The Impact of IFRS Adoption on Earnings Management in Russia

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Abstract:

The purpose of this study is to examine the effect of International Financial Reporting Standards (IFRS) adoption on the frequency of earnings management in Russia according to accruals-based approach.

The empirical analysis employs the linear regression model which includes a dependent variable (discretionary accruals), an independent variable (accounting standards) and some control variables.

The sample used for the analysis contains 361 observations of Russian public companies from various industries during the period from 2010 to 2015. It is anticipated to obtain the result showing that earnings management is intensified after IFRS implementation.

Keywords: IFRS, earnings management, IFRS adoption, quality of financial statements, Russian companies.

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1. Introduction

The globalization of the economy necessitates international standardization of accounting systems to ensure comparability of reporting between companies of different countries. It is expected that financial reporting under IFRS will not only ensure comparability of financial statements of companies from different countries, but will also contribute to improving the quality of information provided in the statements. This is determined by the concept of IFRS, being Principles-Based Standards, which, in fact, allow for a certain amount of flexibility, enabling accountants and managers to apply professional judgment in the formation of individual financial reporting indicators, thereby reflecting the actual state of the company's affairs. In other words, when applying IFRS, managers can use their knowledge of the business to choose the ways of presenting information and offer their own professional assessments that best describe the specifics of business processes and increase the value of accounting as a form of communication. However, due to the imperfection of the existing controls over the issued financial statements, in particular, from the auditors, there is a risk that managers will apply this freedom to misstate the company's financial performance.

The ambiguity and inconsistency of the results of studies on the impact of IFRS application on the level of the net profit index divergence for different countries and samples necessitates a detailed analysis of the problem, taking into account possible factors influencing the effect of IFRS application, the specifics of the country in question (Russia) and various methods for assessing the level of earnings management. It is also worth noting that, despite a large number of scientific papers analyzing developed and developing countries, such a study was not conducted in the Russian market, which also indicates the relevance of this research.

The purpose of this work is to investigate the direction and extent of influence of IFRS application on the profit index divergence in the Russian market. The database of Bureau van Dijk (Amadeus) was taken as a research information base.

The results of this study show an increase in misstatement due to IFRS application; accordingly, the practical application of the results involves the need to consider the risk of presenting inaccurate information in the financial statements prepared in accordance with IFRS, when investors make decisions based on such reporting.

2. Literature Review

2.1 Incentives and limitations for earnings management

Many existing empirical studies in this area seek to obtain empirical evidence that the company's management provides earnings management, guided by certain motives. Based on the existing papers dealing with the influence of various factors

on the level of misstatement of financial indicators, the following motives can be distinguished:

1. Aspiration of top executives to receive a bonus award, depending on certain financial indicators of the company (Healy, 1985).
2. The desire to influence the companies' stock prices during the IPO (Teoh *et al.,* 1998).
3. The desire to ensure compliance of the company's financial results with the forecasts of analysts (Burgstahler and Dichev, 1997; Kasznik, 1999).
4. The intention to fulfill the terms of the loan agreement (DeFond and Jimbalo, 1994).
5. The desire to reduce tax payments (Goncharov and Zimmermann, 2007; Coopens and Peek, 2005).

At the same time, the company deliberately falsifies the profit performance only if it has the opportunity to do so. However, there are some limitations that deter companies from deliberately misstating financial reporting data. The developed system of corporate governance and control, as well as a high degree of regulation of audit activities and protection of investors' rights are examples of the main limitations. The results of previous studies indicate that for countries with developed institutions for protecting investors' rights and, as a consequence, a high level of control over the activities of audit firms, the level of misstatement is much lower.

In addition, the quality of the audit is particularly important: the results of previous studies (Bauwhede and Willekens, 2004, Chen *et al.,* 2005, Wanqing, 2014) show that companies audited by Big 4 accounting firms demonstrate a lower level of earnings management compared to companies audited by non-Big 4 firms. The circulation of shares of companies in foreign stock markets is another constraining factor (Ball and Shivakumar, 2005). Moreover, it is assumed that large companies are less prone to misstating the profit performance due to the fact that such companies have more sophisticated and perfect internal control systems, and they value their reputation more. The fact that the size of the company is a constraining factor to falsification is confirmed in the works of Lennox (1999) and Beasley and coauthors (2000).

