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IFRS Adoption on Value-relevance and Risk-relevance of Accounting Information among Indonesian Banks

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ABSTRACT

In 2010, Indonesian banks implemented International Financial Accounting Standards (IFRS) for reporting information about financial instruments. The adoption is hypothesized to make risks more transparent. Its effect on the relevance of accounting information reported by publically traded Indonesian banks from 2007-2013 was investigated. Contrary to our expectations, value-relevance and risk-relevance of accounting information declined after the adoption of IFRS. Findings suggest that IFRS exerts a lesser influence on the relevance of accounting information in developing countries with smaller, less liquid, and weakly enforced capital markets.

Keywords: Accounting information quality, financial instruments, IAS 32, IAS 39, IFRS 7, risk relevance, value relevance

INTRODUCTION

Indonesia adopted International Accounting Standard (IAS) 32 or International Financial Reporting Standard (IFRS) 7 and IAS 39 for financial instruments (collectively,

IFRS-FI to align Indonesian accounting with international standards). The adoption changed the scope, recognition, measurement, presentation, and disclosure of information about financial instruments presented on financial statements. The adoption is expected to increase banking transparency in which financial assets and liabilities dominate its balance sheets. Therefore, comprehensive disclosure of risk exposure and risk management of financial instruments would help stakeholders to understand banks' risk appetites better, thus would improve their monitoring capability.

Indonesia's banking industry criticized the IFRS adoption for its drawbacks, including costly implementation, negative effect on earnings volatility, less timely determination of loan loss provisions, and high complexity. Some argued that the use of fair value on markets with low capitalization, less liquidity, and weak legal enforcement increase more potential misstatement compared to the use of historical cost.

This research investigates how the adoption of IFRS-FI affects the quality of accounting information reported by Indonesian banks. Increased use of fair value is expected to better reflect the economic value of financial assets and liabilities, thereby improving the relevance of book value. Although compulsory use of fair value would escalate the bank's earnings volatility, yet, the incurred loss model of IAS 39 is capable of limiting earning management which is conducted through manipulation of loan loss provisions. Accordingly, adoption of IFRS-FI is expected to improve the quality of accounting information reported by Indonesian banks.

Using a sample of all publically traded Indonesian commercial banks for 2007-2013, contrary to expectations, this research finds that adopting IFRS-FI have a negative effect on the value-relevance and risk-relevance of financial assets and liabilities reported in financial statements. The relevance of net income and total comprehensive income volatility after implementation of IFRS-FI is also declined. In short, the research shows that adopting IFRS-FI impairs the relevance of book value of a financial asset, financial liabilities,

and income in financial statements. This finding supports the argument that adopting fair value accounting in illiquid and weak legal enforcement has magnified potential for financial misstatement compared to historical costs.

This research establishes new contexts for studying the fair value reporting of financial instruments, namely: the context of the banking industry and the Indonesian context as one of the developing economies. Prior research on fair value accounting practices (Ahmed et al., 2006; Barth et al., 1996; Venkatachalam, 1996; Zhang, 2009) address developed countries, where firms have incentives for transparency, capital markets are active, and legal enforcement is strong. Ali and Hwang (2000) found that in countries with bank-oriented financial systems, accounting information had less relevance than in countries oriented toward capital markets. Fair value accounting raises the potential for misstatements compared to historical cost accounting. Indonesia as one of developing economies has low market capitalization illiquid markets and weak legal enforcement that give management greater opportunity to manipulate the fair value and reduce the reliability of financial asset reporting.

Literature Review

Effect of IAS 32/IFRS 7 and IAS 39. Adoption of IFRS-FI had a significant effect on Indonesian banks. Three features of IFRS-FI that affect the quality of Indonesian banks' financial statements are discussed follows.

Determining Loan Loss Provisions. Before the adoption, banks calculated loan loss provisions under Regulation of Bank Indonesia. Criteria for determining credit quality and reserves are required for each credit quality classification. In contrast, IAS 39 places more emphasis on the impartial evidence of value declines and on the evaluation of the possibility of decline at balance sheet date. Estimated loan loss provisions are calculated and performed individually and collectively which requires the probability of default data and historical loss of data for at least three years back.

