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Article

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Does IFRS convergence really increase accounting qualities? Emerging market evidence

Emerging
market
evidence

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Abstract

Purpose – This study aims to examine whether International Financial Reporting Standards (IFRS) convergence process adds value to the accounting quality dimensions, including accruals quality, earnings smoothing, timely loss recognition and earnings persistence.

Design/methodology/approach – It analyzes the hypothesis of accounting quality changes in post-IFRS convergence by using the univariate and multivariate statistics. Particularly, the authors rely on panel data analyses using industrial companies' data from 2008 until 2014, comprising 3,861 firm-years observations, in Indonesia.

Findings – The results indicate that there is no conclusive evidence that all accounting quality dimensions including accruals quality, earnings smoothing, timely loss recognition and earnings persistence increased in post-IFRS convergence.

Practical implications – The findings of this study may help regulators and standard setters to consider future adoption of IFRS, mostly to figure out the best “formula” to increase the usefulness of accounting information in post-IFRS convergence.

Originality/value – Rather than doing piecemeal work, the current study focuses on IFRS convergence on a broader aspect of accounting quality dimensions. It also focuses on the convergence process of IFRS as an alternative of full adoption, which has been the focus of many research studies.

Keywords IFRS convergence, Accounting quality, Accruals, Earnings smoothings, Timely loss recognition, Earnings persistence

Paper type Research paper

1. Introduction

The globalization of international financial markets and cashflows have created strong incentives for regulators to harmonize accounting standards worldwide. With more than 100 countries have adopted or expressed their intention to adapt or converge to International Financial Reporting Standards – IFRS (Zehri and Chouaibi, 2013) – it is believed that it will bring about some improvement in the transparency and quality of financial statements among different countries (Bryce *et al.*, 2015; Gordon *et al.*, 2010). It is expected that IFRS adoption will enhance capitals and investments flow as multinational transactions increase as well. Moreover, stronger emphasis on stakeholders' orientations embodied in IFRS have



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led to the expectation that the newly developed standard will be more capable in reflecting economic gains and losses and providing more powerful accounting information than accounting rules as in Generally Accepted Accounting Principles (GAAP) (Ball and Shivakumar, 2006).

Considering the normative, positive consequences of IFRS, numerous researches have tried to investigate whether the regime change from one's national GAAP to IFRS will bring about some improvements in the accounting quality. Nevertheless, researches were not conclusive. Although some studies have documented the increase in accounting quality (Barth *et al.*, 2012; Bryce *et al.*, 2015; Palea, 2014, among others), many have proved mixed, ambiguous or even negative findings (Ahmed *et al.*, 2012; Hassan *et al.*, 2009; Hung and Subramanyam, 2007; Jeanjean and Stolowy, 2008, among others). Many arguments were offered to provide the justification of the conflicting findings. Ball and Shivakumar (2006), for instance, argued that there are too many diverse dimensions in enterprises that even change to the IFRS regime may not provide the clarity in information and quality. Similarly, country-specific factors may become one of other important factors as Pelucio-Grecco *et al.* (2014) also implied the scarce research on IFRS implementation, particularly during the convergence process.

Based on these motives, the current study figured out whether IFRS convergence process affected the quality of accounting information in Indonesia. With its unique features, Indonesia is becoming important to be scrutinized. Indonesian Institute of Accountants declared that it would gradually converge to IFRS started in 2012 with a three-year gap with IFRS and will reduce its implementation gap to one year by 2015. Furthermore, in contrast with other countries, the decision to implement IFRS in Indonesia cannot be regarded as the full adoption, as it still maintains some non IFRS standards.

This study has several distinct characteristics with other researches. First, we focused on small area of the IFRS convergence gradual process, rather than "full-frontal" adoption, that has been rarely been researched (exceptions include studies in China, e.g. Wu *et al.*, 2014; Ke *et al.*, 2016; in Malaysia, e.g. Marzuki and Wahab, 2016, among others). Second, this study also focuses on the broader spectrum of accounting quality dimensions, including accruals quality, timely loss recognition, earnings smoothing and earnings persistence, by using random effects panel regression analyses and univariate statistics to compare accounting qualities in pre- vs post-IFRS convergence. Consequently, we are able to provide convincing evidence for whether stakeholders may get positive (or negative) consequences of financial accounting qualities due to IFRS convergence.

This research provides significant contribution to accounting literature and professionals alike in several important ways. First, this research focuses on the IFRS convergence process rather than pure switch from national GAAP to IFRS. Second, research studies, particularly in the emerged markets, usually focused on whether accounting qualities increment can be observed for voluntary IFRS adopters rather than non-voluntary IFRS adopters (Ahmed *et al.*, 2013; Barth *et al.*, 2008, among others). This research scrutinizes accounting quality outcomes of IFRS convergence in one of developing markets, which has rarely been the focus of the research. Third, in lieu of partial measure of accounting quality attributes, we used several dimensions of accounting qualities, including accruals quality, earnings smoothing, timely loss recognition and earnings persistence.

2. Literature review and hypothesis development

2.1 Dimensions of accounting qualities

Despite being researched and elaborated for several decades, there is no precise and universal definition of accounting qualities. This is reasonable, because whether accounting

information qualities can be looked at various perspectives and dimensions, as also being outlined in the IASB's decision usefulness of accounting information. In this case, qualities of accounting information can be achieved when it influences users' ability to reduce cost of capital, make profitable allocation of capital, investment and/or credits.

