10 (Exp(0.094)), respectively.

with *POST*, ΔE, and *RET*.[12] We find that the coefficient on our variable of interest, $\Delta E \times POST \times High\ \Delta FV$, is significantly negative in all four columns. This indicates that the treatment firms most impacted by IFRS's fair value provisions experience a decline in earnings PPS relative to the benchmark firms.

The bottom of Table 4 combines the coefficients in the regressions to report the pre- and post-IFRS levels of earnings PPS, along with the changes in earnings PPS for the treatment firms ($High\ \Delta FV = 1$) and the benchmark firms ($High\ \Delta FV = 0$). Column (1) shows that while earnings PPS increases by 0.203 among the benchmark firms, it declines among the treatment firms, moving from 0.277 in the pre-IFRS period to 0.102 in the post-IFRS period. Thus, the significant DiD decrease of 0.378 in earnings PPS results from a combination of the 0.203 increase among the benchmark firms and the 0.175 decrease among the treatment firms. This result is consistent with IFRS's fair value provisions introducing noise or bias, which in turn decreases the usefulness of earnings in evaluating management performance.

Our tests that employ alternative samples or specifications across columns (2) through (4) report similar results. The magnitude of the coefficients on $\Delta E \times POST \times High\ \Delta FV$ indicates that, relative to the changes among the benchmark firms, a one-standard-deviation increase in ΔE is associated with a decrease in cash compensation of approximately 4.2 to 7.9 percent, depending on the sample and/or specification, subsequent to the IFRS mandate.[13] As noted in Ozkan et al. (2012), this change may understate the economic significance because a large fraction of cash compensation is base salary, which varies little over time.

[12] All subsequent results are robust to the specification in column (4) of Table 4.

[13] As our dependent variable is a log-transformed variable, 4.2% is calculated as Exp(-0.378 × 0.113) - 1, and 7.9% is calculated as Exp(-0.728 × 0.113) - 1, where -0.378 and -0.728 are the coefficients on $\Delta E \times POST \times High\ \Delta FV$ in columns (1) and (3), respectively, and 0.113 is the standard deviation of ΔE for the full sample of treatment firms (i.e., those with $High\ \Delta FV$) reported in Panel A of Table 3.

Column (4) reports a significant and positive coefficient on $\Delta E \times POST \times High\ \Delta NFV$, indicating that IFRS's non-fair-value provisions improve the usefulness of earnings in evaluating management performance. The bottom of Table 4 indicates that the significant DiD increase of 0.361 in earnings PPS results from a combination of the 0.114 insignificant increase among the benchmark firms and the 0.475 increase among the firms with $High\ \Delta NFV = 1$. Taken together with a significant and negative coefficient on $\Delta E \times POST \times High\ \Delta FV$, these results suggest that IFRS's fair value provisions offset the improvement in the contracting usefulness of earnings that arises from IFRS's non-fair-value provisions.

The coefficients on $\Delta E \times High\ \Delta FV$ in Table 4 indicate that the pre-IFRS earnings PPS is larger for the treatment firms than for the benchmark firms, except in column (2) of the PSM sample.[14] Finally, Table 4 shows that IFRS's fair value provisions have little effect on stock returns PPS, as indicated by the insignificant coefficients on $RET \times POST \times High\ \Delta FV$ (except in column (2)). Among the control variables, we find positive coefficients on *SIZE* (except in column (3)) and *CEO*, and negative coefficients on *LnAGE* and *LnTENURE* in all four columns. This is consistent with executives who are older and more experienced receiving smaller increases in cash compensation, and with executives who are CEOs and in larger companies receiving larger increases. Overall, the results in Table 4 suggest that while IFRS's non-fair-value provisions improve earnings PPS, its fair value provisions offset this improvement.[15]

5. Additional analyses

[14] As discussed in Appendix B, our matching procedures require earnings PPS to be similar in the pre-IFRS period across the treatment and benchmark firms.

[15] In an untabulated analysis, we examine how IFRS's fair value provisions affect earnings PPS for financial firms, among which the fair value effects of IFRS are heavily concentrated in the investment accounts. Our analysis suggests an insignificant effect of the fair value provisions on earnings PPS for financial firms. This is perhaps because fair values may be relatively more useful in evaluating executive performance, as risk trading and risk management are key tasks for executives in financial firms, and therefore fair values are likely to be better at capturing the risk associated with financial instruments.

5.1. Assessment of the parallel trends assumption

Panels A and B in Figure 1 plot the annual earnings PPS of high ΔFV firms and low ΔFV firms for the full sample and PSM sample, respectively. We estimate annual earnings PPS by regressing $\Delta COMP$ on ΔE, the control variables, and country and industry fixed effects for each year during our sample period. The coefficient on ΔE captures earnings PPS. Both panels indicate similar pre-IFRS period trends in earnings PPS across the high ΔFV and low ΔFV firms. Importantly, the high ΔFV firms experience a decline in earnings PPS from the year prior to adoption (year -1) to the year after (year 1) for both samples, and the declining trend continues into the third year after the adoption for the PSM sample. The low ΔFV firms, in contrast, experience a decrease from year -1 to year 1 for the full sample and an increase for the PSM sample.

We also employ a placebo test to further assess the parallel trends assumption. In the absence of IFRS adoption, we expect an insignificant coefficient on $\Delta E \times POST \times High\ \Delta FV$. Our placebo test restricts the analyses to the post-adoption period and sets the pseudo adoption year to three years after the actual IFRS adoption year.[16] Thus, our pseudo pre-adoption period is 2006-2008 and our pseudo post-adoption period is from 2009-2011 for December 31 year-end firms. The results (untabulated) find that the coefficient on $\Delta E \times POST \times High\ \Delta FV$ is insignificant for both samples. This is consistent with the treatment and benchmark firms exhibiting a similar trend in earnings PPS in the absence of IFRS adoption.

5.2. Mitigating the impact of IFRS's non-fair-value provisions

As acknowledged earlier, our indicator of high fair value impact (*High ΔFV*) may also capture the effects of IFRS's non-fair-value provisions on the eight accounts that we classify as most

[16] We are unable to conduct a placebo test in the pre-adoption period because Capital IQ's coverage of executive cash compensation information is limited prior to 2002.

affected by IFRS's fair value-oriented provisions. In this section, we conduct two tests that attempt to mitigate the influence of non-fair-value provisions on *High ΔFV*.

Our first test repeats our analysis after partitioning *High ΔFV* into two measures: one comprised only of the reconciled amounts related to short-term investments (*High* Δ*FV_SINV*), and one comprised of the reconciled amounts related to the other seven accounts that are most affected by IFRS's fair value provisions (*High* Δ*FV_OTH*). We separately examine short-term investments because they are heavily affected by IAS 39, which is a mandatory fair value provision.[17] Thus, we expect IFRS's fair value effects to dominate its non-fair-value effects on short-term investments. *High* Δ*FV_SINV* is set to one for firms reporting non-zero reconciliation of the short-term investment account (because its sample median is zero). *High* Δ*FV_OTH* is set to one for firms whose total absolute reconciled amount of the seven other fair-value-related accounts is greater than the sample median. We set both *High* Δ*FV_SINV* and *High* Δ*FV_OTH* to zero only when both measures equal zero so that our benchmark firms are not confounded by the effects of large fair value changes from either group.

Table 5, Panel A presents the results of this analysis using the full and PSM samples. The coefficients on Δ*E* × *POST* × *High* Δ*FV_SINV* and Δ*E* × *POST* × *High* Δ*FV_OTH* are both significantly negative. Thus, we find robust results after restricting our analysis to an account where IFRS's fair value provisions are likely to have a dominant impact.[18] These results also suggest that our findings are not sensitive to discretion in adopting the fair value provisions of IFRS.

[17] IAS 39 requires fair value measurement for financial assets and financial liabilities held for trading and available for sale (AFS). While the recognition of fair value changes for AFS financial assets goes to other comprehensive income, rather than flowing through earnings, the fair value measurement of trading securities nonetheless creates incentives for managers to selectively sell AFS securities to counter negative effects of the fair value adjustments (He, Wong, and Young, 2011).

[18] Our results are also robust to excluding discontinued operations, a transitory account, from the fair value measure.

