The Predictive Value of Fair Value Adjustment in Other Comprehensive Income (OCI): Evidence from ASEAN Banking Industry

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Abstract

This study aims to examine the predictive value of the fair value adjustment contained in other comprehensive income (OCI). In particular, the test was conducted to see the ability of OCI to predict the next 1 and 2 years the company's performance as measured using pre-tax ROA. Using a sample of banking industries registered in ASEAN countries, this study tested the OLS regression with a sample size of 805 firm-years for predictions of 1 year ahead, and 690 firm-years for predictions of 2 years into the future. The results showed that the fair value adjustment contained in the OCI proved to have predictive value for the next 1 and 2 years. Furthermore, tests based on the classification of fair value levels, show that fair value levels 1 and 2 have more predictive value than fair value level 3. Overall, these results support the IASB and IASB claims that fair value accounting meets financial reporting objectives by providing information that is useful in decision making.

Keywords: Fair Value, Other Comprehensive Income, Predictive Value.

Introduction

Since IFRS has become an international standard, one of the things that has become a concern is the presentation of Other Comprehensive Income (OCI). There is still much debate about whether OCI should be included in the main financial statements or not. The majority of companies do not choose to report OCI in the main report of financial performance (Bamber et al., 2010). The same thing was expressed by Dhaliwal et al. (1999) that OCI is not better than Net Income in measuring firm performance. While Biddle & Choi (2006) have a different view, the conclusions of their research provide support for the IASB to require disclosure of Comprehensive Income and argue that different components of Comprehensive Income are useful in different ways for their users. The debate about the informativeness of OCI has also been demonstrated by other researchers (Chambers et al., 2007; Chambers, 2011; Jones & Smith, 2011; C. Lee & Park, 2013).

Previous studies on how the presentation of financial statements affect the way investors use the information contained in OCI have yielded mixed results. The presentation of OCI which is loaded with determination of fair value with higher management considerations tends to reduce the quality of financial reporting (Y. H. Lin et al., 2017). Other results show that OCI has different characteristics compared to net income (Black, 2016; Dhaliwal et al., 1999; Khan &

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Bradbury, 2014; C. Lee & Park, 2013). Meanwhile, OCI presentation locations also provide mixed results, whether as part of the income statement or should be presented in a different statement (Bamber et al., 2010; Chambers, 2011; Chambers et al., 2007; S. Lin et al., 2016; Schaberl & Victoravich, 2015; Shi et al., 2017).

OCI reporting is getting a lot of attention because of the convergence of US-GAAP to IFRS (C. Lee & Park, 2013). The current financial reporting environment focuses heavily on determining fair value measures, which creates additional challenges for auditors and users of financial information (Christensen et al., 2012). As a principles-based standard, IFRS generally uses management's professional judgment (Heidhues & Patel, 2009). IFRS 13 – Fair Value Measurement, describes the three levels of fair value measurement of financial assets and liabilities. Among the three levels, the level 3 fair value input clearly has a more (less) serious problem of information asymmetry between managers and users of financial statements (Huang et al., 2020). Under these conditions, company managers tend to use managerial discretion over the inputs used to measure fair value which can encourage opportunistic activities, and in turn undermine the fairness of financial reporting (Y. H. Lin et al., 2017). The use of judgment and subjectivity in estimating fair value significantly affects the quality of financial information because it may have uncertainties, and as a result actual results may differ materially from estimates (Dhaliwal et al., 1999; C. Lee & Park, 2013).

The results of Biddle & Choi (2006) study show that net income is superior to comprehensive income in explaining executive cash compensation, implying that comprehensive income (OCI) is less useful than net income for compensation contracts. Bamber et al. (2010) find that CEOs with strong equity incentives and low job security are more likely to report comprehensive income in the statement of changes in shareholder equity. The results of Black (2016) and Y. J. Lee et al. (2006) who found that earnings management and disclosure quality are related to presentation choice, suggesting that managers' contract incentives are important determinants of the presentation of comprehensive income and OCI.