Accounting information qualities can be traced according to several attributes of "good" financial reporting, including accruals quality, timely loss recognition, earnings smoothing, earnings persistence, value relevance, reliability and predictability. We focused on earnings attributes as they are able to capture economic reality as reflected in a company's financial performance. The earnings attributes in accounting information qualities consist of accruals quality, timely loss recognition (accounting conservatism), earnings smoothing and earnings persistence.

Accruals can be regarded as the most important element in the financial statements which reflects the differences between reported earnings and cash flows due to imbalance timing between payment receipt (outflow) and supply (delivery) of goods and services. Empirical evidence have noted that firms with better accruals are more likely to be able to reduce the costs of capital and increase the relevance of earnings (Francis *et al.*, 2005; Aboody *et al.*, 2005). Measuring accruals quality is becoming paramount as it also reflects the quality of financial reporting. Research studies have conceptualized that accruals quality can be observed if it can predict the future cash flows (Dechow and Dichev, 2002; Francis *et al.*, 2005).

Another common attribute of accounting quality is timely loss recognition or, in other terms, accounting conservatism. Accounting conservatism is defined as the situation in which there is more thorough verification for good news than bad news. Consequently, higher accounting conservatism implies that firms will have a timelier news disposition for the bad news *vis-a-vis* good news (Basu, 1997).

On the other hand, accounting quality can also be looked through the volatility of accounting information that, however, can be classified into two opposing outcomes. Sankar and Subramanyam (2001) argued that managers may smooth their reported earnings to communicate firms' informative financial performance to outsiders and consequently increase firm's value. Goel and Thakor (2003) also argued that investors react positively with the smoothness in the reported earnings as it is more useful to investors and reflects the overall stability. This views argued that earnings smoothing is good and may enhance a firm's value.

On the other extreme, Leuz *et al.* (2003) and Healy (1985), among others, have warned that earnings smoothing may be used as part of managerial opportunistic behavior to meet budget targets, job security or hiding firm real underlying performance. According to this stream, earnings smoothing is *ill-advised* and more likely to be value destroying. Interestingly, a study by Graham *et al.* (2005) indicates that investors are willing to lower their risk premium in the presence of non-volatile earnings path, although highly volatile cash flow.

Furthermore, earnings persistence has also become the focus of researchers and investors alike as it is useful to measure firms value and financial condition (Aboody *et al.*, 2005; Kothari *et al.*, 2006, among others). Earnings persistence is defined as the extent to which the earnings (or cash flows) can provide information to future earnings (or cash flows). The higher the explanatory power of current to future earnings and/or cash flows, the more persistence the earnings or cash flow is. Earlier research, for example, Dechow (1994) and Oei *et al.* (2008), has maintained that earnings from cash flows is more persistent rather than accruals and provides more information about the cash.

2.2 International Financial Reporting Standards and accounting quality

Numerous studies have tested the trend of accounting quality after IFRS adoptions. Results were contradictory. Some findings documented that IFRS adoption will lead to increased accounting quality in terms of:

- variability and persistence of earnings (Doukakis, 2010);
- smaller discretionary accruals (Chen *et al.*, 2010);
- increased stock price informativeness (Landsman *et al.*, 2012; Devalle *et al.*, 2010);
- more value relevant (Bartov *et al.*, 2005); and
- better reflection of firms' underlying economics.

Gassen and Sellhorn (2006) found that German firms that voluntarily adopted IFRS are more likely to have more persistent and more conservative earnings. Barth *et al.* (2008) documented that firms implementing international accounting standards are more likely to be more conservative and have more accounting value relevance. A study in Switzerland, Germany and Austria also indicated that disclosure quality is higher for firms adopting IFRS rather than national GAAP (Daske and Gebhardt, 2006). Chalmers *et al.* (2011) and Chua *et al.* (2012) have also to some extent confirmed the findings maintaining that the inherent nature of IFRS to limit the managerial discretionary behavior could enhance earnings quality.

However, other stream of research has documented that IFRS does not lead to enhanced quality of accounting information (Bryce *et al.*, 2015; Van Tendeloo and Vanstraelen, 2005; Ahmed *et al.*, 2012). Hassan *et al.* (2009) rejected a lemma that IFRS implementation will guarantee an increased in accounting value relevance. Studies in developing countries also revealed the stagnant movements of accounting qualities in post-IFRS period. For example, Outa (2011) investigated whether there is a link between increased accounting quality in post-IFRS adoption in Kenya and failed to confirm such a relationship. A study in Morocco, South Africa, UAE and the Philippines by Hessayri and Saihi (2015) also documented the lack of support for lower earnings management practices after the switch to IFRS for eight years period of observation. These findings challenge a postulate that IFRS would limit managerial discretionary behavior, and thus, stating otherwise is *ill-advised*. A study by Ball *et al.* (2003) in Hong Kong, Malaysia, Singapore and Thailand found that the adoption of a standard from common law countries does not guarantee an increment in the accounting quality

Based on the conflicting findings, we propose the following null hypothesis:

H1. The accounting quality dimensions do not increase after the IFRS implementation.

3. Methods

Accounting quality is basically multi-dimensional in nature and cannot be simply measured using one indicator. Therefore, we use several measures of accounting quality, including:

- performance-matched discretionary accruals;
- accruals quality;
- timely loss recognition;
- earnings smoothing;
- earnings management toward positive income; and
- earnings persistence.