Use of Fair Value Accounting. Changes in Indonesian accounting standards post-IAS 39 led to the increase of fair value application as follows. First, all financial instrument items are measured by initial recognition based on fair value plus transaction cost (except for fair value through profit and loss exclude transaction cost), while in previous SFAS, financial instruments not for trading is measured by acquisition cost. Second, although the financial instruments are not for trading, they are allowed to be measured using fair value at the balance sheet date (fair value option). Third, IAS 39 is more extensive than previous standards, for example, loan that in previous accounting standard is not included in the scope of financial instruments but is included in the current standard.

Financial Instruments and Risks Disclosures. IAS 32 revised IFRS 7 to require more disclosures than previous Indonesian standards. Under previous standards, information disclosed for each group of securities covers an aggregate of fair value, unrealized gains, and acquisition cost (including unamortized premiums and discounts). IAS 32 revised IFRS 7 requires an entity to disclose a fair value for each group of financial assets and liabilities along with a description of how was fair value was determined. In addition, the current standard requires disclosure of qualitative and quantitative information about the significance of financial instruments to an entity and the nature and extent of their risks. All Indonesian banks had to adopt IAS 32 and IAS 39 completely in 2010.

Empirical Evidence of the Effect of IFRS-FI Adoption and Fair Value Accounting on Financial Statement Quality. Barth (1994a, 1994b), Bernard et al. (1995), and Beatty et al. (1996) found that disclosures under fair value accounting were relevant to investors and reliably reflected in stock prices. Barth et al. (1996) found that estimated fair values of loans, securities, and long-term liabilities were more relevant than historical cost. Landsman (2006) reviewed capital market research in the United States, the United Kingdom, and Australia. He examined the relevance of fair value in accounting and concluded that it (recognition or disclosure) was relevant to investors. However, the magnitude of measurement errors and sources of fair value estimation influenced the degree of relevance.

Prior research also examines the impact of IFRS-FI using data from developed economies. Studies generally find that adopting IAS 39 adds relevance to accounting information (Duh et al., 2012, Fiechter, 2011) and reduces earnings management via loan loss provisions (Leventis et al., 2011). Bonetti et al. (2012) and Gaynor et al. (2011) found that financial instrument disclosures based on IFRS 7 supported users' understanding and interpretation.

Hypotheses Development

The information has value-relevance when it correlates significantly with predicted market values (Barth et al., 2001). If the relationship is significant, then, it is assumed that accounting information is sufficiently relevant and reliable enough to be reflected in the market prices. Application of IAS 39 increases the use of fair value accounting for banks financial assets and liabilities. Theoretically, the use of fair value measurement increases the relevance of financial statements because assets and liabilities in financial statements reflect the economic value at the balance sheet date so that it is highly relevant and useful in decision-making.

Fair value accounting better reflects market conditions, thereby providing more timely information, improving transparency, and facilitating rapid remedial action (Swamy & Vijayalakshmi, 2012). According to Barlev and Haddad (2007), earnings based on historical costs do not reflect earnings quality and are inadequate for investment decisions. Hence, theoretically, the use of fair value measurement will increase the relevance of financial statements. However, on the other hand, fair value accounting opens the opportunity for management to manipulate the estimated fair value of financial instruments.

Adopting IAS 39 potentially increases the relevance of the financial statement value due to the increased use of fair value measurement on financial assets and liabilities. In addition, a more comprehensive disclosure on IAS 32 on fair value and the risks exposure associated with financial instruments provides more information for investors to assess the company. Duh et al. (2012) and Fietcher (2011) using data from developed country found that the adoption of IAS 39 increased the relevance of accounting information in the bank's financial statement. Based on this argument, the following hypotheses are proposed:

H1a: Adoption of IAS 32 and IAS 39, regarding financial instruments, enhances the value relevance of financial assets

H1b: Adoption of IAS 32 and IAS 39, regarding financial instruments, enhances the value relevance of financial liabilities

As explained above, the application of IAS 39 increases the use of fair value measurements on financial instruments. Fair value measurements generate volatility in accounting information compared to historical cost. Barth (2004) attributed increased volatility due to changes in real economic value, reflected in changes

in the fair value of assets and liabilities. Thus, the application of IAS 32 and IAS 39 increases the volatility of accounting information in banks' financial statements. This volatility, however, represents a change in corporate value and real risk. Papadamou and Tzivinikos (2012) and Duh et al. (2012) found that applying IAS 32 and IAS 39 increased the risk-relevance of earning information in financial statements. This means that financial statements better reflect companies' economic conditions and risks. Accordingly, the following hypotheses are proposed:

> *H2a: Adoption of IAS 32 and IAS 39, regarding financial instruments, enhances the risk-relevance of net income*
>
> *H2b: Adoption of IAS 32 and IAS 39, regarding financial instruments, enhances the risk-relevance of comprehensive income*

MATERIALS AND METHODS

Data and Sample

The samples used in this research were all listed commercial Indonesian banks with complete financial statements and data required for all variables in our model. From 34 listed bank (for 2013) in Indonesia, 30 banks for 7 years with complete data for all our variables (three years before the adoption of IFRS-FI or 2007-2009 and four years after or 2010-2013) were obtained, resulting 168 bank-years for Value-relevance Model and 633 bank-quarters for Risk-relevance Model. To overcome the effects of outliers, all variables in all models were winsorized at 1%.

