IFRS Adoption and the Predictive Power of Earnings Components

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Resumo

This study aims to analyze the predictive power of current accruals and cash flows for future earnings and how IFRS adoption has affected this power, for general firms and for firms with relative higher and lower levels of accruals. Current earnings are composed by cash flows and accruals, which are believed to carry distinct information content for assessing firms' capacity to generate future earnings. Considering the fruitful literature providing evidences of IFRS being able to improve the quality and relevance of accounting outcomes, we hypothesized that the international standards are able to affect the predictive power of current cash flows and accruals for future earnings. Using a sample of 10 countries that have adopted IFRS in 2005, we found that IFRS seems to have significantly affected the information content and, consequently, increased the predictive power of both accruals and cash flows from operations, while the latter present higher information content for future earnings. When analyzing firms with higher and lower levels of accruals, we found that the predictive power of cash flows is associated with this level and that IFRS appears to have substantially increased its intensity for firms with higher level of accruals. For firms with the lower level, the effect of IFRS on the accruals component is the one highlighted, which power have significantly increased after adopting the international standards. Our findings support the view that IFRS, as a principle-based standards set, provides accounting amounts with higher quality that better reflect firms' position and performance and, consequently, increases the information content about future earnings carried by both the current earnings components.

Palavras chave: Cash Flows. Accruals. IFRS. Information content. Predictive Power.

1 Introduction

This paper aims to analyze the impact of IFRS adoption on the predictive power of earnings components: cash flows and accruals. Specifically, we seek to analyze the relative predictive power for future earnings of these components for general firms and for firms with higher and lower relative amounts of accruals and then whether IFRS adoption has affected this power.

Both cash flows and accounting accruals are believed to carry distinct information content that enable financial information users to assess firms' capacity to generate future earnings. Majority of researches emphasize cash flows from operations as the main proxy for future earnings forecasting, because they provide a better indication of the amounts that are more likely to persist in following periods. Diversely, accruals components bear judgmental conditions from financial statements' preparers, allowing for potential opportunistic behavior in earnings disclosures and, consequently, impairing accruals' reliability as a relevant information to predict future earnings.

Yet, regardless of general agreement on the role of both earnings components for the prospection of returns, empirical evidences are still mixed and do not fully endorse this position. While some find that segregating earnings into cash flows and accounting accruals do not significantly contribute to future earnings prediction beyond the information of net income itself (Livnat & Zarowin, 1990) and are not able to conclude on incremental information content on cash flows (Bernard & Stober, 1989), others find evidences to the credit of accruals components, showing that accruals has incremental information content beyond the cash component (Wilson, 1986; Bowen, Burgstahler & Daley, 1987).

Prediction of future earnings based on current financial information is one of the main objectives of the IASB's conceptual framework. There are several studies analyzing the impact of IFRS for earning quality and their importance for market value relevance (e.g., Barth, Landsman, & Lang, 2008; Chen, Tang, Jian, & Lin, 2010; Ahmed, Neel, & Wang, 2013), generally finding positive results. Nevertheless, we believe that there is still a lack of researches assessing its influence of the information content of earnings components, specifically accruals and cash flows.

Considering the improvement of information content of earnings that IFRS apparently bring, we propose the following hypothesis: the IFRS adoption increases the relative information content and, consequently, the predictive power for future earnings of current earnings components (accruals and cash flows). Furthermore, considering that the information content about future earnings conveyed by accruals and cash flows is different, it is also possible to expect that the impact of IFRS adoption on these components is different. Besides, firms with a relative higher and lower amount of accruals may also present earnings components with different information contents that could also be differently affected by the IFRS adoption.

Based on a sample that comprises firms from 10 countries in the European Union, from 2001 to 2013, that mandatorily adopted IFRS in 2005 (amounting 27,114 firm-year observations), we find that IFRS adoption has significantly increased the predictive power of both components of current earnings. Our results indicate that cash flows from operations has the greater relative information content to predict future earnings, comparing to accruals component, for periods pre and post IFRS adoption. Interestingly, our results show that the cash flows from operations are highly sensitive to firms' ranking of the amount of accruals in the whole period (with segregated analysis of firms with accruals' distribution in the lower

2

and upper quartiles), while accruals themselves are way less sensitive to this ranking. It may indicate that accruals have a potential effect on the way cash flows influence the prediction of future earnings. It means that accruals component not only shapes a residual portion of future earnings, but also affects the way cash flow component shapes it.

