DOES STANDARDISATION OF ACCOUNTING IMPROVE THE VALUE RELEVANCE OF FINANCIAL REPORTING IN BANKING SECTOR?

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Abstract. The paper aims at investigating the impact of the adoption of the International Financial Reporting Standards on the value relevance of consolidated financial reporting of banks in the emerging capital market of Poland. The investigation covers a sample of all domestically-based commercial banks listed on the Warsaw Stock Exchange over the period 1997–2013 that prepared consolidated financial statements both before and after 2005, when IFRS became mandatory. The research methods employed involved multiple linear regression analysis and the Chow test for structural break. The empirical evidence indicates that observed increase in the value relevance of consolidated book values of equity and net earnings of banks after adoption of IFRS is statistically insignificant. Moreover, the descriptive power of the aforementioned accounting variables appears to have in fact diminished in the period succeeding the adoption. The obtained results are therefore consistent with the findings of previous studies regarding both banking and non-financial enterprises sector in the Polish capital market.

Key words: accounting standardisation, banks, value relevance, financial reporting

INTRODUCTION

Over the last decades seemingly unstoppable force of globalisation has affected almost every area of business activity around the world. Given the constant pursuit of efficient capital allocation, not surprisingly, one of the most apparent tendencies in the aforementioned process involves the attempts to establish a uniform
set of rules on accountancy and financial reporting on a global scale. A key role in this area is played by the International Accounting Standards Board (IASB), which gradually develops the set of International Financial Reporting Standards (IFRS).  

Being aware of the importance of international movement of capital the majority of countries have permitted, or required, the use of IFRS [Erickson, Esplin and Maines 2009]. Currently IFRS are adopted by 105 jurisdictions around the world, 102 of which require reporting in accordance with these standards of all or most domestic publicly accountable entities (listed companies and financial institutions) in their capital markets [http://www.ifrs.org... 2014].

The fundamental justification for development of global financial reporting standards seems to arise from economic motives, including facilitation of financial monitoring processes, settling up of contractual relationships on an international scale, and improvement of the quality and international comparability of financial reports. However, an important role in development and diffusion of these standards is played by a number of social and political factors driven by powerful interest groups composed of regulators (e.g. the United States Securities and Exchange Commission), supranational agencies (e.g. the International Monetary Fund, the European Union), as well as globalising accounting and audit industry [Chua and Taylor 2008].

A significant step forward in accelerating the international harmonisation of accounting was made by the European Union through Regulation (EC) No 1606/2002 which obliged all publicly traded companies governed by the laws of member states to prepare their consolidated accounts in conformity with IFRS since 2005. The purpose of this regulation was to improve efficiency and cost-effectiveness of the EU capital market by facilitating the freedom of capital movement and fostering competition for financial resources among companies thanks to improved transparency and comparability of financial statements [Regulation... 2002, p. 1, art. 1].

Although the openness and inner flexibility of IFRS enables their application to countries with diverse accounting traditions and varying institutional conditions, the same features can create some problems with comparability of accounting items and measures [Carmona and Trombetta 2008]. Due to diversity of political, cultural, financial, and legal systems around the world, a global set of uniform accounting standards, particularly principle-based IFRS, may not be appropriate to all countries, and its mandatory adoption might in fact distort financial reporting instead of improving its value relevance [Alai and Cao 2010; Walker 2010].

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1 In 2001 IASB replaced the International Accounting Standards Committee (IASC) and adopted the existing International Accounting Standards (IAS) previously developed by IASC.
Although numerous studies conducted in various national and international contexts attempted to investigate the impact of standardisation of accounting on the value relevance, their results are mixed. Additionally, despite a considerable amount of studies regarding non-financial enterprises, the related literature seldom addresses the specific context of the banking industry. Finally, the research problem remains largely unexplored in the Polish capital market, as to date only a couple of studies have attempted to investigate it empirically.

The aim of this paper is to examine whether the mandatory adoption of IFRS in 2005 improved the value relevance of consolidated financial reporting of banks listed on the Warsaw Stock Exchange. The study attempts therefore to enhance the modest international and domestic literature on the impact of standardisation of accounting on the value relevance of accounting information in the banking sector.

The remainder of the paper proceeds as follows. Section 2 contains a review of related literature on the impact of standardisation of accounting on the value relevance of financial reporting with a special regard to the banking sector. Section 3 is devoted to the methodological issues of the research, including its design and the sources of data. Section 4 discusses the empirical results of the research and their consistency with the previous investigations. The paper is closed with a brief summary in Section 5 presenting the key findings of the study.