Research Model

Value-Relevance. To examine the value relevance of financial instruments, Song et al. (2010), Khurana and Kim (2003) who adopted Ohlson's (1995) approach were followed. In the equation, 1a stock price (P) is a function of the net book value of equity (Financial Assets, Financial Liabilities, and Non-Financial Net Assets) and future abnormal earnings (AE). Model 1a and 1b test whether IFRS adoption affects the value relevance of financial assets and financial liabilities recognized on the balance sheet.

$$
\begin{aligned}
\text{Pit} = {} & \alpha 0 + \alpha 1\text{FAit} + \alpha 2\text{FLit} \\
& + \alpha 3\text{POST} * \text{FAit} + \alpha 4\text{POST} * \text{FLit} \\
& + \alpha 5\text{NetNFAit} + \alpha 6\text{AEit} \\
& + \alpha 7\text{NPLit} + \varepsilon \text{it} \qquad (1a)
\end{aligned}
$$

Expected result:
H1a: α3 > 0, H1b: α4 < 0
Where,
Pit = Stock price at end of year t
FAit = Book value of financial assets at end of year t
FLit = Book value of financial liabilities at end of year t
POST = Dummy variable for IFRS for the implementation of financial instruments (POST)
NetNFAit = Book value of the net non-financial asset at end of year t

AEit = Future abnormal earnings

NPLit = Non-performing loans at end of year t

This variable showed the impact of the implementation of IFRS of financial instruments (IAS 32, IAS 39, and IFRS 7). POST would be assigned a value of 1 for samples in the period 2010 -2013 and a value of 0 for the sample in the 2007-2009 period. Consistent with Barth and Clinch (2009), this research scaled all variables by total shares outstanding at year-end t to reduce scale effects in Ohlson's (1995) Model. Financial Assets (FA) and Financial Liabilities recognized in the balance sheet are said to have value relevance if the FA coefficient ($\alpha 1$) shows a positive sign and the FL coefficient ($\alpha 2$) shows a negative sign. The implementation of IFRS for financial instruments increased the value relevance of book value of financial assets and financial liabilities when the dummy interaction of POST with FA ($\alpha 3$) shows a positive sign

and when the dummy interaction variables with FL ($\alpha 4$) how a negative sign.

Variables based on prior research (Hodder et al., 2006; Khurana & Kim, 2003; Ohlson, 1995; Song et al., 2010) priced by the equity investor were controlled. Based on the residual income model from Ohlson (1995), the book value of net non-financial assets (NetNFA) and future abnormal earnings (AE) was controlled. For the abnormal earnings measurement, Hodder et al. (2006) approach were followed. In addition, bank assets risk (NPL) measured as a bank's non-performing loan divided by total assets (Fonseca & Gonzalez, 2010) was also controlled.

Riedl and Serafim (2011) and Ball et al. (2012) found that categories of financial assets expressed differing degrees of reliability in fair value estimates. Therefore, financial assets per IFRS_FI (IAS 32) were classified to test the relevance of their book values as in Model 1b.

$$
\begin{aligned}
Pit = {} & \alpha 0 + \alpha 1 FVTPLit + \alpha 2 AFSit + \alpha 3 HTMit + \alpha 4 LOANit + \alpha 5 KASit \\
& + \alpha 6 FLit + \alpha 7 POST * FVTPLit + \alpha 8 POST * AFSit + \alpha 9 POST * HTMit \\
& + \alpha 10 POST * LOANit + \alpha 11 POST * KASit + \alpha 12 POST * FLit + \alpha 13\, NetNFA\ it \\
& + \alpha 14 AEit + \alpha 15 NPLit + \varepsilon it
\end{aligned} \qquad (1b)
$$

where,

FVTPLit = book value of financial assets classified as fair value through profit or loss as Per IFRS_FI regime or as a sum of trading and derivative assets before the IFRS_FI