Besides the general increase, we find evidences that IFRS also changed the memory of the components and that the most highlighted effect is seen in the intensity of the predictive power of cash flows for the firms with higher level of accruals (upper quartile). Furthermore, IFRS seems to affect firms with the lower levels of accruals (lower quartile) by inverting the effect of cash flows for predicting their earnings while increasing the power of the accruals component.

Our results bring relevant evidences that IFRS adoption increases the information content of both cash flow and accruals components of current earnings. Although we find that cash flows from operations present higher association with forthcoming earnings than accounting accruals do, it appears that the accruals component also present its own informational substance, contouring some particular proportion of future earnings and influencing the way cash flow component frames it.

2 Background and Hypothesis Development

Earnings are claimed to disclose not only present financial performance, but to carry information content that enables the prediction of future earnings. This prediction is based on the components of current earnings, which are more likely to persist in following periods (Sloan, 1996). A number of technical analysis use profits segregation to adjust for those components, arriving at a level of earnings a firm can be expected to sustain over the years.

According to Karampinis and Hevas (2009), the analysis of aggregated earnings is only part of the story, considering that earnings components have incremental information content, over and above that provided by earnings alone. Furthermore, traditional researches on financial statements analysis emphasize the role of accruals and cash flow components of current earnings in the assessment of future earnings. The fundamental argument states that these two components of ongoing profits are able to provide a relevant indication of firms' continuing ability to generate future returns (Wilson, 1986, 1987; Bowen et al, 1987; Bernard & Stober, 1989; Sloan, 1996).

Despite differences in models and technical analysis, the general approach used in prior studies decomposes accounting earnings in two basic components: cash flows and accounting accruals (Wilson, 1986, 1987; Bernard & Stober, 1989; Livnat & Zarowin, 1990). Sloan (1996) demonstrate that it is important to analyze current earnings segregating it into accruals and cash flows, considering that the persistence of earnings performance depends on the relative magnitude of these components of earnings.

Several studies analyzed the influence of each component of this segregation on earnings prediction, mainly in the past decades. Among those, we can cite Wilson (1986), Bowen et al, (1987), Livnat and Zarowin (1990), Dechow (1994), Sloan (1996), Barth, Beaver, Hand, and Landsman (1999), Barth, Cram, and Nelson (2001), Kumar and Krishnan (2008). Those studies bring important knowledge about the importance of accruals and cash flows, showing that they convey information beyond earnings themselves (Wilson, 1986) and that cash flow and accruals bring distinct information content and, thus, have different implications (Sloan, 1996).

São Paulo, 29 a 31 de Julho de 2015

Contabilidade e Controladoria
no Século XXI

XV Congresso
Controladoria e
Contabilidade

While there is a general agreement that cash flows are an appropriate indication of forthcoming profits, empirical evidences do not fully corroborate this understanding. Among evidences in line for superiority of cash flows, Wilson (1986, 1987) shows that the segregating earnings into accruals and cash flows brings incremental information content and find that for a given amount of earnings, there is more favorable reaction for larger cash flows, indicating a preference for them over current accruals in markets' return assessments. Sloan (1996) finds that earnings performance attributable to the accruals exhibits lower persistence than earnings performance attributable to cash flows. Cash flows tend to be less subject to distortion than accruals and, thus, earnings with a higher cash flows portion are preferable. This is because accruals system relies on high degrees of subjectivity in its valuation and allocation, being object of uncertainty by market analysts (Sloan, 1996).

On the other way, some studies indicate that disaggregating net income into cash flows and accruals does not contribute significantly to future earnings prediction beyond the information of net income itself (Livnat & Zarowin, 1990; Sloan, 1996). Bernard and Stober (1989) find no evidence of positive reaction from association between cash flows and forthcoming earnings, and Lang and McNichols (1990) find mixed results on the incremental information content of cash flows. Contrary to the general framework, some argue that cash flows also contains high concentrations of transitory components and suffer the same limitations as accounting accruals, for profits forecasting (Ali, 1994).

Regarding accounting accruals as component of earnings, main questions rest on the reliability and relevance of whole earnings because of its accruals component. Existence of various noncurrent accruals and high judgmental conditions in its valuation and recognition timeliness are two main factor that harm accruals reliability, making it difficult to compare earnings across firms and to use it as inputs for forecasting models (Wilson, 1986).