However, at the same time, large companies are more exposed to pressure from capital markets (Rangan, 1998; Nelson, 2002; Liapis and Thalassinos, 2013) and have greater negotiating power with firms providing audit services for relatively small companies (Barton and Simko, 2002). Thus, the influence of company's size on the level of the profit index divergence is very ambiguous. It is also worth noting that in Russia the institutes of control over auditing activities and institutes of investors' rights protection are extremely undeveloped, and therefore, despite the existing limitations, managers may have the opportunity to falsify the company's financial results.

2.2 The relationship between the IFRS adoption and the earnings management level

The paper of Callao and Jarne (2007) is one of the key studies examining the impact of IFRS on earnings management The author shows that for companies applying IFRS, the level of the profit index divergence is higher than for companies that apply national accounting standards. A similar result was obtained in a study by Lopes and coauthors (2010) using the Kothari model (Kothari *et al.,* 2005). The hypothesis that IFRS increases the profit index divergence is also confirmed by Campa and Donnelly (2011) and by Wanqing (2014) applying the Modified Jones Model (Dechow *et al.,* 1995).

However, there are a number of studies that cast doubt on the results of the studies considered earlier. Thus, in (Cai *et al.,* 2008) the authors obtain a significant negative coefficient in their regression model, which indicates a decrease in the level of the profit index divergence due to the application of IFRS. The hypothesis that the use of IFRS reduces the frequency of financial reporting data misstatement is also confirmed by Sellami and Fakhfakh (2014). A similar result was obtained by Pelucio-Grecco (2014).

Along with the above papers, there are a number of studies, the results of which indicate the insignificant effect of IFRS adoption on the level of earnings management or the absence of such influence (Besten, 2012). In addition, the hypothesis about the absence of the effect of IFRS adoption on the level of earnings management is confirmed in the study by Umobong and Akani (2015). The results of the study by Monzano (2014) show that the level of earnings management, on the contrary, is higher for companies applying IFRS. However, as in the previous studies, the resulting coefficient is insignificant, therefore, the hypothesis of an increase in earnings management due to IFRS adoption should be rejected.

3. Formulation of the research hypotheses

Based on the analysis of existing studies, it is proposed to verify the following hypotheses in the framework of this paper**:**

Hypothesis 1: It is expected that IFRS adoption increases the level of the profit index divergence due to the fact that international standards provide managers a greater opportunity to apply their professional judgment in the formation of certain reporting parameters, though there are problems of imperfection control over the issued statements and poorly developed institutions for investor rights protection. Thus, despite the existing limitations, managers retain the possibility for intentional misstatement of the company's financial results.

Hypothesis 2: It is assumed that IFRS adoption contributes to the increase in divergence towards overestimation to a greater extent than toward the underestimation of profits, since a voluntary transition to IFRS implies the attraction of investors as its main objective. Thus, companies applying IFRS have more incentives to overestimate profits.

Hypothesis 3: The extent to which IFRS adoption affects the profit index divergence depends on the quality of the audit. It is assumed that companies audited by Big 4 accounting firms demonstrate a lower level of earnings management compared to companies audited by non-Big 4 firms, that is, the quality of the audit is a constraining factor of earnings management.

Hypothesis 4: The degree of influence of IFRS adoption on the earnings management does not depend on the company size.

4. Material and Methods

4.1 Measurement of the level of profit index divergence

As noted above, it is assumed to use discretionary accruals as a proxy variable to detect opportunistic behavior of management, namely, the fact of profit divergence. Discretionary accruals are not a mandatory part of the operating activities of companies and arise because managers use their own professional judgments. Since the discretionary accruals are a direct evaluation of management, supposedly trying to "mask" the urgent problems of the company, this value is considered as a proxy for earnings management.

In this paper, the Modified Jones Model developed by Dechow *et al.* (1995) will be used to find the level of discretionary accruals as a priority method from a number of others offered by Healy (1985), DeAngelo (1986), Jones Model (1991), Kothari and coauthors (2005). The choice of this model for estimating the level of the profit index divergence in the framework of this paper is determined by the following reasons.