As stated by Black (2016) that research and discussion on fair value still needs to be carried out. Based on Ehalaiye et al. (2016) which tested the predictive ability of fair value contained in asset accounts, in estimating future cash flows and income, this study expands the study of fair value by testing the predictive ability of fair value contained in OCI to estimate future earnings. Furthermore, because level 3 fair values tend to be biased in measurement (Dhaliwal et al., 1999; C. Lee & Park, 2013), additional analysis in this study was conducted to see the extent of the predictability difference between level 3 fair values versus level 1 and 2 fair values. This is important considering that the purpose of financial reporting is to present financial information. quality ones. Where one of the characteristics of financial reporting quality is value relevance with predictive value as its component (Financial Accounting Standards Board, 2010).

Literature Review and Hypothesis Development

Conceptual Objective and Fair Value

The general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity (Financial Accounting Standards Board, 2010). Meanwhile, Kothari et al. (2010) argue that the main purpose of the standard is to facilitate the efficiency of capital allocation and that this goal will lead to excellence in the management and evaluation of management performance. Standard setters believe that expanded disclosure to

include more up-to-date information in financial statements is a way to achieve this goal. Thus, fair value-based financial reporting was introduced to measure assets and liabilities which would provide users with better information about the extent to which fair value is used to measure recognized assets and liabilities (International Accounting Standards Board, 2008).

IFRS 13 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 (the exit price). When measuring fair value, an entity uses the assumptions that market participants would use when pricing the asset or liability in current market conditions, including assumptions about risk (International Accounting Standards Board, 2013). The International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) use the same term to define fair value (International Accounting Standards Board, 2013).

The provisions on the use of fair value in IFRS have become a matter of debate among academics. In theory, fair value represents current expectations and changes in expectations of future performance. Thus, to the extent that fair value can be measured reliably, fair value estimates will be useful in predicting future performance (Barth, 2000). However, fair value estimates are more volatile than other measurement bases, and changes in fair value are often driven by short-term market movements that can reverse over time. This indicates that the fair value estimate is measured with lower reliability and it is not possible to predict future results (Bratten et al., 2016). Kothari et al. (2010) argue that fair value based on observable prices in a liquid secondary market can help facilitate performance evaluation and monitoring. But in the absence of verifiable markets, fair value estimates can be manipulated by managers, reducing their reliability.

Other Comprehensive Income (OCI)

Firms which use fair value measurement are required to adjust the fair value of each asset or liability in the end of the fiscal year to determine the increase or decrease on fair value measurement. In addition, other comprehensive income uses to report the changes of fair value measurement in each period and accumulated in the firm's equity. Thus, the level of changes in the fair value hierarchy followed the underlying assets or liabilities based on IFRS 13 (IASB 2013; IASB 2011).

Other comprehensive income has five components based on IAS 1 (IASB 2011). Each component has its own fair value hierarchy. Other comprehensive income comprises remeasurement of securities categorized as Available for Sale (AFS), foreign currency translation adjustment, the effective portion of cash flow hedge, revaluation surplus of fixed assets, and actuarial gain or loss of post-retirement benefit.

FAS No. 157 more specifically requires fair value assets and liabilities to be disclosed on a level basis, where the level is based on the input used to measure fair value. Level 1 input that can be observed from quoted prices in an active market. Level 2 indirect observable inputs from the quoted prices of comparable items in active markets, identical items in inactive markets, or other market-related information, and Level 3 firm-generated inputs that are not observable.

Regarding level 3 input, it is a matter of debate among many academics. When certain accounting information is highly subjective, and managers are allowed to exercise a high degree of discretion, managers may be more likely to produce intentional bias in their estimates, for example, Aboody et al. (2006); Bartov et al. (2007). To the extent that this bias is expected on average, investors are likely to adjust these estimates in valuing firms. In particular, if investors

are concerned about the possible overstatement of Level 3 fair value assets and understatement of Level 3 fair value liabilities, they will adjust their valuation of Management's reported Level 3 assets and liabilities to less than 1 and -1, respectively (Song et al., 2010).