Main studies argue that accruals contain greater portions of noncurrent results, which are less likely to recur in future periods and may impair the prediction of future earnings. Sloan (1996) supports that current earnings performance is less likely to persist if it is attributable primarily to the accruals component of earnings as opposed to the cash flows component. Also, less reliable accruals are understood to lead to lower earnings persistence (Richardson, Sloan, Soliman & Tuna, 2005). Nonetheless, some evidences are not consistent with this position. According to Chicchernea, Holder and Petkevich (2014), accruals carry significant information about the firm's growth. Wilson (1986) shows that accruals component of earnings has incremental information content beyond the cash component, while Bowen et al (1987) also find that accrual data for earnings and working capital from operations jointly and separately present incremental information content in addition to that contained in cash flows.

The reasoning of future earnings prediction based on current profits is assumed by the IASB. In this line, the IASB's conceptual framework states that financial statements should provide information helpful to users in evaluating firm's ability to generate cash and cash equivalents, and about timing and certainty of those cash flows. The conceptual framework also determines that the objective of financial reporting is to provide information about financial position and performance of the firm, being useful for users' decision about return on investments (IASB, 1989).

The adoption of the International Financial Reporting Standards (IFRS), considered as a single set of high quality accounting standards, by almost all publicly listed companies in European Union is expect to increase the quality and, consequently, the relevance of accounting amounts. Considering that IFRS is a set of principle-based standards, the

4

accounting amounts will better reflect firm's economic position and performance (Barth et al, 2008). As a consequence of these benefits, IFRS adoption may increase the information content about future earnings conveyed in current earnings components and thus, increase the predictive power of ongoing earnings components (cash flows and accruals). If managers use the increased reporting flexibility under IFRS to convey private information, earnings reported under IFRS may be more persistent and with greater information content (Atwood, Drake, Myers, & Myers, 2011).

Some studies that analyze the impact of IFRS adoption on the information content of earnings for future earnings predictions obtain mixed evidences. Karampinis and Hevas (2009) find that the adoption of IFRS positively affects the relevance of consolidated net income. Furthermore, Barth et al (2008) also show that firms applying IFRS generally evidence more value relevance of accounting amounts. Devalle, Onali and Magarini (2010), Chalmers, Clinch and Godfrey (2011) and Karğın (2013) find similar results, indicating that earnings brings more relevant information after the IFRS adoption. Opposing this position, other researchers find evidences that are inconsistent with this view. Atwood et al (2011), for example, find that earnings reported under IFRS are no more closely associated with future earnings and future cash flows than earnings reported under domestic accounting standards of each country.

Regarding the improvement of information content by earnings under IFRS, we propose the following hypothesis: the IFRS adoption increases the relative information content and, consequently, the predictive power for future earnings of the current earnings components: accruals and cash flows. Furthermore, considering that the information content about future earnings conveyed by accruals and cash flows is different, it is also possible to expect that the impact of IFRS adoption on earnings components is different for each one.

3 Research Design

Our sample comprises firm-level data from 10 countries from the European Union that mandatorily adopted IFRS in 2005. We use only these 10 countries in order to avoid confounding effects related to time and to incentives regarding voluntary adoption while evaluating the pre and post adoption period.

Table 1: Sample

	Number of Firms	Number of Observations
Hugary	23	194
Ireland	31	363
Italy	230	2167
Luxembourg	15	149
Netherlands	104	1201
Poland	504	3865
Portugal	53	611
Spain	133	1485
Sweden	421	4148
United Kingdom	1270	12931
Total	2784	27114

Table 1 shows the number of firms and the number of observations of each country. The firms are those who are primary listed in these countries available at Standards & Poor's Capital IQ Database.

In order to achieve the research's objectives, we entertained several versions of the following models:

$$Earnings_{it} = \beta_1 CFO_{it-1} + \beta_2 CFO_{it-2} + \beta_3 CFO_{it-3} + \varepsilon_{it}, \tag{1}$$

$$Earnings_{it} = \beta_1 Accruals_{it-1} + \beta_2 Accruals_{it-2} + \beta_3 Accruals_{it-3} + \varepsilon_{it}. \tag{2}$$

The first version comprises all companies throughout the whole period of the sample, that is, from 2001 to 2013. Model (1) establishes the general predictive power of the cash flow from operations (*CFO*) from the three previous years for the current earnings, while Model (2) establishes the general predictive power of the lagged Total Accruals. As earnings, we first considered the line of Operating Income and then also entertain the models considering the line of Net Income. The amount of accruals of each firm at each period were calculated according to Equation (3) (Healy, 1985; Jones, 1991; Dechow, Sloan, & Sweeney, 1995):

$$Accruals = \Delta CA - \Delta CL - \Delta Cash + \Delta STD - Depr. \tag{3}$$

Each figure was weighted by the total assets of each firm, in order to exclude any size effect.