**RELATED LITERATURE**

Despite abundant contemporary international literature on the impact of standardisation of accounting on the value relevance of financial reporting in various capital markets, the produced results are clearly mixed. Numerous studies report that under IFRS the value relevance of accounting information improves [Bartov, Goldberg and Kim 2005; Barth, Landsman, and Lang 2008; Karampinis and Hevas 2009; Iatridis and Rouvolis 2010; Iatridis 2011; Dimitropoulos et al. 2013; Kim 2013; Müller 2014]. Many authors, however, argue that this improvement is either marginal or statistically insignificant [Callao, Jarne, and Laínez 2007; Hung and Subramanyam 2007; Gjerde, Knivsfll, and Scttem 2008; Goodwin, Ahmed and Heaney 2008; Habib and Weil 2008; Clarkson et al. 2011; Karampinis and Hevas 2011; Macías and Muño 2011, Jarva and Lantto 2012; Tsalavoutas, André and Evans 2012; Palea 2014]. The results of the researches conducted in the context of the Polish capital market by Dobija and Klimczak [2010] and Klimczak [2011] also indicate that the improvement of value relevance of accounting information after adoption of IFRS was statistically insignificant.

Some authors found that diverse items from financial statements respond to introduction of IFRS in a different way, but while Tsalavoutas, André, and Evans
[2012] argue that IFRS improve the value relevance of book values of equity and decrease the value relevance of earnings, the results of Ahmed, Chalmers, and Klif [2013] are exactly opposite.

Finally, the results of several studies indicate that the standards have negative impact on the value relevance of reported data [Lin and Chen 2005; Morais and Curto 2008; Gastón et al. 2011; Khanagha 2011].

The empirical evidence on the impact of accounting standards on the value relevance of financial reporting in banking sector is rather modest, as all of the aforementioned studies either exclude banks from the examined samples of companies or treat them without any separate consideration.

An example of a value-relevance study in the specific context of banking sector is the one by Anandarajan et al. [2011] who examined banking institutions from 38 countries over the period 1993–2004 and found that the value relevance of earnings and book values of equity is greater when the disclosure requirements of a country’s standards boards are higher, the local environment is more focused on the private sector, and the legal environment is more friendly to shareholders. In this light, they argue that the value relevance of accounting data is higher for British-American banks that operate in regulatory regimes associated with greater levels of transparency.

Contradictory results were obtained by Escáf erre and Sefsaf [2011] who conducted a comparative analysis of the value relevance of earnings and book values of equity of financial institutions, including banks, in the US market and selected European markets over the period 2005–2008. They report higher value relevance of earnings and book values of equity in the European markets using IFRS compared to the American market using US GAAP. Their findings also indicate that under IFRS the value relevance of book values was higher than earnings in all the examined European markets, except the Spanish one, whereas in the US market, the value relevance of earnings was higher than book values of equity.

The impact of IFRS adoption by the EU on the value relevance of accounting data in banking sector was directly investigated by Agostino, Drago, and Silipo [2011] who examined listed banks from 15 EU countries over the period 2000–2006. Their findings suggest that IFRS enhanced the information content of earnings and book values of equity only for more transparent banks, while for the less transparent entities there was no significant increase in the value relevance.

To date, apparently the only attempt to investigate empirically the impact of IFRS on the value relevance of accounting information announced by the listed banks in Poland was the one by Bolibok [2014] who used the Ohlson residual income valuation model to examine the banks listed on the Warsaw Stock Exchange over the period 1998–2012 and found that the increase of the value relevance of book values of equity and residual incomes after adoption of IFRS was statistically insignificant.
RESEARCH DESIGN AND DATA SOURCES

The mixed international evidence on the impact of standardisation of accounting on the value relevance of financial reporting and the modest literature regarding the problem in the specific context of the Polish capital market (particularly in the banking sector) resulted in formulation of the key hypothesis of the present study:

**HYPOTHESIS 1.** The standardisation of accounting does not significantly improve the value relevance of financial reporting in the banking sector.

The investigation of the impact of changes in fundamental accounting data on the market value of listed banks was based on the multiple regression analysis. To control for the effects of scale that might result in potential estimation problems like coefficient bias, $R^2$ bias, and heteroscedasticity [Lo 2005], all variables of the model were deflated by the stock price at the beginning of each period. This procedure led to development of the following regression, hereinafter referred to as "Model A":

$$\frac{\tilde{p}_t}{p_{t-1}} = \alpha_0 + \alpha_1 \frac{BVPS_t}{p_{t-1}} + \alpha_2 \frac{EPS_t}{p_{t-1}} + \varepsilon_t$$

where:
- $p_t$ – closing price of a bank’s share at the end of period $t$,
- $\alpha_0$ – intercept,
- $\alpha_1, \alpha_2$ – structural parameters,
- $BVPS_t$ – consolidated book value per share at the end of period $t$,
- $EPS_t$ – consolidated net income per share for the period (t–1; t),
- $\varepsilon_t$ – error term.