FVTPLit = book value of financial

assets classified as fair value through profit or loss as per regime at end of year t

AFSit = book value of financial assets classified as available for sale securities as per IFRS_FI regime at end of year t

HTMit = book value of financial assets

classified as Securities held to maturity as per IFRS_FI regime at end of year t

LOANit = book value of financial assets classified as Loan and receivables net as per IFRS_FI regime at end of year t

KAS it = book value of financial assets classified as Cash and cash equivalents at end of year t

Flit = Book value of financial liabilities at end of year t

POST = Dummy variable for IFRS for the implementation of financial instruments (POST)

Control variables are as defined in model 1a

Risk Relevance of Volatility of Accounting Income (Net Income and Total Comprehensive Income). This research followed measurement of risk-relevance of

Hodder et al. (2006), were to test whether income volatility in financial statement reflected company's risk was conducted by testing the relationship between market-based risk measurement (beta and standard deviation of return) and accounting-income volatility. The volatility of stock return reflects total risk (Hodder et al., 2006) and beta reflects systematic risk. A significant and positive correlation between accounting income volatility and the volatility of stock return and beta ($\alpha1$) indicate that income in financial statements reveals the company's risk (risk-relevance). The implementation of IFRS for financial instruments increases the risk relevance of accounting earnings volatility when the dummy interaction of POST with accounting earnings volatility ($\alpha2$) shows a positive sign. The model is of risk relevance is presented below:

$$MRISKit = \alpha0 + \alpha1VolIit + \alpha2POST * VolIit + \alpha3DERit + \alpha4NPLit + \alpha5SIZEit + \epsilon it$$

(2)

where,

MRISKit = Market risk, measured as stock beta (BETA) and volatility of the stock return (STDDEVRI)

Voll $_{it}$ = Accounting earnings volatility (VOLI) will be tested into 2 types of earnings, namely the volatility of net income (STDEVNI) and the the volatility of total comprehensive earnings (STDEVCI)

POST = Dummy variable for IFRS for the implementation of financial instruments (POST).

DER it = Notional amount of Derivative scale by total assets

NPL it = Non-performing loans

SIZE it = Ln total assets

Following the study of Hodder et al. (2006) income volatility was measured as the standard deviation of quarterly earnings for the 5 quarters calculated as rollover. Model 2 above examines whether two measures of earnings volatility (net income and total comprehensive profit volatility) provide information about bank market risk after controlling for other information about

risks disclosed in the annual report. Then in model 2 follows the research of Hodder et al. (2006), quantitative exposure information available in financial statements, namely the number of notional derivatives and interest rate gaps included as controlling variables. Since the disclosure of interest rate gaps is not mandatory, many sample banks do not disclose this information, thus in this study, we only included notional derivative (DER) as a control variable. In addition, the accounting variables that based on prior-year literature significantly associated with market-based risk measure are controlled (Beaver et al., 1970; Elyasiani & Mansur, 2005; Papadamou & Tzivinikos, 2012;

Salkeld, 2011). These control variables are credit risk measured as non-performing loan (NPL) (Mansur et al., 1993; Elyasiani & Mansur, 2005; Papadamou & Tzivinikos, 2012) and firm size (SIZE) measured as natural logarithm of total assets (Beaver et al., 1970; Papadamou & Tzivinikos, 2012; Salkeld, 2011).

RESULTS AND DISCUSSIONS

Descriptive Statistics

Table 1 presents the descriptive statistic for the Value-relevance Model (Model 1). Stock prices of the sampled companies at end-of-period showed great variation.

Table 1
Descriptive statistics for Value Relevance Model

Variable	Mean	Std. deviation	Min	Max
Dependent Variable				
PRICE (Rp)	1,564.93	2,128.97	28.85	9,600.00
Independent Variables				
FVTPL	189.61	443.84	0.00	2,477.14
AFS	486.56	724.62	0.00	3,495.75
HTM	314.76	560.38	0.00	3,155.02
LOAN	4,560.49	4,741.17	154.32	22,382.83
KAS	126.54	165.87	0.76	816.51
FL	5,519.40	5,498.30	314.52	26,674.60
FA	6,156.38	6,284.54	310.61	30,361.99
Control variables				
AE *	76.60	132.83	-31.31	690.10
NETNFA	636.99	851.19	-163.96	4,315.86
NPL	0.03	0.05	0.00	0.51
Dummy Variable	POST=0	POST= 1	POST= 0	POST= 1
POST	40.83%	59.17%	69	99