The Predictive ability of Fair Value Information In OCI

Previous literature confirms that the use of fair value has a higher predictive value (Bandyopadhyay et al., 2017; Bratten et al., 2015; Ehalaiye et al., 2016; Evans et al., 2014). Predictive value is a component of qualitative characteristics that are relevant and in accordance with the conceptual framework (Kieso, D. E. & Warfield, 2018). Predictive value relates to the quality of information that helps users to increase the probability of correctly predicting the outcome of past or present economic events (Hasan et al., 2014). The company's financial statements should provide knowledge about future events. Generally, users prefer predictive value which facilitates them to take the right decision at the right time.

Other literature discusses the predictive value of OCI. Khan & Bradbury (2014) provide empirical evidence that OCI is more volatile than net income and OCI is more associated with market-based risk measures. Research by Bratten et al. (2015) provide results which state that the predictive value of the estimated fair value increases when the fair value is measured more reliably. Furthermore, the results of this study support the FASB and IASB that the use of fair value estimates in financial reporting fulfills the objective of providing useful information for making decisions about the company's performance in the future.

Some literature discusses the use of OCI and its components. Like Bamber et al. (2010) who examined the location of OCI reporting in financial statements and found evidence that the location of OCI reporting was considered important by managers because it was related to performance report-based assessments. Biddle & Choi (2006) reported that OCI was found to be useful in supporting the IASB's proposal to require disclosure of comprehensive income and the view that "different components of comprehensive income are useful in different ways for users". Black (2016) argues that much research and discussion is still needed to provide additional understanding of the role of OCI and its components and understand how interested parties respond to it.

As relevant information, OCI should be able to predict the company's future performance (Bratten et al., 2015). However, if you look at the components of OCI which are grouped into the fair value hierarchy, it still raises the question of whether there is a difference in the predictive value of the fair value level. It is known that the fair value level 3 raises a more serious problem of information asymmetry between managers and users of financial statements, and managerial discretion over the inputs used to measure fair value can lead to opportunistic activities (Y. H. Lin et al., 2017). Level 3 fair value is more complex and some restatement actions taken by the company have a close relationship with such complexity or intentional manipulation (Y. H. Lin et al., 2017; Plumlee & Yohn, 2010). Because it contains uncertainty, investors find it difficult to trust the use of fair value in financial reporting (Koonce et al., 2011). Based on the above arguments, we expect that the fair value estimates included in the OCI can predict future performance and state the hypothesis in the following alternative form:

Hypothesis 1: fair value estimates embedded in OCI are predictions of future performance.

Panel A: Sample Selection	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam
Beginning number of samples	67	16	19	11	36	23
Firms whose financial statement were not found	0	0	0	1	5	1
Firms have no complete financial reports	14	2	2	2	4	4
Firms have no other comprehensive income	10	1	4	0	7	0
Final number of samples	43	13	13	8	20	18
Panel B: Final Sample						
	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam
Bank	35	8	12	2	8	13
Other Financial Services	8	5	1	6	12	5
Sample Per Country	43	13	13	8	20	18
Final Sample	115					
Firm year observations	805					

Table 1: Sample Selection

Research Methodology

Study Period and Sample Selection

Our sample consists of banks and other financial services listed on stock exchanges in several ASEAN countries (Indonesia, Malaysia, Singapore, Thailand, Philippines, Vietnam) during 2012 - 2019. Our sample period is only up to 2019 and does not involve 2020 due to considering the COVID-19 pandemic in 2020 with the aim of avoiding a bias in the impact of the pandemic on the study. The selection of a sample of banking and other financial services refers to the consideration that the banking industry has a large number of assets and liabilities that are severely affected by the application of fair value (Song et al., 2010).

Considering that this study involves predicting future period performance, it is important in the empirical analysis to involve disclosure of the fair value contained in the current year's OCI of the company which is then linked to the appropriate performance information at a minimum

level of one period ahead and up to a maximum of two periods. in the future (Ehalaiye et al., 2016). Thus, for example, the fair value disclosures contained in the current OCI for 2012 would be linked to information on future performance in 2013 and 2014.

Based on multiple measures of data collection and sample selection, our final sample consists of 115 banks (805 firm-years) with future pre-tax earnings at time t+1, 115 banks (690 firm-years) with future pre-tax earnings at time t +2 (see table 1).