After first analyze the general predictive power of each component we asked whether this power is different for firms with higher and lower level of accruals. In order to obtain this answer, we ranked the firms, at each year, according to their level of accruals and separated the firms from the upper quartile (the 25% at the top of the rank) and from the lower quartile (the 25% at the bottom of the rank), creating a dummy variable indicating those firms, and entertain the models including an interaction with each of these dummy variables:

$$Earnings_{it} = \beta_1 CFO_{it-1} + \beta_2 CFO_{it-2} + \beta_3 CFO_{it-3} + \\ \beta_4 CFO \cdot Upper_{it-1} + \beta_5 CFO \cdot Upper_{it-2} + \beta_6 CFO \cdot Upper_{it-3} + \varepsilon_{it}; \tag{4}$$

$$Earnings_{it} = \beta_1 Accruals_{it-1} + \beta_2 Accruals_{it-2} + \beta_3 Accruals_{it-3} + \\ \beta_4 Accruals \cdot Upper_{it-1} + \beta_5 Accruals \cdot Upper_{it-2} + \beta_6 Accruals \cdot Upper_{it-3} + \varepsilon_{it}; \tag{5}$$

$$Earnings_{it} = \beta_1 CFO_{it-1} + \beta_2 CFO_{it-2} + \beta_3 CFO_{it-3} + \\ \beta_4 CFO \cdot Lower_{it-1} + \beta_5 CFO \cdot Lower_{it-2} + \beta_6 CFO \cdot Lower_{it-3} + \varepsilon_{it}; \tag{6}$$

$$Earnings_{it} = \beta_1 Accruals_{it-1} + \beta_2 Accruals_{it-2} + \beta_3 Accruals_{it-3} + \\ \beta_4 Accruals \cdot Lower_{it-1} + \beta_5 Accruals \cdot Lower_{it-2} + \beta_6 Accruals \cdot Lower_{it-3} + \varepsilon_{it}. \tag{7}$$

6

Finally, we searched for evidences of any influence of IFRS adoption in the predictive power of these variables. In order to do so we add interaction with an IFRS indicator variable in the previous models, shown in Equations (8), (9), (10), (11), (12) and (13):

$$Earnings_{it} = \beta_1 CFO_{it-1} + \beta_2 CFO_{it-2} + \beta_3 CFO_{it-3} + \\ \beta_4 CFO_{it-1} \cdot IFRS + \beta_5 CFO_{it-2} \cdot IFRS + \beta_6 CFO_{it-3} \cdot IFRS + \varepsilon_{it};$$
(8)

$$Earnings_{it} = \beta_1 Accruals_{it-1} + \beta_2 Accruals_{it-2} + \beta_3 Accruals_{it-3} + \\ \beta_4 Accruals_{it-1} \cdot IFRS + \beta_5 Accruals_{it-2} \cdot IFRS + \beta_6 Accruals_{it-3} \cdot IFRS + \varepsilon_{it};$$
(9)

$$Earnings_{it} = \beta_1 CFO_{it-1} + \beta_2 CFO_{it-2} + \beta_3 CFO_{it-3} + \\ \beta_4 CFO_{it-1} \cdot IFRS + \beta_5 CFO_{it-2} \cdot IFRS + \beta_6 CFO_{it-3} \cdot IFRS + \\ \beta_7 CFO \cdot Upper_{it-1} + \beta_8 CFO \cdot Upper_{it-2} + \beta_9 CFO \cdot Upper_{it-3} + \\ \beta_{10} CFO \cdot Upper_{it-1} \cdot IFRS + \beta_{11} CFO \cdot Upper_{it-2} \cdot IFRS + \beta_{12} CFO \cdot Upper_{it-3} \cdot IFRS + \varepsilon_{it};$$
(10)

$$Earnings_{it} = \beta_1 Accruals_{it-1} + \beta_2 Accruals_{it-2} + \beta_3 Accruals_{it-3} + \\ \beta_4 Accruals_{it-1} \cdot IFRS + \beta_5 Accruals_{it-2} \cdot IFRS + \beta_6 Accruals_{it-3} \cdot IFRS + \\ \beta_7 Accruals \cdot Upper_{it-1} + \beta_8 Accruals \cdot Upper_{it-2} + \beta_9 Accruals \cdot Upper_{it-3} + \\ \beta_{10} Accruals \cdot Upper_{it-1} \cdot IFRS + \beta_{11} Accruals \cdot Upper_{it-2} \cdot IFRS + \\ \beta_{12} Accruals \cdot Upper_{it-3} \cdot IFRS + \varepsilon_{it};$$
(11)