PRICE: Stock price at end of year (December 31); FVTPL: Book value of FVTPL at end of year; AFS: Book value of AFS at end of year; HTM: Book value of HTM at end of year; LOAN: Book value of Loan at end of year; KAS: Book value of cash and cash equivalent at end of year; NETNFA: Book value of non-financial asset (net) at end of year; FL: Book value of financial liabilities at end of year; FA: Book value of Financial Assets at end of year; AE: Unexpected Earning; NPL: bank portfolio risk measure as non-performing loan; POST: Dummy variable for IFRS implementation. *scale by outstanding shares

Assets were mostly loans (receivables), and their average balances at end-of-year were 70.7% of total assets. Average end-of-year balances for investments in securities were 15% of total assets, and most were available for sale (AFS).

Table 2 presents descriptive statistics for the Risk-relevance Model (Model 2). Data were from quarterly reports. Average beta was below 1, meaning the average beta of sampled banks was below the market. Standard deviation in return described historical volatility that was used to assess expected volatility. This measure includes systematic and unsystematic risk (Hutchinson et al., 2015). The volatility of total income far exceeds the volatility of net income. That is acceptable because components of comprehensive income are influenced by other external factors such as market prices of AFS securities and fixed assets.

Effect of IFRS-FI on Value-Relevance of Financial Assets and Liabilities

Table 3 shows results for Model 1 which test the effects of IFRS adoption on value-relevance of financial assets and liabilities in financial statements of banks in Indonesia. Table 3 Panel A model 1b shows the effect of IFRS_FI implementation to value relevance of financial assets and financial liabilities. Contrary to the expectation, the interaction of the IFRS_FI implementation dummy variable (POST) with FA (α3) showed a negative sign and the interaction of POST with FL (α4) showed a positive sign. It indicates the declining value-relevance for

Table 2

Descriptive statistics for Risk Relevance Model

Variable	Mean	Std. deviation	Min	Max
Dependent Variable				
BETA	0.7170	0.4711	0.0000	2.2562
STDDEVRI	0.0610	0.0326	0.0000	0.1819
Independent Variable				
STDDEVNI	0.0016	0.0016	0.0001	0.0062
STDDEVCI	0.0048	0.0058	0.0002	0.0195
Control Variable				
NPL	0.0314	0.0248	0.0000	0.1187
DER	0.0421	0.1072	0.0000	0.8709
SIZE (IDR Million)	84,722,014	111,956,336	900,000	390,000,000
SIZE (ln)	30.5567	1.8238	26.7635	33.5972
	Number		Percentage	
Dummy Variable	POST=1	POST=0	POST=1	POST=0
POST	400	296	57.47%	42.53%

BETA: Market Risk Stock Beta; STDDEVRI: Standard deviation of stock return; STDDEVNI: Standard deviation of net income; STDDEVCI: Standard deviation of comprehensive income; NPL: bank portfolio risk measure as non-performing loan; DER: derivative notional amount; SIZE: Bank size in Rp'mio; SIZE: Bank size_Ln total asset; POST: Dummy variables of IFRS for financial instrument implementation

Table 3

Result effect of IFRS for financial instruments implementation on the value relevance of financial assets and financial liabilities

	Hypothesis	Model 1a		Model 1b		
		Coef.	Prob.	Coef.	Prob.	
Panel A						
FA	+	0.3293	0.125	**1.8634**	**0.003**	***
FL	-	-0.2972	0.171	**-1.9814**	**0.004**	***
*FA*POST*	H1a : +			**-1.4313**	**0.006**	***
*FL*POST*	H1b : -			**1.5529**	**0.007**	***
NETNFA	+	0.3595	0.160	0.3912	0.143	
AE	+	9.6227	0.000	*** 10.0824	0.000	***
NPL	+	1664.9160	0.063	* 1272.2730	0.118	
CONS		2181.2870	0.083	-10477.6800	0.005	
N		168		168		
Prob (Wald-stat) | R^2		0.0000 | 0.7050		0.0000 | 0.7131		
		Model 1c		**Model 1d**		
Panel B						
FVTPL	+	-0.149	0.651	1.811	0.012	**
AFS	+	0.929	0.005	*** 2.205	0.001	***
HTM	+	0.515	0.156	1.973	0.002	***
LOAN	+	0.289	0.302	2.037	0.003	***
KAS	+	-2.458	0.015	** -3.074	0.015	**
FL	-	-0.279	0.374	-2.016	0.004	***
*FVTPL*POST*	H1a : +			**-1.637**	**0.019**	**
*AFS*POST*	H1a : +			**-0.932**	**0.084**	*
*HTM*POST*	H1a : +			**-1.139**	**0.060**	*
*LOAN*POST*	H1a : +			**-1.742**	**0.005**	***
*KAS*POST*	H1a : +			0.356	0.424	
*FL*POST*	H1b : -			1.712	0.008	***
NETNFA	+	0.515	0.135	0.745	0.024	**
AE	+	11.464	0.000	*** 12.036	0.000	***
NPL	+	1,226.880	0.207	611.725	0.280	
CONS		-1420.365	0.402	-11261.95	0.007	
N		168		168		
Prob (Wald-stat) | R^2		0.0000 | 0.780		0.0000 | 0.7974		