3.1 Accounting quality models

As previously mentioned, there are several attributes among which accounting quality can be measured, namely:

- accruals quality;
- timely loss recognition;
- earnings smoothing; and
- earnings persistence.

Further sections elaborate the models and methods to test the hypothesis regarding IFRS impact on those accounting quality attributes. The current study uses the univariate (i.e. independent sample *t*-test) or multivariate tests (i.e. random effects panel regression analysis) for each accounting quality models, which is elaborated in details in the following section.

3.1.1 Accruals quality. This study measures the accruals quality, as a part of accounting quality, by using the pooled [Dechow and Dichev's \(2002\)](#) model that has been suggested by [Chen et al. \(2010\)](#) and [Bryce et al. \(2015\)](#):

$$\Delta WC = \gamma_0 + \gamma_1 CF_{t-1} + \gamma_2 CF_{jt} + \gamma_3 CF_{jt+1} + \gamma_4 \Delta SALES_{jt} + \gamma_5 PPE_{jt} + \varepsilon_{jt} \quad (1)$$

ΔWC is the working capital of year t minus year $t-1$ and CF is the cash flows from operations, $\Delta SALES_{jt}$ is the net sales of firm j year t minus net sales of firm j year $t-1$. PPE_{jt} is the plant, property and equipment of firm j in year t , while the ε denotes for the model's residual value.

Standard deviation of the residual (ε) is used to measure the accruals quality in which the higher the value indicates the lower accruals quality. In contrary, firms are regarded to have a better accruals quality if the standard deviation of ε is higher. To test whether the accruals quality increases (or decreases) in post-IFRS convergence, this study simply uses univariate independent sample *t*-test, in which the unstandardized residuals ($\varepsilon_{j,t}$) of post-IFRS sample group, found from model (1), is tested against the pre-IFRS group.

3.1.2 Timely loss recognition. This study bases its timely loss recognition on the work of [Basu \(1997\)](#) in which the earning is regressed on the negative returns (as a proxy of bad news), the returns and the interaction product of negative returns and returns. Using multivariate regression, we also control for the presence of firm-level variables that may lead to further bias to the timely loss recognition, including the leverage, market to book ratio and size. To test whether the corporate recognizes the losses faster for the voluntary firms rather than the mandatory firms in adopting the IFRS, the model is expressed as follows:

Model 2a:

$$\begin{aligned} EPS_{jt} = & \lambda_0 + \lambda_1 R_{jt} + \lambda_2 DR_{jt} + \lambda_3 IFRS_{jt} + \lambda_4 MB_{jt} + \lambda_5 SIZE_{jt} + \lambda_6 (RDR)_{jt} \\ & + \lambda_7 (DRIFRS)_{jt} + \lambda_8 (DRMB)_{jt} + \lambda_9 (DRSIZE)_{jt} + \lambda_{10} (RIFRS)_{jt} \\ & + \lambda_{11} (RMB)_{jt} + \lambda_{12} (RSIZE)_{jt} + \lambda_{13} (RDRIFRS)_{jt} + \lambda_{14} (RDRLEV)_{jt} \\ & + \lambda_{15} (RDRMB)_{jt} + \lambda_{16} (RDRSIZE)_{jt} + \varepsilon_j \end{aligned}$$

$$\begin{aligned} EPS_{jt} = & \lambda_0 + \lambda_1 R_{jt} + \lambda_2 DR_{jt} + \lambda_3 IFRS_{jt} + \lambda_4 MB_{jt} + \lambda_5 SIZE_{jt} \\ & + \lambda_6 (RDR)_{jt} + \lambda_7 (DRIFRS)_{jt} + \lambda_8 (DRMB)_{jt} + \lambda_9 (DRSIZE)_{jt} \\ & + \lambda_{10} (RIFRS)_{jt} + \lambda_{11} (RMB)_{jt} + \lambda_{12} (RSIZE)_{jt} + \lambda_{13} (RDRIFRS)_{jt} \\ & + \lambda_{14} (RDRLEV)_{jt} + \lambda_{15} (RDRMB)_{jt} + \lambda_{16} (RDRSIZE)_{jt} + \varepsilon_j \end{aligned}$$

where *EPS* denotes the earnings per beginning of year price, *R* is the annual return, *DR* is a dummy variable which is 1 if a particular corporate has $R < 0$, and 0 otherwise, *MB* is market-to-book ratio, *IFRS* is a dummy variable which is 1 if it equals post-convergence period of IFRS (years of 2012, 2013, 2014) and 0 otherwise, *SIZE* is the natural logarithm of firms' total assets and the asterisk (*) indicates the multiplication command of the respective variables. *RDR* equals to interaction product of return (R) and dummy variable of return (DR), *DRIFRS* is the interaction of IFRS and dummy variable, *DRMB* is interaction of dummy variable of return (DR) and MB value, *DRSIZE* is interaction of dummy variable of return (DR) and SIZE, *RIFRS* is interaction of return and IFRS, *RMB* is interaction of return and MB value, *RSIZE* is interaction of annual return and size. To figure out whether IFRS depends on timely loss recognition, the current study also introduces three-way interaction products. They are *RDRIFRS*, which is a three-way interaction between return (R), dummy variable of return (DR) and IFRS, *RDRMB*, interactions between return (R), dummy variable of return (DR) and MB value, and *RDRSIZE*, which is interactions between return (R), dummy variable of return (DR) and natural logarithm of total assets (SIZE).