$$Earnings_{it} = \beta_1 CFO_{it-1} + \beta_2 CFO_{it-2} + \beta_3 CFO_{it-3} + \\ \beta_4 CFO_{it-1} \cdot IFRS + \beta_5 CFO_{it-2} \cdot IFRS + \beta_6 CFO_{it-3} \cdot IFRS + \\ \beta_7 CFO \cdot Lower_{it-1} + \beta_8 CFO \cdot Lower_{it-2} + \beta_9 CFO \cdot Lower_{it-3} + \\ \beta_{10} CFO \cdot Lower_{it-1} \cdot IFRS + \beta_{11} CFO \cdot Lower_{it-2} \cdot IFRS + \beta_{12} CFO \cdot Lower_{it-3} \cdot IFRS + \varepsilon_{it};$$
(12)

$$Earnings_{it} = \beta_1 Accruals_{it-1} + \beta_2 Accruals_{it-2} + \beta_3 Accruals_{it-3} + \\ \beta_4 Accruals_{it-1} \cdot IFRS + \beta_5 Accruals_{it-2} \cdot IFRS + \beta_6 Accruals_{it-3} \cdot IFRS + \\ \beta_7 Accruals \cdot Lower_{it-1} + \beta_8 Accruals \cdot Lower_{it-2} + \beta_9 Accruals \cdot Lower_{it-3} + \\ \beta_{10} Accruals \cdot Lower_{it-1} \cdot IFRS + \beta_{11} Accruals \cdot Lower_{it-2} \cdot IFRS + \\ \beta_{12} Accruals \cdot Lower_{it-3} \cdot IFRS + \varepsilon_{it}.$$
(13)

It is important to highlight that the definition of the IFRS period were made by each lag of the explanatory variables.

4 Empirical Results

Table 2 shows the descriptive statistics for the variables, weighted for total assets, for each country and for the firms in the Upper and Lower quartile of the rank of total accruals,

7

showing their means before and after IFRS adoption, besides a t-test to evaluate the differences in these means. From it, one can see that only Spanish firms have significantly different means in Operating Income, while firms from Hungary and United Kingdom and the ones with the lower levels of accruals present significant differences in the average Net Income. Regarding the average Cash Flow generated from Operations, the differences are significant for firms from Italy, Netherlands, Poland and United Kingdom, besides the ones with the higher levels of accruals. However, when evaluating the means in the level of Total Accruals, no significant differences were found.

Table 2: Descriptive Statistics

Operating Income						
	Pre-Adoption		Post-Adoption			
	Mean	Std. Dev.	Mean	Std. Dev.	t-Test	
Hungary	0.061	0.097	0.041	0.149	0.991	
Ireland	0.035	0.15	0.004	0.434	0.977	
Italy	0.09	0.771	0.667	17.994	-1.292	
Luxembourg	-0.247	0.466	-0.093	0.354	-1.321	
Netherlands	-0.014	1.089	-0.022	0.659	0.108	
Poland	0.031	0.172	0.029	0.25	0.261	
Portugal	0.022	0.107	0.027	0.078	-0.469	
Spain	0.061	0.083	0.041	0.082	4.041	***
Sweden	-0.09	0.669	-0.053	0.386	-1.55	
United Kingdom	1.912	33.393	0.146	117.461	1.341	
Upper Quartile	1.992	42.279	1.742	160.627	0.282	
Lower Quartile	2.079	24.929	1.742	32.935	0.256	
Net Income						
	Pre-Adoption		Post-Adoption			
	Mean	Std. Dev.	Mean	Std. Dev.	t-Test	
Hungary	0.046	0.101	0.001	0.191	1.981	**
Ireland	-0.119	1.33	-0.06	1.188	-0.373	
Italy	0.005	0.187	-0.823	21.112	1.571	
Luxembourg	-0.957	1.885	-0.224	0.88	-1.613	
Netherlands	-0.032	1.305	-0.194	2.912	1.221	
Poland	0.145	0.937	-5.673	322.079	1.028	
Portugal	-0.026	0.233	0.005	0.119	-1.563	
Spain	-0.03	1.044	0.002	0.262	-0.608	
Sweden	-0.094	4.52	-0.105	1.674	0.068	
United Kingdom	2.093	29.801	-0.176	106.02	1.91	**
Upper Quartile	2	23.134	1.411	290.631	0.598	
Lower Quartile	1.819	28.708	-5.331	32.231	1.76	*