In our second test, we repeat our analysis after partitioning the sample based on the extent to which consolidation rules differ between IFRS and local GAAP. We focus on consolidation rules because consolidation can result in changes to the accounts captured by *High ΔFV* that are unrelated to fair values. Thus, *High ΔFV* is less likely to be confounded by non-fair-value changes in countries where IFRS adoption results in relatively smaller changes to local GAAP's consolidation rules. Focusing on these countries should increase the likelihood that our fair value measure is capturing the effects of IFRS's fair value provisions. Using Nobes' (2001) survey of national accounting rules, we assign a score of one for each major difference between local GAAP and IFRS associated with consolidation.[19] We aggregate the scores for each country and label the index "*Consolid_Diff*". Appendix C reports the index by country. Three countries (Germany, Italy and Spain) have a score of six, which is the highest, while Australia and South Africa have a score of zero, which is the lowest. We partition the sample countries based on the country-level median value of *Consolid_Diff* (three) and repeat the analysis in Table 4, column (1). Panel B of Table 5 indicates that the coefficient on $\Delta E \times POST \times High\ \Delta FV$ is significantly negative only in countries with low *Consolid_Diff* for both the full and PSM samples. This suggests that the effects of fair value accounting on earnings PPS is not due to the non-fair value changes from IFRS on local GAAP consolidation rules.[20]

In sum, the findings in Table 5 strengthen our inferences by helping to mitigate the concern that our results are driven by IFRS's non-fair-value provisions.

[19] Examples of differences in consolidation rules between local GAAP and IFRS include consolidation of special purpose entities, determinants of a business combination as a unit of interest, and treatment of subsidiaries with dissimilar activities.

[20] We also find robust results (untabulated) when we restrict the sample to Australia and South Africa, the two sample countries with zero *Consolid_Diff*. We also perform an untabulated analysis after partitioning the sample on just one difference in consolidation rules between IFRS and local GAAP: whether IFRS adoption results in the consolidation of special purpose entities. Consistent with Panel B of Table 5, our results continue to hold in the no-change sample but not in the change sample.

5.3. The relation between executive compensation and post-IFRS fair value gains and losses

To shed light on whether and how compensation committees adjust for separable fair value components of earnings, we investigate the relation between executive cash compensation and fair value-based gains and losses during the post-IFRS adoption period. Specifically, we collect data from Worldscope on separately disclosed fair value gains and losses in the post-IFRS adoption period and construct four variables: (1) revaluation gains/losses in investments, *RGL_INV*, (2) revaluation gains/losses in investment properties, *RGL_INVP*, (3) revaluation gains/losses in hedges and derivatives, *RGL_HD*, and (4) revaluation gains/losses in other accounts, *RGL_OTH*. We also combine the four components into a single measure of revaluation gains and losses (*RGL_TOT*). Panel A of Table 6 reports the descriptive statistics of these variables. We find that 29% of sample observations report revaluation gains and losses in these accounts and that the average absolute value of revaluation gains and losses is 0.611% of total assets. For the four component variables, the mean absolute values of revaluation gains and losses scaled by total assets are 0.622% for *RGL_INV*, 0.85% for *RGL_INVP*, 0.489% for *RGL_HD*, and 0.39% for *RGL_OTH*. Considering that these accounts usually represent a small portion of non-financial firms' assets, their revaluation gains and losses are economically significant.

In columns (1) and (2) of Table 6, Panel B, we follow Chen and Tang (2017) and regress the level of cash compensation (*LnCOMP*) on earnings before revaluation gains and losses (*EBFRGL*), total revaluation gains and losses (*RGL_TOT*), firm-level controls (*RET*, *GROWTH*, *SIZETA*, *CEO*, *LnAGE*, and *LnTENURE*), and country and industry fixed effects in the post-IFRS period 2005-2016. In both columns with or without including firm-level controls, we find that executive cash compensation is positively associated with *EBFRGL*, but not associated with *RGL_TOT*. However, the *F*-test indicates that the coefficients on *EBFRGL* and *RGL_TOT* are not statistically different.

In columns (3) and (4) of Panel B, we replace the total revaluation gains and losses with the four components. When the model includes firm-level controls (column (4)), none of the four components of unrealized revaluation gains and losses are associated with cash compensation. Additional *F*-tests (untabulated) find that the coefficient on *EBFRGL* is significantly higher than the coefficient on revaluation gains/losses in investment properties (*RGL_INVP*), but is insignificantly different from the coefficients on the other components in column (4).

Overall, Table 6 provides little evidence that reported revaluation gains and losses have a lower weight on earnings PPS than earnings before these revaluation gains and losses. However, this finding may result from lack of statistical power, because this analysis is confined to a small set of accounts where fair value gains and losses are separately disclosed.

5.4. Channels through which IFRS' fair value provisions affect earnings PPS

We next explore the channels through which IFRS' fair value provisions reduce earnings PPS. We examine four channels: earnings management, noise-to-signal ratio, earnings timeliness, and earnings persistence, all of which are predicted in prior literature to affect the usefulness of earnings in performance measurement. We measure earnings management using *JMBE*, a variable indicating whether earnings per share meet or beat analyst consensus forecasts by one cent or less. Noise-to-signal ratio (*NOISE-TO-SIGNAL*) equals the ratio of the standard deviation of pre-tax earnings divided by total assets, to the standard deviation of weekly stock returns. We use one ratio in each of the pre- and post-IFRS periods and require at least three years in each four-year period to compute the standard deviations. To capture earnings timeliness, we use the coefficient on returns from a firm-specific regression model of change in earnings on contemporaneous stock returns (Ball, Kothari, and Robin, 2000). To capture earnings persistence, we use the coefficient on earnings from a firm-specific regression model of earnings in the next period on earnings in the current period. Our variables of interest are the DiD estimates of $POST \times High\ \Delta FV$ in the tests of

earnings management and noise-to-signal ratio, *RET* × *POST* × *High* Δ*FV* in the timeliness test, and *E* × *POST* × *High* Δ*FV* in the persistence test. We control for *STDCF*, *BM*, *SIZE*, and country and industry fixed effects in all four tests, and further control for *RET* and Δ*E* in the tests of earnings management and noise-to-signal ratio.

Panels A and B of Table 7 report the results for the full and PSM samples, respectively. In column (1) of both panels, we find that the coefficient on *POST* × *High* Δ*FV* is significantly positive. This indicates a relative increase in the likelihood of meeting or beating analyst consensus forecasts for the firms most affected by IFRS's fair value provisions following the IFRS adoption. In column (2) of both panels, we find a significantly positive coefficient on *POST* × *High* Δ*FV,* indicating that the treatment firms experience an increase in the noise-to-signal ratio after IFRS adoption. In the full sample, column (3) reports an insignificant coefficient on *RET* × *POST* × *High* Δ*FV*, indicating that the treatment firms exhibit no change in earnings timeliness. In the PSM sample, however, the coefficient on *RET* × *POST* × *High* Δ*FV* is positive and significant at the 10% level, suggesting weak evidence of increased timeliness for the treatment firms. Lastly, column (4) of both panels finds an insignificant coefficient on *E* × *POST* × *High* Δ*FV*, indicating that there is no change in earnings persistence for the *High* Δ*FV* firms.

Overall, the results in Table 7 suggest that increased earnings management and increased noise are the likely channels through which IFRS's fair value provisions reduce earnings PPS.[21]

5.5. Replicating and extending Ozkan et al. (2012)

Ozkan et al. (2012) find a weak increase in the usefulness of earnings in executive cash compensation, and a strong increase in relative performance evaluation (RPE) after IFRS adoption.

[21] We also explore the role of legal institutions on the effect of fair value provisions on earnings. In untabulated analysis we find that while the coefficient on Δ*E* × *POST* × *High* Δ*FV* is significantly negative only in the subsample of countries with strong legal institutions (as proxied by high rule of law in Kaufmann et al., 2010; common-law legal origin; and high anti-self-dealing index in Lel and Miller, 2018), the differences across subsamples with strong and weak legal institutions are all statistically insignificant.

In addition, they find that the increase in earnings PPS following IFRS adoption is driven by firms in countries with large IFRS-LGAAP differences as captured by Bae et al.'s (2008) GAAP differences index. We replicate these results in Panel A of Table 8. We construct two earnings-based RPE measures: ΔDPE and ΔFPE, where ΔDPE (ΔFPE) is the mean change in pre-tax earnings divided by total assets from year *t-1* to *t* for a firm's *domestic* (*foreign*) peers. Following Ozkan et al. (2012), we form a peer group for each focal firm by choosing up to eight firms that are closest in size in the same three-digit SIC. The sample in column (2) is reduced due to the requirement that the peer's size is limited to no more than three times the size of the focal firm (Ozkan et al., 2012). As found in Ozkan et al. (2012), the coefficient on $\Delta E \times POST$ is significantly positive (column (1)) but becomes insignificant after considering the effect of RPE (column (2)). In addition, the coefficient on $\Delta E \times POST$ is significantly positive only in the subsample of countries with greater than median IFRS-LGAAP differences (column (3)).[22]

In Panel B of Table 8, we extend the analysis in Ozkan et al. (2012) by rerunning equation (1) after partitioning the sample into large and small IFRS-LGAAP differences. We find a significantly positive coefficient on $\Delta E \times POST$ in both subsamples (columns (1) and (2)). While the coefficient on $\Delta E \times POST \times High\ \Delta FV$ is negative in both subsamples, it is significant only in countries with small IFRS-LGAAP differences (column (2)), suggesting that IFRS's fair value provisions reduce earnings PPS only in countries with small IFRS-LGAAP differences. This is consistent with the fact that the IFRS-LGAAP differences in Bae et al. (2008) are composed primarily of additional disclosure requirements and non-fair-value GAAP differences.[23] While

[22] Appendix C provides the country-level distribution of the IFRS-LGAAP differences measure. Note that Iceland is not covered by Bae et al. (2008) and is therefore dropped from this analysis.