This study tests whether the recognition of bad news is faster relative to the good news (λ_6 should be positive and significant). More specifically, this study tests whether IFRS adoption tends to have more timely loss recognition as compared non-IFRS adoption. In this case, to find out whether IFRS leads to timelier loss recognition, the current study expects the coefficient of *RDRIFRS* (i.e. λ_{16}) to be positive and significant.

3.1.3 Earnings smoothing. Earnings smoothing can also be regarded as the properties of accounting quality (Barth *et al.*, 2008). The logic is straight-forwardly simple. When the corporate does not engage in the earnings smoothing activities, there should be more volatilities and fluctuations in the reported earnings. The first formula of the earnings smoothing can be described as follows (Barth *et al.*, 2008):

$$\begin{aligned} \Delta NI_{jt} = & \vartheta_0 + \vartheta_1 SIZE_{jt} + \vartheta_2 GROWTH_{jt} + \vartheta_3 EISSUE_{jt} + \vartheta_4 DEBT_{jt} + \vartheta_5 DISSUE_{jt} \\ & + \vartheta_6 TURN_{jt} + \vartheta_7 CF_{jt} + \varepsilon_{jt.5} \end{aligned} \tag{3}$$

Here, ΔNI_{jt} denotes for the change in net income scaled deflated by total assets for firm *j* at time *t*, *SIZE* equals to the natural logarithm of total assets, *GROWTH* is the percent change in sales, *EISSUE* equals to percent change in common stock, *DEBT* is liabilities over book value of equity, *DISSUE* is change in total liabilities, *TURN* is sales over total assets and *CF* is the annual cash flow from operating activities.

However, this study also takes into account the possibility of earnings change that is due to the volatilities of cash flow that is unrelated with the discretionary use of accounting policies:

$$\begin{aligned} \Delta CF_{jt} = & \vartheta_0 + \vartheta_1 SIZE_{jt} + \vartheta_2 GROWTH_{jt} + \vartheta_3 EISSUE_{jt} + \vartheta_4 DEBT_{jt} + \vartheta_5 DISSUE_{jt} \\ & + \vartheta_6 TURN_{jt} + \vartheta_7 CF_{jt} + \varepsilon_{jt.5} \end{aligned} \quad (4)$$

Here, ΔCF_{jt} denotes for the change in the cashflows from operations. Other independent variables are defined as in model (3).

Both models (3) and (4) are used to measure the discretionary behavior of the corporate to smooth the earnings volatilities. [Ahmed et al. \(2012\)](#) and [Dimitropoulos et al. \(2013\)](#) have contended that less than zero ratio of residuals in ΔNI_{jt} over the residuals of ΔCF_{jt} ($\varepsilon_{jt.5}/\varepsilon_{jt.6}$) calculated from models (3) and (4). To determine whether there is any change of earnings smoothing due to IFRS change can be figured out by using independent sample *t*-test, in which $\varepsilon_{jt.5}/\varepsilon_{jt.6}$ of the pre-IFRS is tested against $\varepsilon_{jt.5}/\varepsilon_{jt.6}$ of post-IFRS. Results can be clearly found in [Table IV](#) (Panel B).

3.1.4 Earnings persistence. The last measure of accounting quality is the earnings persistence. In this model, predicting future earnings is the key element in measuring the persistence. This study uses the widely accepted model for earnings persistence ([Ben-Nasr et al., 2015](#); [Ali et al., 2007](#)):

$$NIBEI_{jt}/TA_{jt-1} = \beta_0 + \beta_1 NIBEI_{jt-1}/TA_{jt-1} + \varepsilon_{jt} \quad (5)$$

Here, $NIBEI/TA_{jt-1}$ is the net income before extraordinary items of firm *j* at time *t* scaled by lagged net income before extraordinary items of firm *j* at time *t-1* deflated by total assets of firm *j* at time *t-1*.

To measure the persistence level, this study runs and modifies the multivariate regression originated from model (5) into:

$$\begin{aligned} NIBEI_{jt}/TA_{jt-1} = & \beta_0 + \beta_1 NIBEI_{jt-1}/TA_{jt-1} \\ & + \beta_2 IFRS + \beta_3 NIBEI_{jt-1}/TA_{jt-1} \times IFRS + \varepsilon_{jt} \end{aligned}$$

To determine whether there is any significant change in earnings persistence due to IFRS implementation, β_3 should be significant.

4. Results

The current study collected the industrial sectors in the pre-post-IFRS convergence, consisting of 3,597 firm-years observation from 378 unbalanced samples. The sample industrial classification and its frequency is displayed in [Table I](#). More than 17 per cent of the whole population comes from materials industry, while in contrary, the utility firms only consist of two companies, with a 0.53 per cent population. Firms from capital goods and food and beverage are also dominant in our study, which account for 42 companies (11.11 per cent) and 43 companies (11.38 per cent), respectively.