First, the Modified Jones Model (Dechow et al., 1995), unlike the approaches of Healy (1985) and De Angelo (1986), does not consider the amount of non-discretionary accruals to be constant and takes into account the contribution to discretionary accruals that can be introduced at the expense of the industry or a certain year.

Second, unlike the above models, the Modified Jones Model (Dechow et al. 1995) uses scaling on total assets, which eliminates the heteroscedasticity problem. In addition, when applying the modified model, unlike the Kothari method (Kothari et al., 2005), there is no need to select an analogue company, which makes it possible

not to narrow the sample. It is also worth noting that the Modified Jones Model (Dechow *et al.,* 1995) has more test power and better explains the dependent variable than the simple Jones model (Jones, 1991).

The determination of the level of discretionary accruals in accordance with the chosen model is carried out in several steps:

1. The OLS method is used to estimate the following regression:

$$\frac{TA_t}{A_{t-1}} = \beta_1 \left(1/A_{t-1}\right) + \beta_2 (\Delta REV - \Delta REC_t) \left(1/A_{t-1}\right) + \beta_3 PPE_t \left(1/A_{t-1}\right) + \varepsilon_t,$$

where TA_t – total accruals over the period t; ΔREV_t — change in the company's revenues over the period t as compared to the previous one; ΔREC_t — change in company's receivables over the period t as compared to the previous one; PPE_t — the gross property, plant, and equipment as of the end of the period t; A_{t-1} — total assets at t-1; $\beta_1, \beta_2, \beta_3$ – model coefficients; ε_t — regression model error. Total accruals are calculated by formula:

$$TA_t = \Delta CA_t - \Delta CASH_t - \Delta CL_t + \Delta STD_t,$$

where ΔCA_t и ΔCL_t - change in current assets and current liabilities over the period t; $\Delta CASH_t$ — change in cash over the period t; ΔSTD_t – change in debt included in current liabilities over the period t.

Knowing model coefficients $\beta_1, \beta_2, \beta_3$, it is possible to calculate the value of non-discretionary accruals which equal to $\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$,

where $X_1 = \left(1/A_{t-1}\right)$, $X_2 = (\Delta REV - \Delta REC_t) \left(1/A_{t-1}\right)$,

$X_3 = PPE_t \left(1/A_{t-1}\right)$.

2. The level of discretionary accruals is calculated, being a proxy for profit index divergence (earnings management), as the difference between the total amount of accruals and non-discretionary accruals, which corresponds to the remainders of the regression.

4.2 Regression models of the dependence of earnings management on IFRS adoption

At this stage of the study, for testing *Hypothesis 1*, according to which IFRS adoption increases the level of the profit index divergence, it is proposed to construct an OLS regression of the dependence of discretionary accruals as a proxy of earnings management on the applied accounting standard.

The amount of discretionary accruals (DA) taken in modulus serves as a dependent variable. The applicable accounting standard is an explanatory variable: if the company applies IFRS, the explanatory dummy variable of IFRS is set to 1, and if the company uses Russian Accounting Standards, the IFRS dummy variable is set to 0. The dummy-variable Big4 is another explanatory variable that is set to 1 if the audit is conducted by a Big Four auditing firm and 0 if the auditing firm does not belong to the Big Four. The expected sign of the coefficient before the Big4 variable is negative. The following variables were selected as the control ones:

1. The size of the company (SIZE), calculated as the natural logarithm of the company's total assets. As noted above, the effect of this factor on the level of the profit index divergence is ambiguous, thus, the coefficient sign in front of the SIZE variable is not defined at this stage.
2. Ratio of total liabilities to total assets (LEV). It is expected that the coefficient before this variable will have a positive sign. This dependence can be explained as follows: the ratio of liabilities to total assets demonstrates what part of the assets is financed by the company's loans; the higher this indicator, the greater the company's desire to fulfill the terms of the loan agreement, therefore, in this case, top managers are more prone to earnings management with the purpose to ensure the financial result necessary to enter into a loan agreement or ensure its continuation, as confirmed by Bauwhede et al. (2003), Jelinek (2007), Callao (2010) and Wanqing (2014).
3. The risk variable (LOSS) is a dummy variable equal to 1 if in the period t-1 Net Income takes a negative value, and 0 if in the period t-1 Net Income is non-negative. It is assumed that if the company demonstrated a loss in the previous period, the top managers will be less inclined to earnings management (Francis and Yu, 2009). This is explained by the fact that companies that have a positive net profit in the previous period are more inclined to misstate with the purpose to justify the expectations of shareholders and investors, while companies showing a negative financial result in the previous year do not have such an incentive, as the expectations of shareholders and investors are no longer justified. Thus, the expected sign of the coefficient in front of the LOSS variable is positive.
4. Percentage change in income (GROWTH). It is expected that the sign of the coefficient in front of this variable in the regression will be positive, as the market has higher expectations for fast-growing companies, which serves as an additional