[23] Bae et al.'s index includes many disclosure requirements, including those related to statement of changes in equity, segment reporting, and statement of cash flows (items 1, 3, and 19), as well as several non-fair-value GAAP differences, including those related to deferred tax accounting, capitalization of leases, and recognition of provisions (items 2, 4, and 15). In addition, as noted by Bae et al. (2018), the GAAP differences index captures differences in

large IFRS-LGAAP differences are expected to improve the usefulness of earnings in evaluating management performance by increasing the transparency and comparability of earnings, they are also expected to confound *High ΔFV*, thereby weakening our results in countries with large IFRS-LGAAP differences. In contrast, in countries with small IFRS-LGAAP differences, where these confounding factors are likely to be limited, our treatment variable is significant.[24]

In column (3) of Table 8, Panel B, we use the sample in column (2) of Table 8, Panel A and add the two earnings-based RPE measures: Δ*DPE* and Δ*FPE*, as well as their associated interaction terms. We continue to find a significantly negative coefficient on Δ*E* × *POST* × *High* Δ*FV*, consistent with our primary findings. Overall, our study extends Ozkan et al. (2012) by finding that IFRS's fair value provisions impair the usefulness of earnings in evaluating management performance.

6. Sensitivity tests

We conduct a series of sensitivity tests to check the robustness of our primary results in column (1) of Table 4. Table 9 presents the results. For brevity, we only tabulate the coefficients and statistical significance on the variable of interest, Δ*E* × *POST* × *High* Δ*FV*.

6.1. Using alternative samples

Christensen and Nikolaev (2013) find that only a small percentage of their sample firms in Germany and the U.K. are impacted by fair value accounting for PP&E, investment property, and intangibles upon IFRS adoption. We find that the negative coefficient on Δ*E* × *POST* × *High* Δ*FV*

accounting standards, not necessarily actual practice. This contrasts with our firm-level fair value measure, which captures the effects of IFRS on the actual accounts.

[24] While the result is consistent with this inference, it is also consistent with other explanations (e.g., large IFRS-LGAAP differences can be correlated with many other country-level changes, see Ball et al., 2015).

remains significant after excluding firms from these two countries. Our results are also robust to restricting the sample only to firms in Germany and the U.K.[25]

Because companies in Australia and the U.K. have a large number of observations in our sample, we repeat our analysis after excluding these countries one at a time. We also exclude Swiss firms because they are allowed to adopt either IFRS or U.S. GAAP in 2005. Untabulated analysis confirms the robustness of our results after excluding firms from these countries.

In addition, we relax the requirement of only retaining firms with positive earnings and continue to find a significantly negative coefficient on $\Delta E \times POST \times High\ \Delta FV$. Our results are also robust to using 2010-2012 as an alternative post-IFRS period, or to excluding 2008 to mitigate the influence of the global financial crisis.

6.2. Using alternative measures of high ΔFV

Instead of using a binary measure (*High* ΔFV) to capture our treatment effect of fair value provisions under IFRS, we use a decile rank of the effect of fair value accounting and continue to find robust results.

6.3. Using alternative clustering schemes

We find our inferences are robust to clustering the standard errors by executive, industry, country, or year. In addition, we adjust the standard errors using industry and year two-way clusters and find robust results. We also use two-way clustering schemes by firm-year and executive-year and obtain similar results (untabulated).

[25] In untabulated tests we also find robust results after restricting the fair value changes to accounts other than short-term investments (i.e., financial instruments) in Germany and the U.K. The mean (median) adjustments of PP&E and intangibles, both scaled by equity, upon IFRS adoption is 0.14 (0.04) for German and the U.K. firms, and 0.09 (0.02) for the rest of the sample. The relatively large adjustments of PP&E and intangibles for German and U.K. firms suggest that these accounts are more likely to be affected by non-fair-value changes (e.g., the elimination of tax-based accelerated depreciation methods in Germany, see Hung and Subramanyam, 2007). In an additional test (untabulated), we find an insignificant coefficient on $\Delta E \times POST \times High\ \Delta FV$ when restricting the fair value changes to PP&E and intangibles in German and U.K. firms, suggesting that our result is not driven by these changes.

6.4. Controlling for potential correlated omitted variables

Our results could potentially be driven by concurrent executive turnover after IFRS adoption, because newly hired executives are likely to have different compensation contracts. To mitigate this concern, we construct a binary variable, *MTO_POST*, indicating whether an executive turnover occurred during or after the first year of IFRS adoption. We then re-estimate equation (1) after including *MTO_POST* and its interactions with ΔE, *RET*, *High* ΔFV, and *High* ΔNFV. Our inferences are unchanged.

Our results are robust to controlling for the country-level GDP growth rate, a proxy for different economic conditions across countries. We also employ firm and year fixed effects to control for potential correlated omitted variables related to firm- or year-specific characteristics. In this alternative specification, we drop *High* ΔFV and *POST* because there is no within-firm or within-year variation in these variables. We find that the coefficient on $\Delta E \times POST \times$ *High* ΔFV remains significantly negative. In an additional specification, we include country-year fixed effects to allow for different time-trends and possible transition effects across countries and find robust results.

7. Conclusions

We investigate the effects of fair value accounting on the performance evaluation role of accounting earnings. Using the 2005 worldwide mandatory adoption of IFRS, we find that IFRS's non-fair-value provisions improve the ability of earnings to measure management performance, but its fair value provisions impair this ability, thereby offsetting the benefits of IFRS adoption. This result is robust to the potential influence of IFRS's non-fair-value provisions. We also find that increased earnings management and noise in earnings are the likely channels through which fair value accounting adversely affects earnings PPS.

Overall, our findings are consistent with the notion that fair value accounting reduces the usefulness of earnings in executive performance evaluation by reducing the reliability of reported earnings. Our study contributes to the literature by providing evidence that fair value accounting impairs the performance evaluation role of accounting earnings.

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Appendix A
Variable Definitions

COMP	Total annual cash compensation that an executive receives from a company in year t, in thousand U.S. dollars.
LnCOMP	Natural logarithm of total annual cash compensation that an executive receives from a company in year t, in thousand U.S. dollars.
$\Delta COMP$	Change in the natural logarithm of annual cash compensation for an executive of a firm from year $t-1$ to t.
POST	Indicator variable that takes the value of one for the post-IFRS adoption period and zero for the pre-IFRS adoption period.
E	Pre-tax income divided by total assets in year *t.*
ΔE	Change in pre-tax income divided by total assets for a firm from year $t-1$ to t (as in Murphy, 2001; Ozkan et al., 2012),
RET	Market-adjusted annual stock returns for a firm over fiscal year *t.*
LEV	Financial leverage, calculated as short-term debt plus long-term debt, divided by total assets in year *t*.
BM	The ratio of the book value of equity to the market value of equity for a firm in year *t.*
SIZE	Natural logarithm of the market value of equity in million US dollars for a firm in year *t*.
CEO	Indicator variable that takes the value of one for CEOs, and to zero otherwise.
AGE	Age of an executive in year *t.*
LnAGE	Natural logarithm of *AGE*.
TENURE	Number of years an executive serves in the position for a firm in year *t*.
LnTENURE	Natural logarithm of *TENURE*.
ΔFV	A firm-level measure of the extent to which a firm's financial statements are influenced by the application of fair value accounting under IFRS. It is calculated as the sum of the absolute values of the reconciled amounts (the difference between restated and original values, scaled by shareholders' equity) of eight financial statements accounts that are subject to the application of fair value accounting under IFRS. The eight accounts are property, plant & equipment, short- term investments, long-term investments, intangibles, provisions, post-retirement benefits, stock option compensation expenses, and discontinued operations.
ΔNFV	A firm-level measure of the extent to which a firm's financial statements are influenced by the application of non-fair-value-related provisions under IFRS. It is calculated as the absolute value of the reconciled amount of shareholders' equity, minus the reconciled amounts of property, plant & equipment, short-term investments, long-term investments, intangibles, discontinued operations, and plus the reconciled amounts of provisions, post-retirement benefits, and stock option compensation expenses, scaled by the original value of shareholders' equity.
High ΔFV	Indicator variable that takes the value of one if ΔFV is greater than its sample median, and zero otherwise.
High ΔNFV	Indicator variable that takes the value of one if ΔNFV is greater than its sample median, and zero otherwise.
PRGL	Indicator variable that takes the value of one if a firm reports non-zero revaluation gains/losses of fair value changes that are recognized in the income statement in year t, and zero otherwise.
High ΔFV_SINV	Indicator variable that takes the value of one if a firm reports a non-zero reconciliation on the account of short-term investments, and zero otherwise.