[Table II](#) shows the correlation coefficients of some important variables used in models (1)-(4). Some of the variables used, for example, current assets, current liabilities, CFO, sales, PPE, working capital, sales change, lag and lead CFOs, as expected, and have strong positive

Table I.
Industrial
classification

GICS Code	Industry	Freq	(%)
1010	Energy	37	8.75
1510	Materials	68	16.08
2010	Capital Goods	42	9.93
2020	Commercial and professional services	9	2.13
2030	Transportation	33	7.80
2510	Automobiles and components	10	2.36
2520	Consumer durables and apparel	23	5.44
2530	Hotels, restaurants and leisure	18	4.26
2540	Media	12	2.84
2550	Retailing	23	5.44
3010	Food and Staples and Retailing	8	1.89
3020	Food beverage and tobacco	43	10.17
3030	Household and professional products	5	1.18
3510	Healthcare equipment and services	5	1.18
3520	Pharmaceutical and biotechnology	8	1.89
4020	Diversified financials	17	4.02
4040	Real Estate	45	10.64
4520	Technology hardware and equipment	4	0.95
5010	Telecommunication services	11	2.60
5510	Utilities	2	0.47
	Total	423	100.00

Source: Data gathered from Bloomberg financial database

significant correlations. The correlation coefficient above can also be used as a preliminary check for the probable multicollinearity and for gaining insights of the temporary relationship patterns among key variables. Despite the fact that there is some high correlation among variables, there are no serious issues on multicollinearity that may bias estimated parameters used to test the hypotheses. Those highly correlated variables (e.g. current assets (CURASS), current liabilities (CURLIAB), property, plant and equipment (PPE), cash flow, lagged CFO (LAGCFO), lead CFO (LEADCFO) and change on working capital (DWC)) were only used to get the estimated parameters (residuals of [Dechow and Dichev \(2002\)](#) from model (1), which is then used to test the hypothesis by comparing the difference of residuals using independent sample t-test for the pre- vs post-IFRS groups. Those high correlation values are expected and do not influence the validity of the main findings.

[Table III](#), Panel A, describes the yearly descriptive statistics for residuals of working capital as in model (1) during pre- and post-IFRS convergence. Lower accruals quality can be observed in 2010, two years prior to IFRS convergence period, where the average residual is at its peak and where STDRES in 2010 is 0.151 (SD = 1.291). In contrary, it is also found that accruals quality is at its best in 2013, two years following IFRS convergence, with the average of STDRES being -0.101 (SD = 1.174).

However, we also found that accruals quality does not have a certain pattern during the convergence transition phases. In this case, accruals quality during IFRS convergence is more inferior than pre-IFRS convergence. However, independent sample *t*-test shows that the residuals between pre- (mean = -0.036) and post-IFRS convergence (mean = 0.016) is not statistically significant. The mapping of true accruals to firms' future cash flow statistically remains unchanged despite the IFRS convergence process currently taking place ([Chichernea et al., 2012](#)).

	CURASS	CURLIAB	CFO	SALES	PPE	WC	dsales	DWC	lagCFO
CURASS									
CURLIAB	0.8508*								
	0.000								
CFO	0.5495*	0.7331*							
	0.000	0.000							
SALES	0.8141*	0.8690*	0.7895*						
	0.000	0.000	0.000						
PPE	0.5736*	0.7894*	0.8943*	0.7663*					
	0.000	0.000	0.000	0.000					
WC	0.7405*	0.2768*	0.0672*	0.3772*	0.0393*				
	0.000	0.000	0.000	0.000	0.031				
Dsales	0.3726*	0.3750*	0.2965*	0.3909*	0.2797*	0.1950*			
	0.000	0.000	0.000	0.000	0.000	0.000			
DWC	0.2920*	0.032	0.1013*	0.1709*	0.0569*	0.4937*	0.0595*		
	0.000	0.104	0.000	0.000	0.004	0.000	0.006		
lagCFO	0.5298*	0.7157*	0.9562*	0.7776*	0.8971*	0.0597*	0.2576*	0.0756*	
	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	
leadCFO	0.5696*	0.7650*	0.9562*	0.8033*	0.8926*	0.0525*	0.3343*	0.1330*	0.9515*
	0.000	0.000	0.000	0.000	0.000	0.008	0.000	0.000	0.000

Notes: CURASS is current assets, CURLIAB is current liabilities, CFO is cash flow from operations, SALES is natural logarithm of total sales, PPE is property, plant and equipment, WC is working capital, which is current assets minus current liabilities, dsales is change of sales in period t and $t - 1$, DWC is change of working capital in period t and $t - 1$, lagCFO is previous period of CFO, RESID is unstandardized residuals from equation (1) to measure accruals quality, while IFRS is a dummy variable of 1, which indicates post-IFRS period (after 2012), and 0 otherwise. Interested readers can contact authors for further results not disclosed here due to space limitation

Source: Own elaboration

Table II.
Correlation matrix of
important variables
(accruals quality)

Another dimension of accounting quality that is worth researching is earnings smoothing. As previously mentioned, we use managerial discretionary behavior to smooth their earnings properties as developed by Ahmed *et al.* (2012) and Barth *et al.* (2008). The managerial discretionary behavior is reflected in the ratio of variance of net income and cash flow from operations. However, rather than using the standard deviation of firms' net income residuals over standard deviation of firms' cash flow residuals, we simply use the ratio of residuals of net income over residuals of cash flow. Ahmed *et al.* (2012) argued that when smooth earnings management takes place, the net income change variance should be less than cash flow change variance. Therefore, a smaller ratio indicates greater tendency to engage in earnings smoothing.