incentive for misstating the data of financial statements by the managers (Skinner and Sloan, 2002; McNichols, 2000)

5. ROE – in accordance with Freeman's fundamental work (Freeman et al, 1982), fluctuations in the profit index and return on equity have a negative correlation. It is assumed that the coefficient in front of the ROE variable is negative.

In addition, since the sample includes companies from different industries, it is justified to include industrial dummies in regression as control variables.

Thus, the regression for assessing the impact of IFRS adoption on the level of the profit index divergence in the framework of testing of Hypothesis 1 is written as:

$$DA_{it} = \beta_0 + \beta_1 IFRS_{it} + \beta_2 Big4_{it} + \beta_3 SIZE_{it} + \beta_4 LEV_{it} + \beta_5 LOSS_{it} + \beta_6 GROWTH_{it} + \beta_7 ROE_{it} + industry_{it} + \varepsilon_t$$

An empirical study based on this model will reveal the direction of the influence of the applied accounting standard on the level of the profit index divergence and determine whether the explanatory variable of IFRS is significant.

To test *Hypothesis 2*, according to which the effect of IFRS adoption differs between divergence towards overestimation of profits and divergence towards underestimation of profits, it is assumed to divide a sample into two subsamples:

1) with the level of discretionary accruals ≥0;
2) with the level of discretionary accruals <0. Further, the regression constructed for testing Hypothesis 1 is evaluated for each individual subsample, as a result of which the coefficients obtained in front of the IFRS variable and their significance are compared and it is determined whether the effect of IFRS adoption for two subsamples differs.

To test *Hypothesis 3*, according to which the effect of IFRS adoption on earnings management differs for companies audited by Big 4 firms, and for companies audited by non-Big 4 firms, the IFRS*Big 4 variable is added to the original regression model:

$$DA_{it} = \beta_0 + \beta_1 IFRS_{it} + \beta_2 Big4_{it} + \beta_3 IFRS_{it} * Big4_{it} + \beta_4 SIZE_{it} + \beta_5 LEV_{it} + \beta_6 LOSS_{it} + \beta_7 GROWTH_{it} + \beta_8 ROE_{it} + industry_{it} + \varepsilon_t$$

Empirical research on the basis of this model will reveal whether the degree of the impact of IFRS adoption on the level of profit index divergence differs depending on

audit quality. It is assumed that the coefficient is significant, which may be interpreted as follows: the effect of IFRS adoption on earnings management differs for companies audited by Big 4 firms, and for companies audited by non-Big4 firms. To test the *Hypotheses 4,* according to which the extent of the impact of IFRS adoption on the profit index divergence does not depend on the company size, the IFRS*SIZE variable should be added in the original model. Thus, in the framework of testing *Hypothesis 4* the model for estimating by the OLS method is written as:

$$DA_{it} = \beta_0 + \beta_1 IFRS_{it} + \beta_2 SIZE_{it} + \beta_3 IFRS_{it} * SIZE_{it} + \beta_4 Big4_{it} + \beta_5 LEV_{it} + \beta_6 LOSS_{it} + \beta_7 GROWTH_{it} + \beta_8 ROE_{it} + industry_{it} + \varepsilon_t$$

Whether the effect of IFRS adoption on earnings management differs for large and small firms can be established similarly: by determining the significance of the IFRS*SIZE coefficient. In the present study, it is assumed that the coefficient obtained is insignificant.

4.3 Description of the sample

To include observations in the final sample, the following conditions should be met:
• The company is public;
• Discretionary accruals can be calculated for the company in accordance with the Modified Jones Model (Dechow *et al.,* 1995);
• The company has available data on the applicable accounting standard (RAS or IFRS);
• There are data whether the company is audited by one of the Big Four firms;
• There are disclosed data that are necessary to determine the control variables of the regression for the company.