PRICE: Stock price at end of year (December 31); FVTPL: Book value of FVTPL at end of year; AFS: Book value of AFS at end of year; HTM: Book value of HTM at end of year; LOAN: Book value of Loan at end of year; KAS: Book value of cash and cash equivalent at end of year; NETNFA: Book value of non-financial asset (net) at end of year; FL: Book value of financial liabilities at end of year; FA: Book value of Financial Assets at end of year; AE: Unexpected Earning; NPL: bank portfolio risk measure as non-performing loan; POST: Dummy variable for IFRS implementation. *****scale by outstanding shares

both a financial asset and financial liabilities after the adoption of IFRS-FI. Based on Table 3 panel B model 1d the result of the interaction of implementation variable (POST) with each group of financial assets (FVTPL, AFS, LOAN, and KAS) shows that the decline occurs among all groups of financial assets except cash and cash equivalents. The greatest decline in value-relevance occurs in loans and receivables and FVTPL.

The significant declined in value relevance of financial assets especially FVTPL classification and financial liabilities may be due to IFRS _FI increases the use of fair value for financial assets and liabilities (for instance the fair value option). The fair value measurement improves the relevance of accounting information to investors. However, internal valuation provides incentives and opportunity for managers to manipulate the estimated fair values when securities markets are illiquid and inactive. Information asymmetry between managers and outsiders regarding input values should be included in the estimation model or the actual economic value of assets or liabilities can cause moral hazard and adverse selection (Landsman, 2007). Difficulties in estimating fair value also occur in compound financial instruments such as a convertible bond or callable bond which value depends on the value of the conversion feature or the value of the call feature. So that there is an issue that estimating the fair value of instruments is sensitive to whether the actual market price information from other instruments in the

entity's balance sheets is available to be used as input models (Landsman, 2006). Untoro (2012) found that in Indonesia, banks smoothed income by manipulating fair values during the initial application of IAS 39. The study of Barth et al. (1996) found that the estimation model used to assess the total bond value might lack reliability. Landsman (2006) showed that the relevance of fair value information was influenced by the magnitude of measurement errors and the source of estimations.

The greatest decline in value relevance occurs in loan and receivables as shown in Table 3 panel B (model 1d). This significant decrease maybe because of the calculation of allowances for impairment losses on loans based on IFRS_FI (IAS 39) using the incurred loss model. Incurred loss model potentially reduces earnings management through loan loss provision due to its objectivity. However, this method delays the recognition of losses (Barth & Landsman, 2010). Thus, the method of incurred loss model limits banks to accommodate managers' efficient motive to use private information for subjective and judgmental credit risk assessment (Leventis et al., 2011). This causes banks to be unable to fully determine loan loss provisions that capture full credit risk so that net loan figures do not reflect the real values of loan. Gebhardt and Farkas (2011) using data from banks in the European Union found that after the implementation of IFRS there was a decrease in the timeliness of the recognition of a provision for a decrease in credit value. Other possible explanation may be due to the user of financial statement

no longer use the information of loan and receivables in the balance sheet which recorded using amortized cost. Instead, they use the fair value of the loan and receivable disclosed in the notes to financial statements. Under IFRS-FI (IAS 32/IFRS 7) banks must disclose the fair value of all classes of financial assets and liabilities. Other disclosures required are fair value hierarchy based on the reliability of input used to measure fair value.