High Δ*FV_OTH*	Indicator variable that takes the value of one if Δ*FV_OTH* is greater than its sample median, and zero otherwise. Δ*FV_OTH* is a firm-level measure of the extent to which a firm's financial statements are influenced by the application of fair value accounting under IFRS that are related to accounts other than short-term investments. It is calculated as the sum of the absolute values of the reconciled amounts (the difference between restated and original values, scaled by shareholders' equity) of seven non-short-term investment accounts that are subject to the application of fair value accounting under IFRS, including property, plant & equipment, long-term investments, intangibles, provisions, post-retirement benefits, stock option compensation expenses, and discontinued operations.
Consolid_Diff	The number of major different provisions between local GAAP and IFRS concerning changes in the scope of consolidation. Data source: Nobes (2001).
EBFRGL	Earnings before revaluation gains/losses scaled by total assets.
RGL_TOT	Total revaluation gains/losses of fair value changes that are recognized in the income statement, scaled by total assets. It is the sum of *RGL_INV*, *RGL_ INVP*, *RGL_HD*, and *RGL_OTH.*
RGL_INV	Revaluation gains/losses in investments scaled by total assets.
RGL_ INVP	Revaluation gains/losses in investment property scaled by total assets.
RGL_HD	Revaluation gains/losses in hedges and derivatives scaled by total assets.
RGL_OTH	Other revaluation gains/losses scaled by total assets.
JMBE	Indicator variable that takes the value of one if a firm's earnings per share just meet or beat analysts' forecast targets, and zero otherwise. Specifically, the variable equals one if earnings per share meet or beat analyst consensus forecasts by one cent or less, and zero otherwise.
NOISE-TO-SIGNAL	The ratio of the standard deviation of pre-tax earnings divided by total assets to the standard deviation of weakly stock returns. The variable in the pre- and post-IFRS periods is estimated over the four years before and after IFRS adoption, respectively.
TIMELINESS	Earnings timeliness proxy, measured as the R^2 from a firm-specific reverse regression of Basu (1997) that regresses annual earnings on stock returns. The variable in the pre- and post-IFRS adoption periods is estimated using quarterly or semi-annual statements over the five years before and after the firm adopts IFRS, respectively.
STDCF	The standard deviation of cash flows scaled by total assets. The variable is estimated over the four years before and after the firm adopts IFRS, or over a rolling four-year window during the post period of 2005-2016.
GROWTH	Ratio of market capitalization to book value of equity.
SIZETA	Natural logarithm of total assets in million US dollars.
Δ*DPE*	Earnings-based measures of relative performance evaluation, calculated as the mean change in pre-tax income divided by total assets from year *t-1* to *t* for a firm's *domestic* peers.
Δ*FPE*	Earnings-based measures of relative performance evaluation, calculated as the mean change in pre-tax income divided by total assets from year *t-1* to *t* for a firm's *foreign* peers.
IFRS-LGAAP Diff.	The number of accounting rules that differ between IFRS and local GAAP, as reported in Bae et al. (2008, Table 1).

Appendix B
Procedure to Develop the Propensity-Score-Matched (PSM) Sample

Our PSM analysis begins by estimating a *firm-level* logistic model to predict the probability of being a treatment firm (i.e., *High* ΔFV = 1), using data in year *t-1* (the year before the IFRS adoption). By matching firms in year *t-1*, we ensure that our sample firms appear during both in the pre- and post-periods. We include the following variables in our prediction model: (1) ΔE and *RET*, the two performance measures; (2) *LEV*, because the fair value option under IFRS is associated with debt financing (Christensen and Nikolaev, 2013); and (3) *BM* and *SIZE*, two additional firm-level control variables. We then match treatment firms with benchmark firms without replacement.[26] This procedure results in a PSM sample of 7,740 executive-year observations for 388 non-financial firms.

Panel A of Appendix B reports the estimation results of the logistic regressions. The explanatory power of logistic model decreases from 6.6% to 0.6% after the match. Panel B presents the covariate balance metrics of the PSM sample in the year of matching, year *t-1*. The mean differences between the treatment firms and the PSM benchmark firms are insignificant across all of the covariates. In addition, the *L1* statistics, calculated as the difference between the histograms of the covariates (DeFond et al., 2017; Iacus, King, and Porro, 2011), is closer to zero than to one for all the characteristics, consistent with the treatment firms and benchmark firms having similar univariate distributions.

[26] The sample size used in the PSM prediction model is larger than the number of sample firms in the pre-adoption years reported in Table 1 because we do not require the sample for the PSM prediction model to have compensation data. We use a larger sample in the PSM prediction model in order to increase the precision of the estimated coefficients. Following prior studies (Rosenbaum and Rubin, 1984; Austin, 2011), we start with a caliper width equal to 30% of the standard deviation of the propensity score (yielding a caliper width of approximately 0.05). We then narrow the width until we find a high quality match between the treatment and benchmark firms, which we define as (1) insignificant differences between the mean and median covariates, and (2) comparable levels of pre-period earnings PPS, as indicated by an insignificant coefficient on $\Delta E \times High\ \Delta FV$ in Table 4. This procedure generates caliper widths of 0.001.

Appendix B, continued

Panel A: Logit Regression Used to Compute the Propensity Score

Dep var.= *High* Δ*FV*	Pre-match	Post-match
Δ*E*	0.838	-0.032
	(2.12)	(0.00)
RET	-0.137	-0.034
	(0.84)	(0.03)
LEV	2.378***	-1.008
	(21.95)	(1.89)
BM	0.298	0.071
	(1.76)	(0.05)
SIZE	0.316***	0.078
	(34.00)	(1.06)
OBS. (#firms)	800	388
Pseudo R^2	0.066	0.006

Panel B: Statistics for the PSM Sample

Variable	Treatment (*N* =194 firms)	Benchmark (*N* = 194 firms)	Diff.	*t-stat.*	*L1*
Δ*E*	0.035	0.036	-0.001	0.10	0.095
RET	0.089	0.092	-0.003	0.07	0.069
LEV	0.165	0.185	-0.020	1.39	0.106
BM	0.563	0.575	-0.012	0.32	0.095
SIZE	5.614	5.450	0.165	-1.08	0.132

Panel A reports the results of the logistic regressions used to compute the propensity scores and logistic regression results after the matching. Panels B presents the covariate balance metrics of the PSM sample of firms. See Appendix A for variable definitions. *chi-squares* are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