As a result, 361 company-year observations (an average of 60 companies) correspond to the indicated criteria. The Amadeus industry breakdown was used for further analysis of companies by industry – Mining and quarrying; Manufacturing; Electricity, gas, steam and air conditioning supply; Construction; Wholesale and retail trade; Transportation and storage; Information and communication; Financial and insurance activities; Real estate activities; Professional, scientific and technical activities. For the distribution of companies from the sample by sector, see Table 1.

Table 1. *Industry breakdown for the companies of the final sample.*

Industry	Amount of companies	Frequency
Mining and quarrying	3	5%
Manufacturing	9	15%
Electricity, gas, steam and air conditioning	18	30%

supply		
Civil engineering	2	3%
Wholesale and retail trade	4	7%
Transportation and storage	3	5%
Information and communication	6	10%
Financial and insurance activities	9	15%
Real estate activities	2	3%
Professional, scientific and technical activities	5	8%
Total	**61**	**100%**

Source: *Compiled by the author.*

For 361 company-year observations in accordance with the algorithm described above, the amount of discretionary accruals was calculated as a proxy of earnings management. In order to assess the main regression model of the research, the level of discretionary accruals was taken in modulus. It is believed that the stronger the deviation from zero, the more significant the distortion. Also for testing *Hypothesis 2,* the sample was divided into two subsamples: 1) with the level of discretionary accruals ≥0 and 2) with the level of discretionary accruals <0. It can be seen from Figure 1 that in 2012 the level of discretionary accruals in absolute terms increases in comparison with previous periods, which (FZ-208, 2010), whereby earnings management rate increased, which corresponds to the main hypothesis of this study.

It is worth noting that in 2014 the level of earnings management was the most significant, which can be explained by the crisis, as a result of which the financial results of many companies deteriorated significantly and the executives of such companies were forced to intentionally falsify the reporting data in order to hide the generated problems from investors. Figure 1 also shows that during the period under consideration the trend line is upward, which also does not contradict the hypothesis of increasing earnings management due to IFRS adoption.
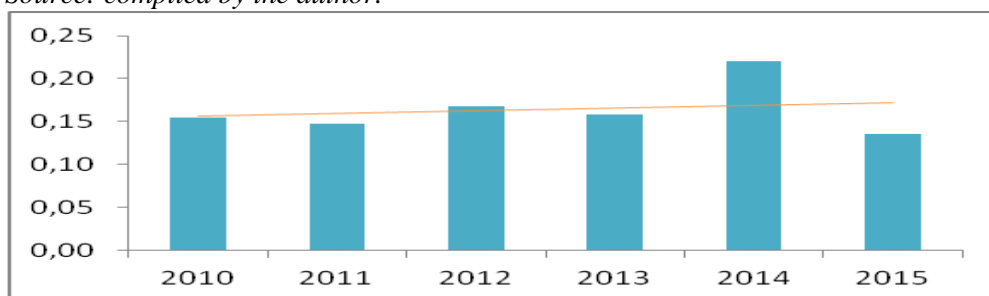
The descriptive statistics given in Table 2 allows analyzing how discretionary accruals and other parameters of the regression model differ between the companies adopting IFRS and companies that report only in accordance with RAS. As a result of the sample breakdown based on the accounting standard used, 287 and 74 observations for IFRS and RAS statements were obtained, respectively. It should be noted that according to the statistics presented in Table 2, about 66% of companies using IFRS are audited by Big 4 firms, while only 47% of companies applying Russian Accounting Standards are audited by the Big Four firms.

Also, according to the results of the descriptive statistics, the companies preparing IFRS reporting are characterized by a large size, smaller growth relative to the previous period, more frequent past loss events and a lower ROE level than the companies applying RAS. The data of the presented descriptive statistics also indicate that the level of discretionary accruals for the companies applying IFRS is on average slightly higher than for the companies using RAS (0.18 for IFRS, 0.12

for RAS), which confirms the assumption that the IFRS adoption increases the profit index divergence.