Effect of IFRS-FI Adoption on Risk-Relevance of Income Volatility

Table 4 shows the effect of IFRS-FI on risk-relevance of accounting income volatility to total risk in financial statements of banks in Indonesia. The interaction of POST with accounting income volatility (STDEVNI and STDEVCI) show a negative sign. It indicates the decline in the risk-relevance of accounting income volatility to total risk after the adoption of IFRS-FI. When associated with the results of testing hypotheses 1a and 1b (relevance of book values), the results of testing hypotheses 2a and 2b (total risk relevance) find consistent results. The test results show a decline in the relevance of the book value of financial assets/liabilities and the relevance of risk (total risk) accounting income after the implementation of IFRS-FI. The implementation of IFRS-IK increases the volatility of accounting earnings because of the increased usage of fair value. The increase in the volatility of earnings according to Barth (2004) can be caused by three things, namely: (1) changes in the

actual economic value which is reflected in changes in the fair value of assets and liabilities; (2) volatility arises because of measurement errors in estimating changes in fair value; and (3) volatility arises because the use of a mixed attribute model can be reduced if all instruments are measured using fair value or if the company uses fair value options. Based on the findings in Table 3 and Table 4, it can be concluded that the increase in earnings volatility is caused by the second factor that may be most acceptable because if earnings volatility is caused by the first factor, there should be an increase in value relevance of book value of financial assets/liabilities and risk relevance of net income and total comprehensive income. In addition, as previously explained, the limitations of the incurred loss model in the loan loss provisions setting causes the loan loss provision not timely so that accounting earnings do not reflect the real situation (Barth & Landsman, 2010). Consequently, the limitations of the incurred loss model and errors or manipulation of fair value measurement of financial assets and liabilities might hinder the capability of income volatility to be reflected in the actual total risk of the bank.

Table 5 shows risk-relevance of accounting income to systematic risk (beta) in financial statements of banks in Indonesia. Contrary to the results presented in Table 4, Table 5 shows the interaction of POST with total comprehensive income volatility (STDEVCI) shows positive sign. It indicates an increase of risk-relevance of total comprehensive income (STDEVCI)

Table 4
Result effect of IFRS for financial instruments implementation on risk relevance of income (total risk)

		Dependent Variable: STDDEVRI							
	Hypothesis	Model 2a		Model 2b		Model 2c		Model 2d	
		Coef.	Prob.	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
STDEVNI	+	-0.602	0.271	3.344	0.009				
STDEVNI*POST	H2a: +			-4.625	0.000 ***				
STDEVCI	+					0.710	0.002 ***	1.313	0.000 ***
STDEVCI*POST	H2b: +							-1.359	0.000 ***
NPL	+	0.215	0.002 ***	0.166	0.013 ***	0.180	0.006 ***	0.162	0.000 ***
DER	+	0.000	0.494	-0.012	0.202	0.001	0.463	0.008	0.289
SIZE	+/-	-0.005	0.003 ***	-0.0025	0.076 *	-0.003	0.035 **	-0.002	0.107
CONS	+	0.056	0.000	0.0565	0.000	0.053	0.000	0.054	0.000
N		633		633		633		633	
Prob | R^2		0.0000|0.0271		0.0000|0.0494		0.0000|0.0684		0.0000|0.0962	

BETA: Market Risk Stock Beta; STDDEVRI: Standard deviation of stock return; STDDEVNI: Standard deviation of net income; STDDEVCI: Standard deviation of total comprehensive income; STDEVNI*POST and STDEVCI*POST: the interaction of POST with accounting income volatility (STDEVNI and STDEVCI).: NPL: bank portfolio risk measure as non-performing loan; DER: derivative notional amount; SIZE: Bank size in Rp'mio; SIZE: Bank size_Ln total asset; POST: Dummy variables of IFRS for financial instrument implementation.

Table 5

Result effect of IFRS for financial instruments implementation on risk relevance of income (Beta)

	Hypothesis	Dependent Variable: STDDEVRI							
		Model 2a		Model 2b		Model 2c		Model 2d	
		Coef.	Prob.	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
STDEVNI	+	**35.917**	**0.001** ***	**22.108**	**0.058** *				
STDEVNI*POST	H2a: +	**13.319**		**13.319**	**0.165**				
STDEVCI	+					**-2.229**	**0.228**	**-8.010**	**0.008** ***
STDEVCI*POST	H2b: +							**13.798**	**0.000** ***
NPL	+	-0.572	0.249	-0.471	0.292	-0.037	0.482	0.054	0.475
DER	+	-0.067	0.345	0.106	0.269	0.035	0.418 *	0.146	0.194
SIZE	+/-	0.138	0.000 ***	0.128	0.000 ***	0.134	0.000 ***	0.118	0.000 ***
CONS	+	-0.688	0.000	0.670	0.000	0.680	0.000	0.670	0.000
N		566		566		566		566	
Prob (Wald-stat)	R²	0.0000|0.4262		0.0000|0.4242		0.0000|0.420		0.0000|0.574	