Given the basic intuition that higher book values of equity and net incomes should result in a higher market value of an enterprise, the estimates of parameters $\alpha_1$ and $\alpha_2$ are expected to be positive. The presence of error term serves for capturing the influence of potential factors not included in the model.

In order to evaluate the impact of the mandatory adoption of IFRS on the value relevance of financial reporting in the Polish banking sector, basing on the approach proposed by Kardin (2013), an extended version of the above model (hereinafter referred to as "Model B") was developed:

$$\frac{\tilde{p}_t}{p_{t-1}} = \alpha_0 + \alpha_0D_t + \alpha_1 \frac{BVPS_t}{p_{t-1}} + \alpha_2 \frac{EPS_t}{p_{t-1}} + \alpha_3 \left( D_t \frac{BVPS_t}{p_{t-1}} \right) + \alpha_4 \left( D_t \frac{EPS_t}{p_{t-1}} \right) + \varepsilon_t$$

where:
- $D_t$ is a dummy variable equal 0 for $t = 1998, 1999, \ldots, 2004$ and 1 for $t = 2005, 2006, \ldots, 2013$. 


Estimates of structural parameters $\alpha_3$ and $\alpha_4$ of Model B measure the changes in values of regression coefficients for deflated consolidated book value of equity and net earnings per share, respectively, after implementation of IFRS. The positive (negative) values of these estimates indicate increase (decrease) of the value relevance of corresponding accounting data after IFRS adoption. The statistical significance of the change in regression parameters was investigated with the Chow test for structural break [Dougherty 2001].

The data used in the analysis covered all domestically-based commercial banks listed on the Warsaw Stock Exchange over the period 1997–2013 that prepared consolidated financial statements both before and after 2005, when IFRS became mandatory. The final sample comprised of 13 banks after taking into account the results of mergers and acquisitions within the sector. The data on consolidated annual financial statements was collected from the Notoria Serwis SA database provided by ISI Emerging Markets [http://site.securities.com… 2014], while the data on historical stock prices from the database of the Brokerage House of Bank Ochrony Środowiska SA [http://bossa.pl... 2014]. The combined data on book values, net earnings, and stock prices yielded the final pooled sample of 175 bank-year observations.

**RESULTS**

The results of estimations of Model A before and after the mandatory adoption of IFRS, as well as for the entire analysed period, are presented in the Table 1.

**TABLE 1.** Estimations of parameters of Model A in the analysed periods

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>$\hat{\alpha}_0$</td>
<td>0.791</td>
<td>0.808</td>
<td>0.826</td>
</tr>
<tr>
<td>$\hat{\alpha}_1$</td>
<td>0.349</td>
<td>0.368</td>
<td>0.342</td>
</tr>
<tr>
<td>$\hat{\alpha}_2$</td>
<td>1.089</td>
<td>1.629</td>
<td>1.249</td>
</tr>
<tr>
<td>$R^2$</td>
<td>13.4%</td>
<td>10.1%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Adj. $R^2$</td>
<td>10.9%</td>
<td>8.3%</td>
<td>10.0%</td>
</tr>
<tr>
<td>F-statistic</td>
<td>5.348</td>
<td>5.626</td>
<td>10.701</td>
</tr>
<tr>
<td>$N$</td>
<td>72</td>
<td>103</td>
<td>175</td>
</tr>
</tbody>
</table>

Source: own elaboration.
The estimated regressions proved to be statistically significant for each analysed period. The results indicate a clearly higher responsiveness of banks’ stock prices to changes in earnings than book values of equity. Moreover, this tendency seems to intensify after introduction of IFRS.

Increases in the regression coefficients for both deflated book values of equity and net earnings in the period succeeding implementation of IFRS would suggest a higher value relevance of accounting data, if they had not been accompanied by a simultaneous decrease of the coefficient of determination indicating a lower ability of these variables to explain the changes in the market value of banks.

There is also an interesting change in the statistical significance of estimated regression coefficients for both analysed sub-periods. Before IFRS adoption the coefficient for deflated net earnings proved to be significant at the 5% level while the p-value for the coefficient for deflated book value slightly exceeded this threshold. In the period 2005–2013, however, it was the coefficient for deflated book value that turned out to be significant, while the one for net earnings became distinctly insignificant.