Figure 1. *Dynamics of discretionary accruals in the period from 2010 to 2015*
Source: compiled by the author.

Table 2. *Descriptive statistics of the main regression parameters broken down by the applicable standards*

	Mean	Median	St. Dev.	Min	Max
IFRS N=287					
DA_abs	0.1751	0.1556	0.1743	0.0006	1.9811
BIG4	0.6620	1	0.4738	0	1
SIZE	15.0205	14.8694	1.7294	9.1346	19.5231
LEV	0.2651	0.2198	0.1854	0.0081	0.8483
LOSS	0.2021	0	0.4023	0	1
GROWTH	0.0474	-0.0321	0.7013	-1	8.5587
ROE	6.9977	9.64	24.4969	-156.72	93.48
RAS N=74					
DA_abs	0.1216	0.1215	0.0758	0.0010	0.2882
BIG4	0.4730	0	0.5027	0	1
SIZE	14.7274	14.6525	1.0868	11.5985	17.3083
LEV	0.2319	0.1759	0.1670	0.0363	0.9588
LOSS	0.1351	0	0.3442	0	1
GROWTH	0.3266	0.2528	0.5036	-0.5201	3.2050
ROE	9.9016	9.52	13.6870	-48.57	49.36

$p < 0.1$ - *, $p < 0.05$ - **, $p < 0.01$ - ***

Source: Compiled by the author.

5. Results and Discussion

The results of testing *Hypothesis 1* are given in Table 3. The results indicate that the estimated regression as a whole is statistically significant. In addition, the R-square indicates a sufficient accuracy of approximation and good predictive power. In accordance with the results presented in Table 3, the IFRS variable is significant at a

significance level of 1% (p-value is 6.00E-09). The resulting coefficient in front of the variable under consideration is positive.

Thus, the IFRS variable has a strong positive influence on discretionary accruals, which leads to the conclusion that *Hypothesis 1* is not rejected. As a result of regression estimate for testing *Hypothesis 1*, the BIG4, SIZE and GROWTH variables are also statistically significant at a significance level of 1%. The coefficient in front of the BIG4 variable is negative, which confirms the assumption that companies audited by the Big 4 firms demonstrate a lower level of misstating the financial reporting data due to the high quality of the audit. The coefficient obtained in front of the SIZE variable is also negative, which can be interpreted as follows: large companies resort to earnings management to a lesser extent than small companies.

The coefficient in front of the GROWTH variable, as expected, has a positive sign, confirming the assumption that the market has higher expectations for fast-growing companies, which serves as an additional incentive for earnings management.

Table 3. *The results of the regression for testing Hypothesis 1*

	Coefficients	*Standard error*	*t-statistics*	*P-Value*
IFRS	**0.1050*****	0.0176	5.9634	6.00E-09
BIG4	-0.1427***	0.0149	-9.5867	1.69E-19
SIZE	-0.0125***	0.0046	-2.7112	0.0070
LEV	-0.0412	0.0400	-1.0320	0.3028
LOSS	-0.0024	0.0229	-0.1058	0.9158
GROWTH	0.0737***	0.0104	7.0585	8.97E-12
ROE	-0.0004	0.0004	-1.1279	0.2601
N	361			
R-squared	0.3378			

$p < 0.1$ - *, $p < 0.05$ - **, $p < 0.01$ - ***
Source: *compiled by the author*

The LEV, LOSS and ROE variables are statistically insignificant at any adequate level of significance (p-value > 0.1). Signs of the coefficients in front of the LOSS and ROE variables correspond to the assumptions. Thus, the coefficient sign in front of the LOSS variable is negative, that is, companies that have a negative indicator of net profit in the previous period tend to earnings management to a lesser extent, because the companies that showed a negative financial result in the previous year do not have to justify the expectations of shareholders and investors, since their expectations are no longer justified. The coefficient in front of the ROE variable has a negative sign, which does not contradict the logic according to which the fluctuation of the profit index and the return on equity have a negative correlation. The assumption regarding the coefficient sign in front of the LEV variable was not confirmed – the coefficient has a negative sign; however the variable is insignificant,

therefore, this discrepancy will not be taken into account. To test *Hypothesis 2*, the sample was divided into two subsamples: 1) with a discretionary accruals level ≥ 0 (75 observations), and 2) with a discretionary level of <0 (286 observations). The results of the regression estimate for the subsample with the level of discretionary accruals ≥ 0 are given in Table 4.