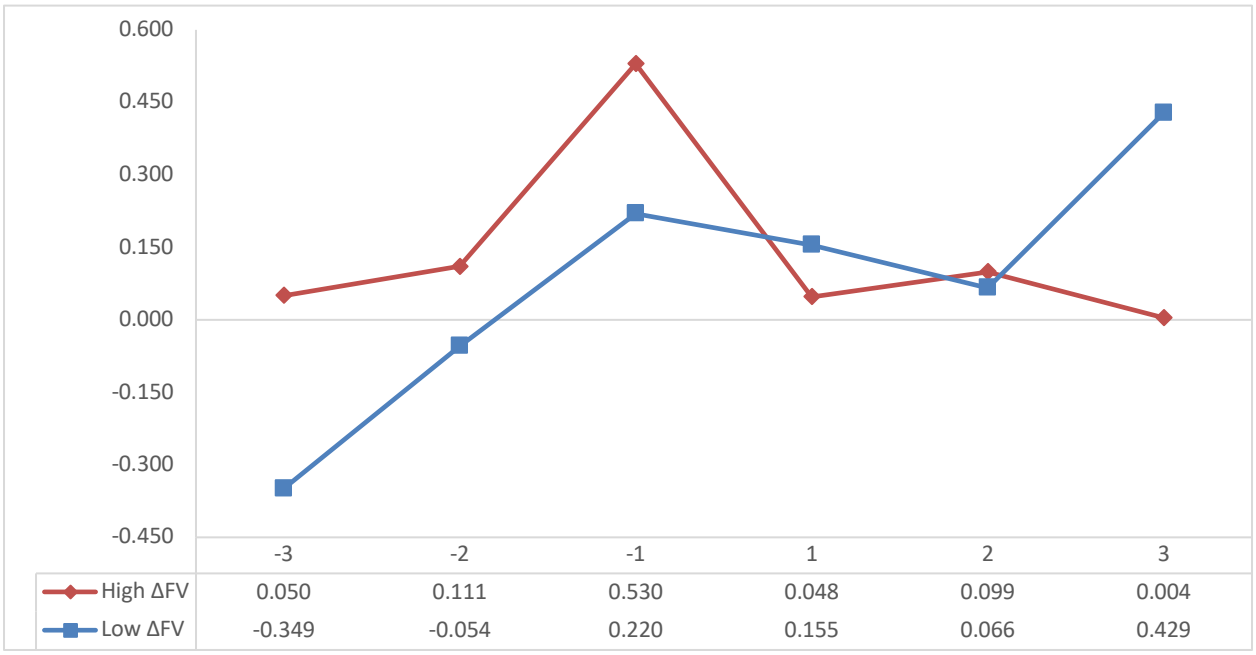
Appendix C
Country-level Variables

Economy	*Consolid_Diff*	IFRS-LGAAP Differences
Australia	0	4
Austria	2	12
Belgium	2	13
Denmark	3	11
Finland	4	15
France	4	12
Germany	6	11
Hong Kong	1	3
Iceland	3	-
Ireland	2	1
Italy	6	12
Netherlands	2	4
Norway	3	7
Philippines	4	10
Poland	4	12
Portugal	3	13
Slovenia	2	9
South Africa	0	0
Spain	6	16
Sweden	4	10
Switzerland	4	12
U.K.	2	1
Median	3	11

Appendix C presents the distribution of the country-level variables. See Appendix A for variable definitions.

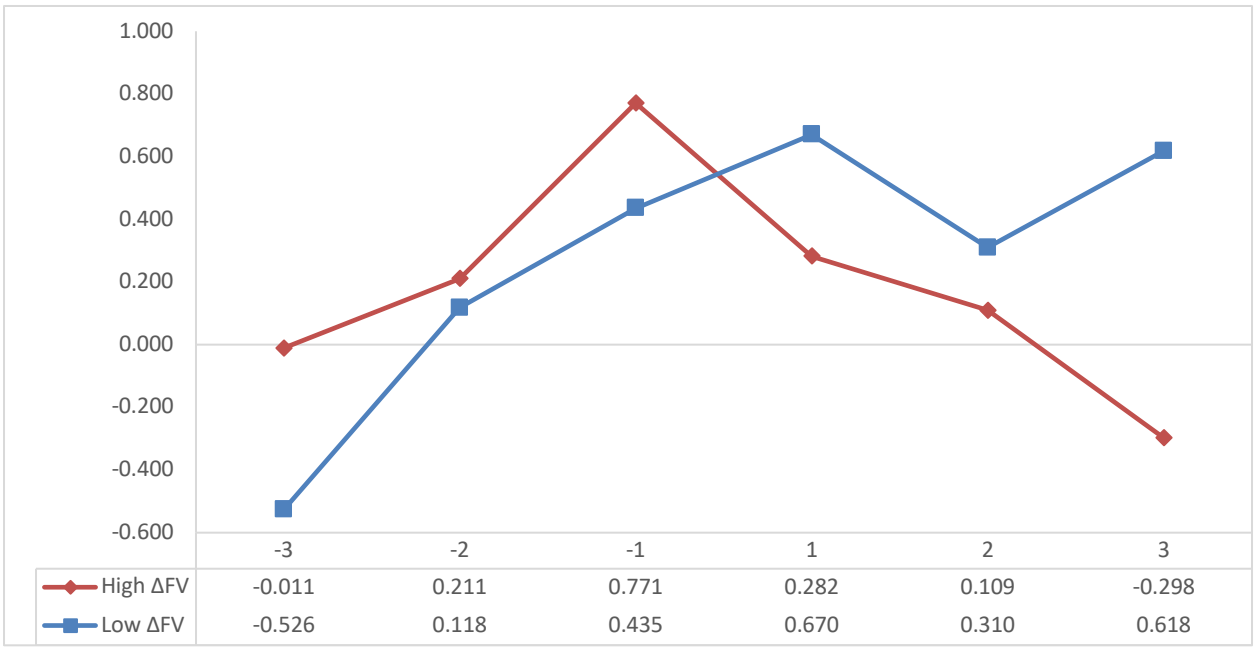
Figure 1
Earnings PPS by Year

Panel A: Full Sample



	-3	-2	-1	1	2	3
High ΔFV	0.050	0.111	0.530	0.048	0.099	0.004
Low ΔFV	-0.349	-0.054	0.220	0.155	0.066	0.429

Panel B: PSM Sample



	-3	-2	-1	1	2	3
High ΔFV	-0.011	0.211	0.771	0.282	0.109	-0.298
Low ΔFV	-0.526	0.118	0.435	0.670	0.310	0.618

Table 1
Sample Distribution

Panel A: Sample Distribution by Economy

Economy	Executive-Years	Firm-Years	Unique Firms
Australia	8,821	1,533	516
Austria	3	1	1
Belgium	40	21	12
Denmark	27	11	5
Finland	254	118	52
France	1,080	338	128
Germany	357	116	56
Hong Kong	12	3	1
Iceland	17	5	3
Ireland	353	75	17
Italy	83	24	12
Netherlands	506	217	61
Norway	573	150	66
Philippines	28	13	8
Poland	60	13	8
Portugal	7	4	2
Slovenia	19	5	4
South Africa	2,015	462	122
Spain	133	33	17
Sweden	479	244	114
Switzerland	51	19	14
U.K.	6,544	1,627	435
Total	21,462	5,032	1,654

Panel B: Sample Distribution by Calendar Year

	Industrial Firms	
Year	Executives	Firms
IFRS Adopters		
2002	425	115
2003	1,748	427
2004	3,049	729
2005	2,820	560
2006	1,743	523
2007	4,872	1,148
2008	4,435	1,054
2009	2,370	476
Total	21,462	5,032

Table 1 presents the sample distribution. Panel A reports the distribution by country and Panel B reports the distribution by calendar year.

Table 2
Statistics for Reconciled Amounts of Financial Statement Items Related to Fair Value Accounting under IFRS

Panel A: Fair-Value Related Accounts

Accounting items	N	Mean	Median	IFRS's fair value provisions
Observations with non-zero value				
PP&E	14,880	0.078	0.017	IAS 16, IAS 40
Short-term investments	5,821	0.092	0.013	IAS 39
Long-term investments	9,078	0.068	0.009	IAS 39
Intangibles	17,384	0.067	0.023	IAS 22, IAS 38
Provisions	12,769	0.110	0.022	IAS 37
Post-retirement benefits	8,922	0.146	0.034	IAS 19
Stock options	5,681	0.004	0.002	IFRS 2
Discontinued operations	3,438	0.093	0.016	IFRS 5
Aggregate measure				
ΔFV	21,462	0.346	0.130	

Panel B: Fair-value Changes (ΔFV) by Country

Economy	N	Mean	Median
Australia	8,821	0.201	0.079
Austria	3	0.055	0.055
Belgium	40	0.560	0.432
Denmark	27	0.110	0.045
Finland	254	0.208	0.154
France	1,080	0.559	0.226
Germany	357	0.684	0.152
Hong Kong	12	0.018	0.018
Iceland	17	0.685	0.195
Ireland	353	0.380	0.174
Italy	83	0.532	0.475
Netherlands	506	0.345	0.291
Norway	573	0.245	0.180
Philippines	28	0.130	0.031
Poland	60	0.357	0.048
Portugal	7	2.089	2.849
Slovenia	19	0.484	0.363
South Africa	2,015	0.197	0.053
Spain	133	0.463	0.417
Sweden	479	0.170	0.074
Switzerland	51	0.328	0.133
U.K.	6,544	0.553	0.262
Total/Median	21,462	0.351	0.164

Table 2, Continued

Panel C: Testing the Association between the Likelihood of Reporting Revaluation Gains and Losses and the Fair Value Indices, 2005-2016

Dep var. =	*PRGL*	
	(1)	(2)
High* Δ*FV	**0.294*****	
	(3.72)	
High* Δ*FV_SINV		**0.234*****
		(2.97)
High* Δ*FV_OTH		**0.352*****
		(4.31)
STDCF	0.262	0.259
	(0.64)	(0.64)
Δ*E*	0.501***	0.496***
	(2.76)	(2.75)
RET	-0.141***	-0.136***
	(-3.20)	(-3.08)
BM	0.517***	0.498***
	(9.02)	(8.66)
SIZE	0.401***	0.380***
	(18.07)	(16.57)
Country and Industry FE	Yes	Yes
Year FE	Yes	Yes
OBS.	19,295	19,295
Pseudo R^2	0.195	0.197