Based on descriptive statistics displayed in Table IV, Panel A, we found that RNICFO is smaller in the post-IFRS (mean = -0.069 ; SD = 0.747) than pre-IFRS (mean = -0.0156 ; SD = 0.709). Nevertheless, univariate test of difference indicates that at 5 per cent level, there is no difference of earnings smooting between pre- and post-IFRS convergence.

Table V presents the results of timely loss recognition in the face of IFRS convergence. Hausman test indicates that panel data analysis for both models (1) and (2) uses random effects, instead of fixed effects, model due to non-significant X^2 in the Hausman test [$\chi^2 = 12.54$; $p = 0.128$ for model (1); and $\chi^2 = 7.27$; $p = 0.70$ for model (2)]. As shown in model (1), Table V, the coefficient of IFRS on EPS is not statistically significant ($\lambda_3 = 0.232$; $z = 0.1351$), indicating that EPS is not different during IFRS convergence process. More importantly, we also found that the interaction coefficient of return and dummy (RDR) is 0.5804 and not

STDRES	PRE-IFRS				POST-IFRS		
	2008	2009	2010	2011	2012	2013	2014
<i>Panel A: Descriptive statistics of residuals in equation (1) to measure accruals quality</i>							
N	285	300	319	377	399	211	213
Mean	-0.086	-0.103	0.151	0.022	0.055	-0.101	0.094
Stdev	0.877	0.85	1.291	1.039	0.938	1.174	1.000
Minimum	-10.517	-7.705	-2.048	-9.908	-4.335	-6.248	-4.028
Maximum	3.235	3.996	13.824	9.001	10.526	3.575	6.579
Median	-0.032	-0.032	-0.031	-0.031	-0.092	-0.094	-0.156
<i>Panel B: univariate test of difference</i>							
	Mean	N	SD	Std. Error in mean			
PRESTDRES	0.016	1281	1.061	0.024			
POSTSTDRES	-0.036	823	1.067	0.024			
Combined	PRESTDRES-POSTSTDRES		Lower	Upper	T	sig	
	-0.053		-0.014	0.121	1.549	0.061	

Notes: STDRES is the standard deviation of residuals found from [Dechow and Dichev \(2002\)](#) model: $\Delta WC = \gamma_0 + \gamma_1 CF_{t-1} + \gamma_2 CF_{it} + \gamma_3 CF_{it+1} + \gamma_4 \Delta SALES_{it} + \gamma_5 PPE_{it} + \varepsilon$ from equation (1) as been suggested by [Chen et al. \(2010\)](#) and [Bryce et al. \(2015\)](#). PRESTDRES is STDRES during the pre-IFRS convergence while POSTSTDRES is STDRES in the post-IFRS convergence. PANEL A displays the yearly descriptive statistics of accruals quality measure (RESNICF) from 2008 until 2014. PANEL B, on the other hand, is univariate test of independent t-test for the accruals quality during the pre- and post-IFRS convergence period. Number of observations (N) in Panel B is total observations where 1,281 observations are during pre-IFRS (2008 – 2011) and 823 observations are during post-IFRS (2012-2014) period (823), which concurs with number of observations in PANEL A

Source: Statistics analyzed using SPSS

Table III.
Accruals quality in the pre- (2008-2011) and post-IFRS convergence period (2012-2014)

significant ($z = 1.59$). It implies therefore that accounting conservatism did not significantly exist from 2008 until 2014. From [Table II](#), results indicate that accounting conservatism was not affected by the IFRS as the three-way interaction between return, dummy return and IFRS (RDRIFRS) is also not significant ($\lambda_{13} = 0.1737; z = 0.2$).

The lack of accounting conservatism in the pre- and post-IFRS convergence periods is not influenced by the MB value, as suggested by [Roychowdhury and Watts \(2007\)](#), as the coefficient of the three-way interaction between return, dummy and MB value (TRDUMMB), 0.009 and is not statistically significant ($z = 0.420$). Similarly, the result is persistent even when we control for size effect, when the coefficient of return, dummy and size is 28.86054 and not significant ($z = 1.23$)

[Table VI](#) displays the results of earnings persistence during the pre- and post-IFRS convergence. Again, the interaction coefficient of IFRS and LAGNITA, 0.1411, is not statistically significant ($p = 0.815$). Based on rigorous testing, our study indicates that IFRS convergence does increase the accounting quality.

The result is in line with [Hung and Subramanyam \(2007\)](#) that due to more emphasis of IFRS to fair values, it should more capable to incorporate firms' economic events. As the economic events tend to fluctuate, current earnings cannot predict future earnings. [Eccher and Healy \(2000\)](#) also report that the outcome of the implementation of International Accounting Standards and National Accounting Standards is not different regarding the ability of accruals in explaining future cash flows. A study by [Doukakis \(2010\)](#) in Athens Stock Exchange also found that firms in the early adoption of IFRS are not more likely to have a better earnings persistence. Similarly, [Outa \(2011\)](#) provided solid evidence in Kenya for the constant earnings quality in the post-IFRS period.