In order to investigate the statistical significance of changes in responsiveness of banks’ stock prices to fundamental accounting information after implementation of IFRS, the Chow test for structural break was applied (Table 2).

**TABLE 2.** Estimations of parameters of Model B and the Chow test for structural break

<table>
<thead>
<tr>
<th>Parameter/statistic</th>
<th>Estimate/value</th>
<th>Std. error</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\alpha_0$</td>
<td>0.791</td>
<td>0.154</td>
<td>0.000</td>
</tr>
<tr>
<td>$\alpha_{D0}$</td>
<td>0.017</td>
<td>0.193</td>
<td>0.929</td>
</tr>
<tr>
<td>$\alpha_1$</td>
<td>0.349</td>
<td>0.184</td>
<td>0.060</td>
</tr>
<tr>
<td>$\alpha_2$</td>
<td>1.089</td>
<td>0.494</td>
<td>0.029</td>
</tr>
<tr>
<td>$\alpha_3$</td>
<td>0.019</td>
<td>0.225</td>
<td>0.932</td>
</tr>
<tr>
<td>$\alpha_4$</td>
<td>0.540</td>
<td>0.048</td>
<td>0.710</td>
</tr>
<tr>
<td>$R^2$</td>
<td>11.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. $R^2$</td>
<td>9.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>4.430</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Chow test statistic</td>
<td>0.332</td>
<td></td>
<td>0.803</td>
</tr>
<tr>
<td>$N_1$ (1998–2004)</td>
<td>72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$N_2$ (2005–2013)</td>
<td>103</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: own elaboration.

Despite the fact that the values of regression coefficient estimates $\alpha_3$ and $\alpha_4$ were positive, they proved to be statistically insignificant, as it is indicated by corresponding high p-values. These results suggest that the value relevance of both
book values of equity and net earnings of banks listed on the Warsaw Stock Exchange did not increase meaningfully after implementation of IFRS.

The above findings are further supported by the results of the Chow test for structural break, as the value of the estimated test statistic (0.332) was clearly lower than the corresponding critical value of the F-distribution (2.658). This in turn indicates that the null-hypothesis of exactly no difference in regression coefficients between the analysed sub-periods cannot be rejected and that the evidence on structural break in parameters of the model is not sufficient.

In the light of the aforementioned results, it appears that mandatory adoption of IFRS did not result in a statistically significant improvement of the value relevance of financial reporting in the Polish banking sector, which supports the key hypothesis developed in the study. Despite a different methodical approach, the results of the investigation are therefore consistent with the previous studies regarding the impact of IFRS on the value relevance of accounting information in the context of the Polish capital market obtained for banks [Bolibok 2014] as well as non-financial enterprises [Dobija and Klimczak 2010; Klimczak 2011].

**CONCLUSIONS**

The results of the research indicate that the mandatory adoption of IFRS in 2005 did not improve the value relevance of financial reporting in the Polish banking sector. Although the responsiveness of banks’ stock prices to changes in consolidated book values of equity and net earnings, controlled for the effects of scale, appeared to increase after introduction of the standards (in particular in the case of earnings), this increase turned out to be statistically insignificant. Moreover, the combined explanatory power of deflated book values of equity and net earnings appears to diminish in the period succeeding the introduction of IFRS which suggests that the joint value relevance of these key accounting variables might have in fact decreased.

These findings appear to be consistent with the results of previous investigations on the impact of adoption of IFRS on the value relevance of financial reporting in the Polish capital market in both banking and non-financial enterprise sectors. Although IFRS are supposed to be more informative and better adapted to the needs of capital markets, it appears that reporting quality under the Polish accounting standards was at least comparably useful for equity investors. One of the possible explanations of this lack of significant improvement in the value relevance of accounting data under IFRS in case of banks listed in Poland is the fact that the key part of their business activity consists of traditional banking operations which should be similarly recognised by both capital market and financial reporting.
References


CZY STANDARYZACJA RACHUNKOWOŚCI ZWIĘKSZA ZNACZENIE SPRAWOZDAWCZOŚCI FINANSOWEJ DLA WARTOŚCI RYNKOWEJ W SEKTORZE BANKOWYM?

zmiennych księgowych do objaśniania zmienności wartości rynkowej faktycznie zmalała w okresie po przyjęciu standardów. Uzyskane rezultaty są zatem spójne z wynikami poprzednich badań dotyczących zarówno sektora bankowego, jak i przedsiębiorstw niefinansowych na polskim rynku kapitałowym.

Słowa kluczowe: standaryzacja rachunkowości, banki, znaczenie dla wartości rynkowej, sprawozdawczość finansowa