Empirical Model

We tested our hypothesis using ordinary least squares to estimate the cross-sectional multivariate regression model. The variables involved are continuous and the expected cross-sectional equations are used to draw conclusions about the hypothesized relationship between the fair value contained in OCI and return on asset. The following main multivariate models were used to test hypothesis 1:

$$ROA_{it + q} = \beta_0 + \beta_1 OCI_{it} + \beta_2 LEV_{it} + \beta_3 SIZE_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots (1)$$

$ROA_{it + q}$ is return on asset before tax, one and two years ahead. Following Bratten et al. (2016), net income before tax is proxied as operating income, which is defined for banks as total interest income plus non-interest income minus total interest expense, non-interest expenses and allowance for loan losses. Exemption of income tax expense due to focus on bank operational performance. While OCI is other comprehensive income, which describes the impact of applying fair value to the components of the company's performance report.

Additional Control Variables

In order to control for the effect of characteristics that are typical for each bank, we followed previous studies in assessing the effect of bank size and capital adequacy (which reflects leverage and financial risk). We control for bank size by following the approach of Song et al. (2010) and Evans et al. (2014). Other studies that use total assets as a control variable include Dhaliwal et al. (1999) dan Lee & Park (2013). Meanwhile, leverage reflects the risks faced by the company. Research that uses leverage as a control variable, among others, was conducted by Dhaliwal et al. (1999), Ehalaiye et al. (2016), Khan & Bradbury (2014) and Lee & Park (2013).

Research Results

Descriptive Statistics

Table 2 presents descriptive statistics for our sample. Panel A shows the descriptive statistics for the regression equations that predict the company's performance one year in the future. The average (mean) pre-tax ROA is 2.12%, while the average (mean) OCI is 9.38% of total assets. The average (mean) LEV is 7.69%, while the average (mean) SIZE is 14.84% of total assets.

While for Panel B, it describes descriptive statistical regression equations to predict the company's performance for the next two years. We can see that the average (mean) pre-tax ROA is 1.97%, while the OCI variable has an average (mean) of 9.83% of total assets. Not much different from the previous data in panel A, the average value (mean) of the LEV and SIZE variables is 7.69% and 14.80% of total assets, respectively.

Variable	Mean	Std. Dev.	Minimum	Maximum	*N* (firm-years)

Panel A: Descriptive statistics for regression models at year t + 1					
ROA	0.0212	0.0384	-0.203	0.431	805
OCI	0.0938	0.1140	-0.0662	0.9854	805
LEV	0.7694	0.2411	0.01	1.987	805
SIZE	14.8404	2.5060	8.206	19.816	805
Panel B: Descriptive statistics for regression models at year t + 2					
ROA	0.0197	0.0350	-0.203	0.232	690
OCI	0.0983	0.1173	-0.0662	0.9854	690
LEV	0.7696	0.2440	0.01	1.987	690
SIZE	14.8043	2.5099	8.206	19.775	690

Table 2: Descriptive Statistics

Fair value accounting and predictability of pre-tax earnings.

In this section, we report the results of tests that examine the relationship between OCI and future performance measures. Results Eq. (1), which estimates the predictive value of OCI for future pre-tax ROA, are shown in Table 3. The main coefficient of interest for hypothesis 1 is OCI. Results are presented for predictions of 1 year ahead (left column) and 2 years ahead (right column) pre-tax ROA. In all of our analysis, the statistical significance of the coefficients was based on the one-sided p-value for the variable having the predictive sign and the opposite two-tailed p-value.

	Dep. Var: ROA $_{t+1}$			Dep. Var: ROA $_{t+2}$		
	Coef	t-stat		Coef	t-stat	
OCI	0.025	2.39**		0.029	2.98***	
LEV	-0.096	-14.00***		-0.854	-12.82***	
SIZE	0.003	3.97***		0.002	3.76***	
Constant	0.054	7.47		0.047	6.59	
N	805			690		
Adj. R^2	0.264			0.263		

Testing the ability of fair value adjustments in other comprehensive income to predict future earnings when the dependent variable is measured at t + 1 and t + 2. ROA is equal to return on asset, calculated as return on asset before tax divided by total assets. OCI is equal to other comprehensive income, calculated as total other comprehensive income, divided by total assets. LEV is equal to leverage, calculated as total liabilities divided by total assets. SIZE is equal to firm size, calculated as natural logarithm of total assets. A one-tailed significance test was used where predictions had been made. ***, **, * indicate statistical significance at 1, 5, and 10% levels, respectively.