BETA: Market Risk Stock Beta; STDDEVRI: Standard deviation of stock return; STDDEVNI: Standard deviation of net income; STDDEVCI: Standard deviation of comprehensive income; STDEVNI*POST and STDEVCI*POST: the interaction of POST with accounting income volatility (STDEVNI and STDEVCI); NPL: bank portfolio risk measure as non-performing loan; DER: derivative notional amount; SIZE: Bank size in Rp'mio; SIZE: Bank size_Ln total asset; POST: Dummy variables of IFRS for financial instrument implementation.

to systematic risk post-IFRS FI. Contrary to the results presented in Table 4, Table 5 shows an increase in systematic risk relevance (beta) of total comprehensive income after the application of IFRS-FI. This may occur due to an increase in market risk disclosures (for instance interest rate and exchange rate risk) based on IFRS-FI helping financial statement users to interpret the bank's systematic risk. IFRS-FI requires qualitative and quantitative disclosures of market risks such as disclosures of earnings sensitivity on changes in market risk such as changes in interest rates and exchange rates. Disclosure of market risk related to financial instruments is regulated by IFRS-FI in sufficient detail to make it easier for users of financial statements to assess a bank's systematic risk. The increase in this disclosure has led to an increase in the monitoring capability of bank stakeholders in relation to market risk, thereby minimizing the opportunity to manipulate (opportunistic actions) on accounts that are affected by market risk and as a result of total comprehensive income volatility more closely reflecting actual market risk.

The results in Table 4 shows that after the implementation of IFRS-IK there was a decrease in the risk relevance of net income and total comprehensive income to total risk. On the contrary, the results in Table 5 show that after the implementation of IFRS-IK there was an increase in the risk relevance of total comprehensive profit to market risk (beta). Total risk consists of market risk (systematic) and bank-specific risk (non-systematic risk). This opposite result could be caused by the lack of disclosure requirement for bank operational risk under IFRS-FI compare to the requirement of market risk disclosures which are quite detailed both for qualitative disclosures and quantitative disclosures. The comprehensive disclosures of operational risks especially quantitative disclosures will provide information about bank-specific risks. In addition, naturally, banks tend to refuse to disclose bank-specific risks (non-systematic) because they can reduce bank competitiveness (bank competitive advantage), this is different from market (systematic) risk, where information is easier to obtain (public information). The lack of disclosures regarding bank-specific risks causes the market unable to properly assess bank-specific risks compared to market risk. Other alternative explanation for this result may be due to equity investors' behaviour in normal conditions pay more attention to market risk than to firm-specific risk.

Additional Test

This research considered how the 2008 economic crisis might have affected the stock prices of Indonesian banks under IFRS. Hence, Models 1a and 1b were further tested by excluding 2008 samples. Results are consistent with the results of primary testing, which suggested that the value relevance of financial asset and liabilities were declined.

CONCLUSION

This research had investigated the effect of IFRS-FI on the value- and risk-relevance of information in financial statements of Indonesian banks. The results showed a decrease in value-relevance of financial assets and liabilities in the balance sheet of banks in Indonesia. Consistent with this finding, risk-relevance of income to total risk post-IFRS also declined. This result may reflect error or manipulation of fair value estimations and limitations of the incurred loss model. Another explanation is that investors use more information about fair value and risk from notes to financial statements compared to the use of financial statements. These findings suggest that IFRS-FI may exert the unique effects in countries with smaller, illiquid, or weak enforcement capital markets.

Limitations

This research warrants several caveats. First, the sample is limited to banks, and the result might not generalize to non-banking. First, the sample is limited to banks, and the result might not generalize to non-banking. Further research needs to investigate the effect of IFRS-FI on the relevance of accounting information by using non-banking companies as samples. Second, the research only tests the effect of adopting IFRS-FI on the relevance of accounting information in the balance sheet and income statement. Further research needs to investigate the effect of IFRS-FI

from reliability dimension. Third, the sample for the value-relevance model is small due to data availability and only covers listed banks in Indonesia. Further studies need to use larger samples over longer periods and include other developing countries.

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