Table 4. *The results of the regression for testing Hypothesis 2 on the entire sample.*
Divergence toward profit overstatement

	Coefficients	*Standard error*	*t-statistics*	*P-Value*
IFRS	**0.1595*****	0.0518	3.0811	0.0030
BIG4	-0.1544***	0.0566	-2.7267	0.0082
SIZE	-0.0621***	0.0194	-3.1978	0.0021
LEV	-0.1705	0.1238	-1.3774	0.1730
LOSS	-0.0871	0.0956	-0.9115	0.3653
GROWTH	0.1534***	0.0318	4.8173	8.68E-06
ROE	-0.0014	0.0017	-0.8754	0.3845
N	75			
R-squared	0.4901			

$p < 0.1$ - *, $p < 0.05$ - **, $p < 0.01$ - ***
Source: *compiled by the author*

The results showed that the coefficient in front of the IFRS variable is significant at any adequate level of significance. Thus, the IFRS variable has a strong positive impact on discretionary accruals, i.e., IFRS adoption significantly increases the profit index divergence towards overestimation. The results of the regression estimate for the subsample with discretionary accruals <0 are given in Table 5, and the coefficient in front of the IFRS variable is also significant at any level. Since discretionary accruals in this subsample have a negative sign, the negative value of the coefficient in front of the IFRS variable can be interpreted as an increase in the profit index divergence towards the underestimation due to IFRS adoption.

When comparing the coefficients in front of the variable under consideration in two subsamples, it is obvious that the IFRS has a greater effect on the divergence towards overstatement of profits than towards their understatement, which corresponds to *Hypothesis 2*. This result is explained by the fact that the voluntary transition to IFRS is mainly aimed at attracting investors, and, accordingly, companies that adopt IFRS have an additional incentive to overvalue profits. Since this hypothesis is considered in the context of a voluntary transition to IFRS, the period in which IFRS adoption became mandatory (2012) and all subsequent periods were excluded from the sample, after which the hypothesis was verified specifically for data on the companies that adopted IFRS voluntarily.

Thus, the new sample within the framework of additional testing of *Hypothesis 2* consisted of 118 observations in the period from 2010 to 2011, 47 of which related

to the subsampling with overstatement of profits and 71 observations refer to understatement of profits. Further regression models were estimated for the two subsamples separately. The resulting coefficient in front of the IFRS variable for the subsample with the divergence toward overstatement of profits in the period from 2010 to 2011 is statistically significant at all levels.

The coefficient in front of the same variable for the subsample with divergence towards the understatement of profits in the period from 2010 to 2011 is significant at 5% significance level (p-value is 0.0198). Since the discretionary accruals in this subsample are <0, the negative value of the coefficient in front of the IFRS variable can be interpreted as an increase in the level of divergence towards the understatement of profits due to IFRS adoption.

Table 5. *The results of the regression for testing Hypothesis 2 on the entire sample Divergence toward profit understatement*

	Coefficients	*Standard error*	*t-statistics*	*P-Value*
IFRS	**-0.0782*****	0.0148	-5.295	2.42E-07
BIG4	0.1220***	0.0116	10.547	4.27E-22
SIZE	0.0069*	0.0035	1.951	0.0520
LEV	-0.0450	0.0330	-1.363	0.1741
LOSS	-0.0250	0.0172	-1.454	0.1471
GROWTH	-0.0373***	0.0096	-3.894	0.0001
ROE	-0.0001	0.0003	-0.222	0.8244
N	286			
R-squared	0.3871			

$p < 0.1$ - *, $p < 0.05$ - **, $p < 0.01$ - ***
Source: *compiled by the author.*

The results of testing *Hypothesis 3* are given in Table 6. The regression estimated by the OLS method is statistically significant in general. The resulting coefficient in front of the IFRS*BIG4 variable has a negative sign. This variable is significant, therefore, the IFRS*BIG4 variable has a negative impact on the discretionary accruals, which leads to the conclusion that though in general the IFRS contributes to an increase in earnings management, for companies audited by the Big Four firms, this effect is not confirmed – the quality of the audit restrains earnings management despite the application of international standards.