Panels A and B of Table 2 report the statistics and the aggregate measure of the fair-value-related reconciled amounts (i.e., Δ*FV*) by country, respectively. Panel C presents Logit regression results of the likelihood of reporting fair value revaluation gains or losses on our fair value proxies over the post-IFRS period of 2005-2016. See Appendix A for other variable definitions. *z-stats*, reported in parentheses, are calculated based on robust standard errors clustered by firm. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

Table 3
Summary Statistics of Key Variables

Panel A: Descriptive Statistics

	Treatment firms (*High* Δ*FV* = *1*) (*N* = 10,540)			Benchmark firms (*High* Δ*FV* = *0*) (N = 10,922)			Diff.
	Mean	Median	STD	Mean	Median	STD	
COMP (in 1,000 US$)	576.3	365.2	726.2	393.9	261.0	483.3	182.3***
Δ*COMP*	0.159	0.094	0.451	0.163	0.100	0.421	-0.005
Δ*NFV*	0.251	0.119	0.509	0.044	0.019	0.072	0.207***
Δ*E*	0.016	0.002	0.113	0.020	0.004	0.122	-0.004**
RET	0.064	0.017	0.447	0.069	-0.001	0.518	-0.006
BM	0.620	0.482	0.508	0.684	0.528	0.558	-0.064***
SIZE	6.067	6.142	1.762	5.303	5.233	1.574	0.764***
CEO	0.224	0.000	0.417	0.204	0.000	0.403	0.020***
AGE (in years)	53.79	53.50	8.357	52.79	52.00	8.431	0.992***
TENURE (in years)	5.049	4.000	4.226	5.046	4.000	4.365	0.002

Panel B: Correlation Matrix

	Δ*COMP*	*High* Δ*FV*	*High* Δ*NFV*	Δ*E*	*RET*	*BM*	*SIZE*	*CEO*	*LnAGE*
High Δ*FV*	-0.005								
High Δ*NFV*	0.001	0.493***							
Δ*E*	0.019***	-0.116***	-0.080***						
RET	0.082***	-0.006	0.006	0.163***					
BM	-0.032***	-0.060***	-0.073***	-0.337***	-0.259***				
SIZE	0.015**	0.223***	0.186***	0.069***	0.069***	-0.426***			
CEO	0.014**	0.025***	0.026***	-0.012*	0.008	0.005	-0.012*		
LnAGE	-0.098***	0.060***	0.039***	-0.030***	-0.017**	0.017**	0.101***	-0.045***	
LnTENURE	-0.195***	-0.001	0.019***	0.026***	-0.034***	0.009	0.036***	0.092***	0.187***

Table 3 presents descriptive statistics on the variables used in our main analysis. Panel A reports the summary statistics. Panel B reports the Pearson correlation coefficients (*N* = 21,462). ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. See Appendix A for variable definitions.

Table 4
The Effect of Fair Value Accounting on Earnings PPS

Dep var. = Δ*COMP*		Full Sample	PSM Sample	CEO Sample	Controlling for Δ*NFV*
		(1)	(2)	(3)	(4)
Δ*E*	β_1	0.001	0.117	-0.010	0.016
		(0.01)	(1.06)	(-0.11)	(0.31)
Δ*E* × *POST*	β_2	0.203**	0.436	0.330*	0.114
		(1.99)	(1.55)	(1.69)	(1.02)
Δ*E* × *POST* × *High* Δ*FV*	**β_3**	**-0.378*****	**-0.670****	**-0.728****	**-0.569*****
		(-2.70)	**(-2.08)**	**(-2.53)**	**(-3.62)**
Δ*E* × *High* Δ*FV*	β_4	0.276***	0.127	0.425**	0.307***
		(3.08)	(0.91)	(2.19)	(2.71)
RET		0.068***	0.109***	0.083***	0.079***
		(3.39)	(3.03)	(2.74)	(3.54)
RET × *POST*		-0.007	-0.091**	-0.009	-0.017
		(-0.30)	(-2.01)	(-0.25)	(-0.63)
RET × *POST* × *High* Δ*FV*		0.046	0.171**	-0.005	0.031
		(1.30)	(2.56)	(-0.10)	(0.81)
RET × *High* Δ*FV*		-0.042	-0.065	0.030	-0.024
		(-1.59)	(-1.49)	(0.72)	(-0.86)
POST × *High* Δ*FV*		-0.006	0.045*	0.042*	-0.015
		(-0.39)	(1.80)	(1.72)	(-0.91)
POST		0.026**	-0.013	-0.012	0.022*
		(2.29)	(-0.66)	(-0.66)	(1.76)
High Δ*FV*		0.006	-0.033	-0.020	0.007
					(0.49)
Δ*E* × *POST* × *High* Δ*NFV*	β_5				0.361**
					(2.24)
Δ*E* × *High* Δ*NFV*	β_6				-0.072
					(-0.62)
RET × *POST* × *High* Δ*NFV*					0.035
					(0.92)
RET × *High* Δ*NFV*					-0.039
					(-1.40)
POST × *High* Δ*NFV*					0.017
					(1.08)
High Δ*NFV*					-0.001
					(-0.06)
BM		-0.003	0.000	-0.006	-0.003
		(-0.33)	(0.03)	(-0.42)	(-0.29)
SIZE		0.007**	0.013**	0.004	0.007**
		(2.46)	(2.09)	(0.84)	(2.32)
CEO		0.036***	0.023**	n.a.	0.036***
		(5.42)	(2.19)		(5.43)
LnAGE		-0.168***	-0.165***	-0.162***	-0.167***
		(-8.26)	(-5.30)	(-3.22)	(-8.21)
LnTENURE		-0.128***	-0.111***	-0.106***	-0.128***
		(-21.20)	(-11.22)	(-10.02)	(-21.20)
Country and Industry FE		Yes	Yes	Yes	Yes
OBS.		21,462	7,740	4,582	21,462
Adjusted R^2		0.060	0.064	0.063	0.060

	Full Sample	PSM Sample	CEO Sample	Controlling for Δ*NFV*
	(1)	(2)	(3)	(4)
Changes in earnings PPS				
Benchmark firms (*High ΔFV = 0*)				
Pre-period (β_1)	0.001	0.117	-0.010	0.016
Post-period ($\beta_1+\beta_2$)	0.204**	0.553**	0.320*	0.130
Change from pre- to post-period (β_2)	0.203**	0.436	0.330*	0.114
Treatment firms (*High ΔFV = 1*)				
Pre-period ($\beta_1+\beta_4$)	0.277***	0.244***	0.414**	0.323***
Post-period ($\beta_1+\beta_2+\beta_3+\beta_4$)	0.102*	0.010	0.016	-0.132
Change from pre- to post-period ($\beta_2+\beta_3$)	-0.175*	-0.234	-0.398*	-0.455***
Difference-in-differences (β_3)	**-0.378*** **	**-0.670** **	**-0.728** **	**-0.569*** **
High Δ*NFV firms*				
Pre-period ($\beta_1+\beta_6$)				-0.056
Post-period ($\beta_1+\beta_2+\beta_5+\beta_6$)				0.419***
Change from pre- to post-period ($\beta_2+\beta_5$)				0.475***
Difference-in-differences (β_5)				**0.361** **

Table 4 presents results on the effect of IFRS's fair value provisions on earnings PPS. The dependent variable is the change in executive cash compensation (Δ*COMP*). See Appendix A for variable definitions. *t-stats*, reported in parentheses, are calculated based on robust standard errors clustered by firm. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

Table 5
Mitigating the Impact of IFRS's Non-Fair-Value Provisions

Panel A: Short-term Investment Account versus Other Accounts

	Full sample		PSM sample	
Dep var. = Δ*COMP*	Short-term investment account	Other fair value-related accounts	Short-term investment account	Other fair value-related accounts
High Δ*FV*=	*High* Δ*FV_SINV*	*High* Δ*FV_OTH*	*High* Δ*FV_SINV*	*High* Δ*FV_OTH*
Δ*E*	-0.024	-0.026	0.013	0.143
	(-0.45)	(-0.47)	(0.06)	(0.65)
Δ*E* × *POST*	0.245**	0.263**	0.495	0.391
	(2.28)	(2.38)	(1.45)	(1.15)
Δ*E* × *POST* × *High* Δ*FV*	**-0.395****	**-0.417*****	**-0.749***	**-0.613***
	(-1.99)	**(-2.89)**	**(-1.65)**	**(-1.66)**
Δ*E* × *High* Δ*FV*	0.313**	0.269***	0.451	0.012
	(2.49)	(2.94)	(1.62)	(0.05)
RET	0.083***	0.081***	0.167***	0.164***
	(3.33)	(3.21)	(3.94)	(3.76)
RET × *POST*	-0.016	-0.015	-0.132**	-0.126**
	(-0.54)	(-0.50)	(-2.39)	(-2.30)
RET × *POST* × *High* Δ*FV*	0.071*	0.041	0.203***	0.201***
	(1.65)	(1.04)	(2.63)	(2.91)
RET × *High* Δ*FV*	-0.069**	-0.045	-0.168***	-0.104**
	(-2.20)	(-1.45)	(-3.39)	(-2.07)
POST × *High* Δ*FV*	-0.025	-0.014	0.026	0.031
	(-1.28)	(-0.86)	(0.77)	(1.13)
POST	0.034***	0.033**	-0.004	-0.006
	(2.58)	(2.57)	(-0.18)	(-0.24)
High Δ*FV*	0.023	0.010	0.001	-0.021
	(1.33)	(0.70)	0.013	0.143
Controls	Yes	Yes	Yes	Yes
Country and Industry FE	Yes	Yes	Yes	Yes
OBS.	14,548	19,043	5,169	6,868
Adjusted R^2	0.067	0.060	0.076	0.067