Table 3: Predictability Of Pre-Tax Earnings Based on Fair Value-Oriented Other Comprehensive Income

The adjusted R-squared of our model ranges between 26.4% (for the model using future pre-tax ROA in year t+1) and 26.3% (for the model using future pre-tax ROA in year t+2), which is comparable to previous studies (e.g. Y. H. Lin et al., 2017). As a result of regression testing, we find that OCI predicts future income (coefficient on OCI is positive and statistically significant) and larger banks have relatively higher future income (coefficient on SIZE is positive and statistically significant). More importantly, consistent with hypothesis 1, we find that OCI is gradually associated with pre-tax income over the next 1 and 2 years (the coefficient on OCI is positive and statistically significant), suggesting that fair value oriented OCI can predict future bank performance.

Consistent with Ehalaiye et al. (2016), Bratten et al. (2015) and Evans et al. (2014) the results of this study provide evidence that the predictive ability of fair value is not only on assets and liabilities, but also on other comprehensive income as an account that describes changes in fair value measurement. Reinforcing the opinion of Khan & Bradbury (2014) and C. Lee & Park (2013) that OCI as a whole can be considered as relevant information. Our research agrees with claims by the FASB and IASB that fair value accounting meets financial reporting objectives by providing information that is useful for decisions that are useful for predicting future performance.

Additional Tests

Additional tests were conducted to determine the predictive value of the level 3 fair value input contained in the OCI and to see the difference between level 3 fair value inputs vs level 1 and 2. The purpose of this analysis is very reasonable, considering that the level 3 fair value input is considered very subjective and allows managers to use a high level of discretion, so that it may tend to be biased and can reduce the quality of accounting information.

	Dep. Var: ROA $_{t+1}$			Dep. Var: ROA $_{t+2}$		
	Coef	t-stat		Coef	t-stat	
OCI12	0.0196	1.78*		0.0324	3.04***	
OCI3	0.0851	1.85*		-0.0010	-0.02	
LEV	-0.0961	-13.95***		-0.0856	-12.84***	
SIZE	0.0027	4.10***		0.0023	3.64***	
Constant	0.0528	7.17		0.0478	6.62	
N	805			690		
Adj. R^2	0.265			0.262		
OCI12 is equal to other comprehensive income included in fair value level 1 and 2. OCI3 is equal to other comprehensive income included in fair value level 3. LEV is equal to leverage, calculated as total liabilities divided by total assets. SIZE is equal to firm size, calculated as natural logarithm of total assets. A one-tailed significance test was used where predictions had been made. ***, **, * indicate statistical significance at 1, 5, and 10% levels, respectively.						

Table 4: Additional Test – Predictability Based on Fair Value Hierarchy

Based on the additional test of predictive ability of the fair value hierarchy presented in Table 4 (above), other components of comprehensive income included in fair value level 1 and 2 have

predictive value for one year and two years into the future (coefficient on OCI12 is positive and statistically significant). Meanwhile, other components of comprehensive income included in fair value level 3 only have predictive value for the next one year (coefficient on OCI3 is positive and statistically significant only to predict the next 1 year).

The results of this study support previous research by Bratten et al. (2016) and Ehalaiye et al. (2016) that fair value adjustments have predictive value in estimating future values. While fair value level 3 which is proven to be weak in measurement input, supports the results of Lin's 2017 research which shows that fair value level 3 causes companies to restate financial statements in the following year.

Robustness Tests

We conducted a robustness test by re-testing the regression equation with sample data divided into each country (see table 5). The overall test results show that OCI's ability to predict shows mixed results. Data from Indonesia and Thailand show that OCI can predict the next 1 and 2 years. Meanwhile, data from Malaysia and the Philippines show positive and significant OCI results that can predict only for the next 1 year. The rest, the results of testing data from Singapore and Vietnam do not show significant values for years 1 and 2 ahead.