Thus, *Hypothesis 3* is not rejected – the effect of IFRS adoption on profit divergence is different for companies audited by Big 4 firms, and for companies audited by non-Big firms. It should be noted that, in accordance with the results given in Table 6, the signs of coefficients and the significance of the remaining variables are equivalent to the results of previous regressions.

Table 6. *The results of the regression for testing Hypothesis 3*

	Coefficients	*Standard error*	*t-statistics*	*P-Value*
IFRS	0.1432***	0.0249	5.7558	1.88E-08
BIG4	-0.0851***	0.0305	-2.7916	0.0055
BIG4*IFRS	**-0.0765****	0.0354	-2.1632	0.0312
SIZE	-0.0103**	0.0047	-2.1813	0.0298
LEV	-0.0368	0.0398	-0.9248	0.3557
LOSS	0.0007	0.0228	0.0296	0.9764
GROWTH	0.0719***	0.0104	6.9046	2.36E-11
ROE	-0.0004	0.0004	-1.1501	0.2509
N	361			
R-squared	0.3446			

*p < 0.1 - *, p < 0.05 - **, p < 0.01 - ****
Source: *compiled by the author*

The results of testing *Hypotheses 4* on the basis of the regression model with the addition of the IFRS*SIZE variable are given in Table 7. These results show the statistical significance of the model as a whole. The regression estimation has demonstrated that the coefficient in front of the IFRS*SIZE variable is negative, which means that for large companies, IFRS adoption does not increase the profit index divergence to the extent as it is increased for small firms.

However, the variable is insignificant at any adequate level of significance. Thus, it cannot be concluded that the effect of IFRS adoption on the level of earnings management is different for large and small firms, i.e., *Hypothesis 4* is not rejected – the degree of influence of IFRS adoption on profit index divergence does not depend on the company size. As can be seen from Table 7, the signs of the coefficients and the significance of the remaining variables are consistent with the results of previous regressions.

Table 7. *The results of the regression for testing Hypothesis 4*

	Coefficients	*Standard error*	*t-statistics*	*P-Value*
IFRS	0.2543	0.2229	1.1405	0.2549
SIZE	-0.0034	0.0143	-0.2401	0.8104
SIZE*IFRS	**-0.0102**	0.0151	-0.6718	0.5022
BIG4	-0.1410***	0.0151	-9.3253	1.26E-18
LEV	-0.0414	0.0400	-1.0344	0.3017
LOSS	-0.0026	0.0229	-0.1121	0.9108
GROWTH	0.0729***	0.0105	6.9316	2.00E-11
ROE	-0.0004	0.0004	-1.1095	0.2680
N	361			
R-squared	0.3367			

*p < 0.1 - *, p < 0.05 - **, p < 0.01 - ****
Source: *compiled by the author*

6. Conclusion

As a result of the conducted empirical study based on the construction of regression models, all the hypotheses put forward were not rejected. The data verification revealed only the problem of heteroscedasticity, however after applying the method of scaling variables, the errors turned out to be homoscedastic, and repeated regression analysis based on new scaled variables showed findings similar to the initial ones. Thus, it can be concluded that the results of testing the hypotheses of the study are correct.

Since the present study revealed an increase in the propensity to misstate the profit index due to IFRS adoption, the practical significance lies in the fact that these findings should be taken into account by investors in making decisions based on IFRS reporting: the existing and potential investors should account for the risk of disclosing inadequate information in such statements.

It is worth noting the existing limitations of this study and further possible directions of research on the problem of the interrelation of IFRS adoption and the degree of the profit index divergence. First, the sample used in this study is limited to a time period of 6 years, which is determined by the limited amount of available data from the research information base. Second, this paper considers only one method for estimating the profit index divergence – the Modified Jones Model, but it is also advisable to use an alternative model developed by Kothari, which requires the selection of an analogue company and is not applied in this study due to the insufficiency of observations in the sample.

Third, at this stage, the amount of data available does not allow investigating whether the effect of IFRS adoption differs from the level of earnings management, depending on whether the company's shares circulate on foreign stock markets. In this regard, the testing of this hypothesis can be considered in further studies on the impact of IFRS adoption on the earnings management.

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