	RESIDNI	FULL SAMPLE RESIDCFO	RNICFO	RESIDNI	PRE-IFRS RESIDCFO	RNICFO	RESIDNI	POST-IFRS RESIDCFO	RNICFO
<i>Panel A: Descriptive statistics of variables in equation (2) for earnings smoothing variables</i>									
N	2,086	2,080	2,080	1,153	1,148	1,148	933	933	932
Mean	-1.23E-07	0.000342	-0.038	-16.531	467.421	-0.0156	20.428	-575.75	-0.0669
Stdev	2,809.036	370,321.3	0.7269	2,444.669	470.576.9	0.709	3,203.831	182,812.5	0.747
Mod	-0.2506	-1,142.55	-0.0198	25.33	-1,523.19	-0.019	-27.6998	-354.299	-0.019
Min	-63,308.2	-7,548,072	-19.12	-63,308.2	-7,548,072	-19.12	-36,689.1	-1,335,849	-18.272
Max	81,873.6	1.37E+07	10.031	14,330.12	1.37E+07	10.031	81,873.6	2,778	2,778
<i>Panel B: Univariate test of difference</i>									
Mean		Std err	Lower	Upper	<i>t</i>	prob			
Diff	0.051	0.032	-0.0115	0.114	1.6	0.054			
<p>Notes: <i>RESIDNI</i> equals to the residuals of Net income as calculated from equation (3), and <i>RESIDCFO</i> is the residuals of CFO as calculated from equation (4). <i>RNICFO</i> is <i>RESIDNI/RESIDCFO</i>. The residuals above signify the magnitude of earnings change that is due to the discretionary use of accounting policies, which in this case can be used to measure earnings smoothing. PANEL A displays the descriptive statistics of earnings smoothing measure (<i>RESIDNI</i>) for three different time horizon: pre-IFRS, post-IFRS and full sample or whole period. PANEL B, on the other hand, is univariate test of independent <i>t</i>-test for the earnings smoothing during the pre- and post-IFRS convergence period</p> <p>Source: Statistics analyzed using STATA 12.0</p>									

Table IV.
Descriptive statistics
and univariate test of
earnings smoothing
measure in the pre-
vs post-IFRS
convergence

	Model 1			Model 2		
	$\text{EPS} = \lambda_0 + \lambda_1 R_{jt} + \lambda_2 DR_{jt} + \lambda_3 \text{IFRS}_{jt} + \lambda_4 MB_{jt} + \lambda_5 \text{SIZE}_{jt} + \lambda_6 (R \times DR)_{jt} + \lambda_7 (DR \times \text{IFRS})_{jt} + \lambda_8 (DR \times MB)_{jt} + \lambda_9 (DR \times \text{SIZE})_{jt} + \lambda_{10} (R \times \text{IFRS})_{jt} + \lambda_{11} (R \times MB)_{jt} + \lambda_{12} (R \times \text{SIZE})_{jt} + \lambda_{13} (R \times DR \times \text{IFRS})_{jt} + \lambda_{14} (R \times DR \times \text{LEV})_{jt} + \lambda_{15} (R \times DR \times MB)_{jt} + \lambda_{16} (R \times DR \times \text{SIZE})_{jt} + \varepsilon_j$			$\text{EPS} = \lambda_0 + \lambda_1 R_{jt} + \lambda_2 DR_{jt} + \lambda_3 \text{VIFRS}_{jt} + \lambda_4 MB_{jt} + \lambda_5 \text{SIZE}_{jt} + \lambda_6 (R \times DR)_{jt} + \lambda_7 (DR \times \text{IFRS})_{jt} + \lambda_8 (DR \times MB)_{jt} + \lambda_9 (DR \times \text{SIZE})_{jt} + \lambda_{10} (R \times \text{IFRS})_{jt} + \lambda_{11} (R \times MB)_{jt} + \lambda_{12} (R \times \text{SIZE})_{jt} + \lambda_{13} (R \times DR \times \text{IFRS})_{jt} + \lambda_{14} (R \times DR \times \text{LEV})_{jt} + \lambda_{15} (R \times DR \times MB)_{jt} + \lambda_{16} (R \times DR \times \text{SIZE})_{jt} + \varepsilon_j$		
EPS	Coef	Std. Err	Z	Coef	Std. Err.	Z
_cons	0.9605	0.4744	2.02	0.9436	0.4742	1.78
R	0.4656	0.2749	1.69	0.4908	0.2761	1.78
DR	1.6197	0.7221	2.24	1.599	0.9638	1.66
IFRS	0.2322	0.1351	1.72	0.2285	0.135	1.69
MB	0.00008	0.00001	5.98	0.00008	0.00001	5.95
SIZE	0.1333	0.0232	5.73	0.1344	0.0232	5.78
RDR	0.5804	0.3657	1.59	1.811	2.554	0.71
DRIFRS	0.0951	0.2155	0.44	0.1043	0.2904	0.36
DRMB	-0.00005	0.00002	-2.46	-0.0001	0.00003	-3.84
DRSIZE	-0.0934	0.0350	-2.66	-0.0891	0.0476	-1.87
RIFRS	0.2272	0.0971	2.34	0.2311	0.0975	2.37
RMB	-0.00001	0.000006	-2.78	-0.00001	0.000006	-2.76
RSIZE	-0.0266	0.01375	-1.94	-0.0281	0.0138	-2.03
RDRIFRS				0.1737	0.8845	0.2
RDRSIZE				-0.0456	0.1253	-0.36
R ² within	0.0391			0.0444		
R ² between	0.6220			0.6451		
R ² overall	0.0484			0.0541		
Prob	0.000			0		
Hausman X ²	12.54			7.27		
Prob X ²	0.128			0.70		