Table 5, Continued

Panel B: Analysis Conditional on Differences in Consolidation Rules between Local GAAP and IFRS

	Full sample		PSM sample	
Dep var. = Δ*COMP*	Low *Consolid_Diff*	High *Consolid_Diff*	Low *Consolid_Diff*	High *Consolid_Diff*
Δ*E*	0.008	0.080	0.127	-0.135
	(0.15)	(0.36)	(1.07)	(-0.47)
Δ*E* × *POST*	0.202*	0.031	0.454	0.357
	(1.87)	(0.10)	(1.49)	(0.73)
Δ*E* × *POST* × *High* Δ*FV*	**-0.421*** **	**0.351**	**-0.691****	**-1.040**
	(-2.92)	**(0.67)**	**(-2.01)**	**(-0.29)**
Δ*E* × *High* Δ*FV*	0.277***	-0.020	0.107	2.554*
	(3.01)	(-0.05)	(0.72)	(1.69)
RET	0.078***	-0.050	0.109***	0.161
	(3.64)	(-1.47)	(2.99)	(1.51)
RET × *POST*	-0.020	0.128*	-0.096**	0.062
	(-0.76)	(1.70)	(-2.03)	(0.41)
RET × *POST* × *High* Δ*FV*	0.061	0.063	0.176**	0.221
	(1.65)	(0.44)	(2.53)	(0.83)
RET × *High* Δ*FV*	-0.048*	-0.121	-0.064	-0.328
	(-1.74)	(-1.03)	(-1.45)	(-1.60)
POST × *High* Δ*FV*	-0.004	-0.098*	0.043*	0.135
	(-0.23)	(-1.75)	(1.70)	(1.09)
POST	0.024**	0.076*	-0.013	-0.077
	(2.08)	(1.94)	(-0.62)	(-1.01)
High Δ*FV*	0.000	0.130**	-0.030	-0.097
	(0.03)	(2.42)	(-1.35)	(-1.12)
Controls	Yes	Yes	Yes	Yes
Country and Industry FE	Yes	Yes	Yes	Yes
OBS.	18,313	3,149	7,226	514
Adjusted R^2	0.067	0.043	0.068	0.013

Table 5 presents results on the effect of fair value accounting on earnings PPS conditional on fair value accounts and consolidation rules for the full sample and PSM sample. Panel A reports results for subsamples using reconciled amounts related to the short-investment account and other fair value items. Panel B reports results for subsamples of firms in countries with low and high differences in consolidation rules between local GAAP and IFRS. See Appendix A for variable definitions. *t-stats*, reported in parentheses, are calculated based on robust standard errors clustered by firm. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

Table 6
Executive Compensation and Fair Value Gains and Losses, Post-IFRS Adoption Period

Panel A: Descriptive Statistics of Reported Fair Value Gains and Losses, absolute values (%)

	Non-zero N	Mean	STD	Q1	Median	Q3
RGL_TOT	24,377 (29%)	0.611	1.246	0.055	0.186	0.585
RGL_INV	6,647 (8%)	0.622	1.390	0.032	0.130	0.553
RGL_INVP	2,420 (3%)	0.850	1.285	0.062	0.280	1.124
RGL_HD	16,846 (20%)	0.489	1.121	0.041	0.143	0.436
RGL_OTH	3,711 (4%)	0.390	0.432	0.063	0.203	0.650

Panel B: The Association between Executive Compensation and Fair Value Gains and Losses

Dep var. = Δ*COMP*	(1)	(2)	(3)	(4)
EBFRGL (β_1)	0.680***	1.038***	0.683***	1.037***
	(4.39)	(10.29)	(4.41)	(10.27)
RGL_TOT (β_2)	1.078	0.420		
	(1.38)	(0.72)		
F-test of $\beta_1 = \beta_2$, p-value	***0.608***	***0.292***		
RGL_INV			3.194**	1.567
			(2.27)	(1.55)
RGL_INVP			-0.892	-3.667
			(-0.24)	(-1.49)
RGL_HD			-0.226	0.583
			(-0.30)	(0.82)
RGL_OTH			9.360*	1.114
			(1.73)	(0.35)
RET		0.034***		0.034***
		(4.01)		(4.04)
GROWTH		-0.804***		-0.018***
		(-66.47)		(-5.01)
SIZETA		-0.812***		0.336***
		(-11.43)		(71.43)
CEO		0.156***		0.804***
		(19.52)		(66.47)
LnAGE		0.018***		-0.812***
		(5.04)		(-11.43)
LnTENURE		0.335***		0.156***
		(71.30)		(19.52)
Country and Industry FE	Yes	Yes	Yes	Yes
OBS.	82,872	82,872	82,872	82,872
Adjusted R^2	0.158	0.484	0.159	0.484

Table 6 presents the analysis on the association between executive cash compensation and fair value revaluation gains/losses using post-IFRS data from 2005 to 2016. See Appendix A for variable definitions. *t-stats*, reported in parentheses, are calculated based on robust standard errors clustered by firm. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

Table 7
The Channels through which Fair Value Accounting Affects Earnings PPS

Panel A: Full Sample

Dep var. =	*JMBE* (Earnings mgt)	*NOISE-TO-SIGNAL*	ΔE (Timeliness)	E_{t+1} (Persistence)
	(1)	(2)	(3)	(4)
POST	-0.148	-0.165***	-0.022***	-0.041***
	(-1.64)	(-3.44)	(-6.83)	(-8.04)
***POST* × *High* ΔFV**	**0.424*** **	**0.135** **	0.002	0.011*
	(3.38)	**(2.19)**	(0.56)	(1.78)
High ΔFV	-0.285***	-0.051	-0.003	-0.017***
	(-2.83)	(-1.02)	(-0.86)	(-3.88)
RET	0.055	-0.225***	0.060***	
	(0.90)	(-4.39)	(9.53)	
RET × *POST*			-0.008	
			(-0.84)	
***RET* × *POST* × *High* ΔFV**			**0.018**	
			(1.31)	
RET × *High* ΔFV			-0.008	
			(-0.90)	
E				0.459***
				(10.40)
E × *POST*				0.041
				(0.66)
***E* × *POST* × *High* ΔFV**				**0.030**
				(0.35)
E × *High* ΔFV				0.035
				(0.62)
ΔE	0.444**	0.217		
	(2.15)	(0.47)		
STDCF	-2.038***	6.395***	0.113***	-0.238***
	(-2.86)	(12.89)	(3.30)	(-6.44)
BM	-0.221***	-0.077***	-0.006***	-0.019***
	(-3.27)	(-3.13)	(-2.66)	(-6.35)
SIZE	-0.058**	0.009	0.001	0.008***
	(-2.22)	(0.89)	(0.92)	(8.06)
Country and Industry FE	Yes	Yes	Yes	Yes
OBS.	9,611	5,114	15,952	16,184
Pseudo/Adjusted R^2	0.116	0.219	0.157	0.171