	Dep. Var: ROA $_{t+1}$			Dep. Var: ROA $_{t+2}$		
	Coef	t-stat		Coef	t-stat	
Indonesia						
OCI	0.0325	1.81**		0.0383	2.06**	
LEV	-0.0856	-8.18***		-0.0820	-7.52***	
SIZE	0.0030	2.69***		0.0033	2.78***	
Constant	0.0395	3.10		0.0307	2.26	
N	301			258		
Adj. R^2	0.237			0.234		
Malaysia						
OCI	-0.0276	-2.14**		0.0163	0.99	
LEV	-0.0598	-6.98***		-0.0613	-6.30***	
SIZE	0.0003	0.38		0.0015	1.47	
Constant	0.0641	5.03		0.0388	2.48	
N	91			78		
Adj. R^2	0.497			0.518		
Philippines						
OCI	0.0172	2.29**		0.0095	1.27	
LEV	-0.0294	-0.96		-0.0244	-0.82	
SIZE	0.0030	5.52***		0.0034	6.02***	
Constant	-0.0113	-0.50		-0.0219	-1.02	
N	91			78		
Adj. R^2	0.317			0.401		

	Dep. Var: ROA $_{t+1}$			Dep. Var: ROA $_{t+2}$		
	Coef	t-stat		Coef	t-stat	
Singapore						
OCI	-0.0032	-0.11		0.0162	0.45	
LEV	-0.0727	-4.27***		-0.0711	-3.88***	
SIZE	0.0027	3.73***		0.0024	3.22***	
Constant	0.0258	2.76		0.0277	2.68	
N	56			48		
Adj. R^2	0.293			0.248		
Thailand						
OCI	0.0878	2.60**		0.0897	3.27***	
LEV	-0.1684	-4.85***		-0.1427	-4.93***	
SIZE	0.0078	2.28**		0.0078	2.69***	
Constant	0.0248	0.74		0.0024	0.09	
N	140			120		
Adj. R^2	0.260			0.285		
Vietnam						
OCI	-0.0466	-1.93*		-0.0556	-2.02**	
LEV	-0.0712	-3.83***		-0.0276	-1.28	
SIZE	-0.0002	-0.11		-0.0052	-2.11**	
Constant	0.0886	4.37		-0.1320	5.61	
N	126			108		
Adj. R^2	0.400			0.356		

Table 5: Predictability of Pre-Tax Earnings Based on Fair Value-Oriented Other Comprehensive Income Per Country

Discussion and Conclusion

Fair value-based financial reporting systems have become a debate about the benefits of fair value-based reporting. The results of this study contribute to adding insight in understanding the role of fair value adjustments contained in OCI to predict future performance. Using a sample of the banking industry listed on the stock exchanges of ASEAN countries, we find evidence that fair value based OCI, and its individual components are able to predict the performance of banking companies in the future both 1 and 2 years into the future. It should be understood that different components of OCI have different implications for assessing future banking performance and indicate that not all components of OCI that include unrealized gains and losses are similar.

Furthermore, the reliability of fair value measurement inputs is an important factor in improving the predictability of fair value estimates contained in OCI for future performance. Based on additional testing, it shows that fair values at level 1 and 2 have more predictive value when

compared to fair values at level 3. Fair values at level 1 and 2 are proven to be able to predict performance for the next 1 and 2 years, while fair values at level 3 are only able to predict performance for the next 1 year. The results of this study support previous research conducted by Bratten et al. (2016) and Ehalaiye et al. (2016) that the fair value adjustment contained in OCI has predictive value. Level 3 fair value due to its unobservable nature that allows bias in measurement, it is very likely to be categorized as low-quality input. This is in line with the results of Y. H. Lin et al. (2017) which states that level 3 fair value tends to cause companies to restate financial statements in the following year.

Robustness test results from testing data by country show that in general fair value adjustments in OCI are able to predict future performance. However, due to other factors that may differ in each country, the results may not be uniform (for example, the influence of political, cultural, economic, and other factors). Our research confirms the claims by the FASB and IASB that fair value accounting meets financial reporting objectives by providing information that is useful in decision making, for example in predicting future performance.

It should be noted that the sample of this study only involved the banking industry, so it should be considered in generalizing these findings to other types of industries.

Acknowledgement

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