Notes: EPS is Earnings per Share; R is the annual return, DR is a dummy variable in which 1 if a particular corporate have the R < 0, and zero is otherwise, MB equal to market to book ratio, IFRS is a dummy variable in which 1 equals adoption of IFRS and 0 is otherwise, SIZE is the natural logarithm of firms' total assets, RDR equals to interaction product of return (R) and dummy variable of return (DR), DRIFRS is the interaction of IFRS and dummy variable, DRMB is interaction of dummy variable of return (DR) and market to book value, DRSIZE is interaction of dummy variable of return (DR) and SIZE, RIFRS is interaction of return and IFRS, RMB is interaction of return and market to book value, RSIZE is interaction of annual return and size. To figure out whether IFRS matters on timely loss recognition, current study also introduces three way interaction products. They are RDRIFRS which is three way interactions between return (R), dummy variable of return (DR) and IFRS, RDRMB, interactions between return (R), dummy variable of return (DR) and market to book value (MB) and RDRSIZE which is interactions between return (R), dummy variable of return (DR) and natural logarithm of total assets (SIZE).The regressions were carried out using random effect estimators. Model 1 is based equation (2a) and Model 2 is from equation (2b)

Source: Statistics analyzed using STATA 12.0

Table V.
Timely loss
recognition on pre- vs
post-IFRS
convergence period

We proposed several explanations for lack of support of accounting quality increase in post-IFRS convergence period. First, compliance of accounting standards (IFRS) should be increased. Outa (2011) also documented earnings quality decrease can be observed for countries with weak enforcements. Shleifer and Vishny (1997) argued that enforcement of accounting standards is equally important as the implementation of accounting standards itself. Second, we also speculate that the failure of IFRS convergence in enhancing accounting qualities is due

to lack of local culture and values that were incorporated in accounting standards. For example, Guan and Pourjalali (2010) found that values and cultures (i.e. power distance, individualism and masculinity) affect accounting practices in many countries. Third, the IFRS convergence process in Indonesia was conducted gradually and was finished in 2012, in which the gradual process may hinder the benefits of IFRS adoption. Cai *et al.* (2012) also contended that countries will benefit more from IFRS adoption compared to countries that already have the similar national accounting standards with IFRS.

5. Conclusion

In this paper, we empirically examine whether accounting quality is improved after the convergence process of IFRS. We use 3,861 firm-year observations from 423 unbalanced samples and use univariate and multivariate testing to test the hypothesis of accounting quality increase following IFRS convergence in Indonesia. We use four dimensions of accounting quality, namely:

- accruals quality;
- earnings smoothing;
- timely loss recognition; and
- earnings persistence that became the fundamental element of quality in financial reporting.

Our results indicate that there is no conclusive evidence that accounting quality increased following IFRS convergence. For instance, we found that there are no statistically significant differences of accruals quality and earnings smoothing during pre- and post-IFRS. Using multivariate statistics, we also found that IFRS does not affect firms' timely loss recognition even at the moderate significant levels. In a similar vein, this study also confirmed the findings of Hung and Subramanyam (2007), arguing that by placing more emphasis on fair value, earnings persistence is identical in pre- and post-IFRS convergence periods.

Our findings have several limitations. First, this study was conducted in Indonesia and limited to industrial sectors. Thus, generalization should be made in this settings only. Second, although Indonesia has declared that the early stage of gradual IFRS convergence process was finished in 2012. It is conceivable that three years after the implementation. Furthermore, this study also assumes and tests that, *ceteris paribus*, accounting quality is solely influenced by IFRS, despite the fact that many other factors may provide significant contributions. Leuz *et al.* (2003) maintained that accounting manipulation will be limited

Variables	Coeff.	Standard error	Prob
CONSTANT	-0.0864	0.1005	0.679
LAGNITA	0.0845	0.1545	0.576
IFRS	0.1411	0.1664	0.611
IFRS × LAGNITA	0.1411	0.6045	0.815

$N = 2603$; $R^2 = 0.064$; prob $\chi^2 = 0.890$

Notes: NITA is the net income before extraordinary items of firm j at time t scaled by lagged net income before extraordinary items of firm j at time $t - 1$ deflated by total assets of firm j at time $t - 1$. LAGNITA is the NITA's previous year, and IFRS × LAGNITA is the interaction of IFRS and LAGNITA. The regression is estimated using random effects, as the Hausman test indicates non-significant χ^2

Source: Statistics analyzed using STATA 12.0

Table VI.
Earnings persistence
under pre- vs post-
IFRS convergence
period

among firms in the countries with strong stakeholders' interest protection. Therefore, it is also interesting to see whether the increase in accounting qualities due to IFRS will be different for countries with low vs strong governance mechanism and investor protections. However, we left those fruitful issues to other researchers.

Based on the findings, regulators and standard setters may consider more effective and thorough measures for effective adoption of IFRS. Figuring out the best "measures" to increase the usefulness of accounting information in post-IFRS convergence. For instance, regulators may create stronger standard enforcements to grasp the benefits of IFRS. Barth *et al.* (2008) and Ball *et al.* (2003) also maintained that more discretion in IFRS enhances earnings management, and it will be higher for firms adopting IFRS when the enforcement of standards are loose. We also believe that incorporating more local and national wisdoms into the standard setting process during IFRS convergence is needed. Nobes (2011) concludes that the ideal set of financial reporting standards is heavily determined by country's specific factors such as culture, history or system of law.

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