Table 7, Continued

Panel B: PSM Sample

Dep var. =	*JMBE* (Earnings mgt)	*NOISE-TO-SIGNAL*	ΔE (Timeliness)	E_{t+1} (Persistence)
	(1)	(2)	(3)	(4)
POST	-0.068	-0.161***	-0.019***	-0.036***
	(-0.59)	(-2.94)	(-5.90)	(-5.87)
***POST* × *High* ΔFV**	**0.481*** **	**0.145** **	-0.004	0.002
	(2.90)	**(2.08)**	(-0.91)	(0.28)
High ΔFV	-0.252*	-0.057	0.003	-0.011**
	(-1.84)	(-1.01)	(0.85)	(-2.30)
RET	-0.009	-0.328***	0.051***	
	(-0.09)	(-4.38)	(7.95)	
RET × *POST*			-0.009	
			(-0.96)	
***RET* × *POST* × *High* ΔFV**			**0.028***	
			(1.89)	
RET × *High* ΔFV			0.005	
			(0.49)	
E				0.517***
				(13.46)
E × *POST*				0.092
				(1.52)
***E* × *POST* × *High* ΔFV**				**0.092**
				(0.86)
E × *High* ΔFV				-0.013
				(-0.21)
ΔE	0.479	0.580		
	(1.50)	(0.95)		
STDCF	-1.565	7.171***	0.147***	-0.230***
	(-1.56)	(9.60)	(3.06)	(-4.13)
BM	-0.257***	0.001	-0.009***	-0.015***
	(-2.82)	(0.02)	(-2.96)	(-4.91)
SIZE	-0.105***	0.027*	0.000	0.005***
	(-2.65)	(1.96)	(-0.39)	(4.28)
Country and Industry FE	Yes	Yes	Yes	Yes
OBS.	5,143	2,992	9,030	8,730
Pseudo/Adjusted R^2	0.135	0.237	0.140	0.131

Table 7 presents results on the channels through which fair value accounting affects earnings PPS. Panels A and B report results for the full sample and PSM sample, respectively. Columns (1) reports the result of a Logit regression, where the dependent variable is the indicator of meeting or beating earnings benchmarks (*JMBE*). Column (2) reports the regression result where the dependent variables are the noise-to-signal ratio of earnings to stock returns (*NOISE-TO-SIGNAL*). Columns (3) and (4) report the results testing the changes in earnings timeliness and persistence. *z-stats* (in column (1)) or *t-stats* (in columns (2) and (3)), reported in parentheses, are calculated based on robust standard errors clustered by firm. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

Table 8
Replication and Extension of Ozkan, Singer, and You (2012)

Panel A: Replicating Ozkan et al. (2012)

Dep var. = Δ*COMP*	Full Sample		Subsamples		
	(1)	(2)	Large *IFRS-LGAAP Diff.* (3)	Small *IFRS-LGAAP Diff.* (4)	Diff. (3 - 4)
Δ*E*	0.089**	0.112*	-0.372	0.094**	
	(2.00)	(1.84)	(-1.03)	(2.09)	
Δ*E* × *POST*	**0.123***	**0.094**	**1.148*****	**0.094**	1.054**
	(1.75)	**(0.98)**	**(2.71)**	**(1.34)**	(2.49)
Δ*DPE*		-0.019			
		(-0.25)			
Δ*DPE* × *POST*		0.033			
		(0.33)			
Δ*FPE*		0.232			
		(1.58)			
Δ*FPE* × *POST*		**-0.541*****			
		(-2.67)			
RET	0.048***	0.047**	-0.091	0.052***	
	(3.52)	(2.47)	(-1.51)	(3.71)	
RET × *POST*	0.011	0.017	0.127*	0.007	
	(0.63)	(0.72)	(1.65)	(0.38)	
POST	0.026***	0.020*	0.006	0.027***	
	(3.21)	(1.79)	(0.13)	(3.25)	
BM	0.001	-0.005	0.025	0.000	
	(0.12)	(-0.44)	(0.80)	(0.04)	
SIZE	0.006**	0.009**	0.013	0.006**	
	(2.13)	(2.50)	(1.28)	(2.18)	
CEO	0.038***	0.031***	0.044**	0.037***	
	(5.85)	(3.77)	(2.07)	(5.49)	
LnAGE	-0.162***	-0.153***	-0.238***	-0.154***	
	(-8.13)	(-6.09)	(-3.85)	(-7.28)	
LnTENURE	-0.134***	-0.121***	-0.078***	-0.140***	
	(-22.09)	(-16.13)	(-3.63)	(-22.01)	
Country and Industry FE	Yes	Yes	Yes	Yes	
OBS.	22,573	13,587	2,136	20,418	
Adjusted R^2	0.062	0.056	0.048	0.066	

Table 8, Continued

Panel B: Extending Ozkan et al. (2012)

	(1) Large *IFRS-LGAAP Diff.*		(2) Small *IFRS-LGAAP Diff.*		(3) Controlling for RPE	
Dep var. = Δ*COMP*	*coeff.*	*t-stat.*	*coeff.*	*t-stat.*	*coeff.*	*t-stat.*
Δ*E*	-0.498	-1.45	0.007	0.14	0.006	0.10
Δ*E* × *POST*	1.407**	2.48	0.184*	1.79	0.237*	1.86
Δ*E* × *POST* × *High* Δ*FV*	**-0.770**	**-0.74**	**-0.390*****	**-2.80**	**-0.301***	**-1.65**
Δ*E* × *High* Δ*FV*	0.636	0.71	0.269***	2.99	0.225**	2.08
Δ*DPE*					-0.135	-1.49
Δ*FPE*					0.399**	2.09
Δ*DPE* × *POST*					0.180	1.52
Δ*FPE* × *POST*					-0.723**	-2.55
Δ*DPE* × *POST* × *High* Δ*FV*					-0.360*	-1.66
Δ*FPE* × *POST* × *High* Δ*FV*					0.459	1.24
Δ*DPE* × *High* Δ*FV*					0.292*	1.81
Δ*FPE* × *High* Δ*FV*					-0.440	-1.64
RET	-0.017	-0.62	0.073***	3.50	0.081***	2.90
RET × *POST*	-0.024	-0.28	-0.010	-0.39	-0.030	-0.93
RET × *POST* × *High* Δ*FV*	0.336*	1.79	0.041	1.13	0.108**	2.42
RET × *High* Δ*FV*	-0.230	-1.58	-0.043	-1.56	-0.075**	-2.08
POST × *High* Δ*FV*	-0.058	-0.74	-0.007	-0.46	-0.007	-0.36
High Δ*FV*	0.104	1.36	0.003	0.21	0.009	0.52
POST	0.050	0.79	0.027**	2.33	0.024	1.61
BM	0.015	0.46	-0.004	-0.37	-0.007	-0.58
SIZE	0.005	0.44	0.008***	2.63	0.009**	2.32
CEO	0.047**	2.19	0.034***	4.92	0.031***	3.73
LnAGE	-0.257***	-4.06	-0.158***	-7.32	-0.156***	-6.20
LnTENURE	-0.077***	-3.44	-0.134***	-21.17	-0.121***	-16.12
Country and Industry FE	Yes		Yes		Yes	
OBS.	2,095		19,350		13,587	
Adjusted R^2	0.046		0.064		0.057	

Table 8 presents results of replicating and extending the main results of Ozkan et al. (2012). Panel A replicates the results of Ozkan et al. Panel B extends the results to consider the effect of IFRS's fair value provisions partitioned on the Bae et al.'s *IFRS-LGAAP* index. As in Ozkan et al., we choose up to eight companies with the closest size to that of the treatment company in the same three-digit SIC industry as the peer companies. See Appendix A for other variable definitions. Except for those otherwise denoted, *t-stats* reported in parentheses are calculated based on robust standard errors clustered by firm. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.

Table 9
Robustness Checks

Dep var. = Δ*COMP*	Coefficient on Δ*E*×*POST*×*High* Δ*FV*	*t-stats.*	OBS.	Adj. R^2
Alternative sample				
1. Excluding German and U.K. firms	-0.306**	-2.09	14,561	0.051
2. Restricting to German and U.K. firms	-0.918**	-2.45	6,901	0.088
3. Including firms with negative earnings	-0.131**	-2.06	28,339	0.063
4. Using 2010-2012 as the post period	-0.287**	-2.14	18,353	0.056
5. Removing 2008	-0.367**	-2.48	17,027	0.056
Alternative measure of High Δ*FV				
1. Decile rank	-0.053**	-2.13	21,462	0.059
Alternative clustering schemes				
1. Executive	-0.378***	-3.23	21,462	0.059
2. Industry	-0.378***	-2.98	21,462	0.059
3. Country	-0.378***	-4.40	21,462	0.059
4. Year	-0.378***	-3.81	21,462	0.059
5. Industry and year	-0.378***	-2.80	21,462	0.059
Additional control variables				
1. Post-IFRS executive turnover	-0.371***	-2.63	21,462	0.060
2. GDP growth	-0.374***	-2.68	21,462	0.060
3. Firm and year FE	-0.481**	-2.48	21,462	0.111
4. Country-year FE	-0.376***	-2.68	21,462	0.061

Table 9 presents results of the sensitivity tests on our hypothesis test. See Appendix A for other variable definitions. Except for those otherwise denoted, *t-stats* reported in parentheses are calculated based on robust standard errors clustered by firm. ***, **, and * indicate significance at the 1%, 5%, and 10% two-tailed levels, respectively.