Continued on next page

Table 2: *Continued from previous page*

	Cash Flow from Operations					
	Pre-Adoption		Post-Adoption			
	Mean	Std. Dev.	Mean	Std. Dev.	t-Test	
Hungary	0.087	0.189	0.067	0.142	0.607	
Ireland	0.067	0.118	0.025	0.476	1.237	
Italy	0.035	0.437	0.947	21.491	-1.714	*
Luxembourg	-0.225	0.477	-0.079	0.328	-1.236	
Netherlands	0.075	0.114	0.029	0.532	2.222	**
Poland	0.05	0.131	0.027	0.214	3.423	***
Portugal	0.04	0.118	0.05	0.078	-0.936	
Spain	0.191	2.585	0.052	0.09	1.057	
Sweden	-0.059	0.905	-0.045	1.11	-0.372	
United Kingdom	-0.019	0.412	-0.073	2.215	2.315	**
Upper Quartile	-0.062	1.587	-0.121	11.967	2.049	**
Lower Quartile	0.042	0.774	0.272	1.225	-1.345	
	Total Accruals					
	Pre-Adoption		Post-Adoption			
	Mean	Std. Dev.	Mean	Std. Dev.	t-Test	
Hungary	-0.279	0.242	-0.326	1.252	0.436	
Ireland	1.826	14.163	-0.159	0.207	1.322	
Italy	251.376	5228.147	-3.383	79.705	1.076	
Luxembourg	-0.184	0.349	-0.069	0.175	-1.368	
Netherlands	-0.155	3.753	-0.156	4.318	0.006	
Poland	1.403	41.07	-0.14	0.754	0.843	
Portugal	-0.907	5.461	-1.193	16.767	0.307	
Spain	8.297	106.177	-0.416	5.689	1.616	
Sweden	-0.127	34.405	-0.118	1.118	-0.008	
United Kingdom	651.569	34214.12	0.118	145.33	1.002	
Upper Quartile	3.778	23.64	4.717	180.45	-0.423	
Lower Quartile	-1.787	56.428	-5.721	102.304	1.526	

Table 2 draws attention for the higher variation in the level of total accruals for the firms from Italy and from the United Kingdom, and how this variation is much higher for firms in the Upper and in the Lower Quartile at the Post-Adoption period. Considering that the number of observations for this period is about three times higher, it is not responsible for this increase, as it can be for the decrease in variation for the firms from Italy, United Kingdom, Spain and Poland.

4.1 Full Period Analysis

Table 3 shows the general predictive power of Cash Flow from Operations and Accruals for future earnings, represented by Operating Income. Models (3.1) and (3.2) evidence this power considering all firms in the sample. From them, one can see that the current earnings

9

São Paulo, 29 a 31 de Julho de 2015

XV Congresso

USP
Controladoria e
Contabilidade

Contabilidade e Controladoria
no Século XXI

are explained by all three lags of cash flows, that is, the cash flows generated in the current year conveys information for predicting the earnings for the next year, and for the next two and three years. However, the accruals do not have such long memory, once the first two lags are statistical significant. It is also interesting to note that the influence of the Cash Flow is positive while the influence of Accruals is negative, that is, current higher cash flows indicates future higher earnings and current higher accruals indicate future lower earnings. Besides, the intensity of the effect of cash flows is much higher than the one of the accruals, once the coefficients and the adjusted R-squared of Model (3.1) are higher than the ones of Model (3.2).

Table 3: Regression Results - Full Period

Dependent Variable: $Operating\ Income_t$	(3.1)		(3.2)		(3.3)		(3.4)		(3.5)		(3.6)	
CFO_{t-1}	12.395	***			23.930	***			-5.885	***		
CFO_{t-2}	3.010	***			8.272	***			-2.189	***		
CFO_{t-3}	13.532	***			-37.624	***			-2.326	***		
$Accruals_{t-1}$			-0.044	***			0.665	***			-0.079	***
$Accruals_{t-2}$			-0.086	***			-0.240	***			-0.086	***
$Accruals_{t-3}$			0.000				-0.475	***			0.000	
$CFO_{t-1}*Upper$					-25.891	***						
$CFO_{t-2}*Upper$					-11.365	***						
$CFO_{t-3}*Upper$					34.225	***						
$Accruals_{t-1}*Upper$							-0.745	***				
$Accruals_{t-2}*Upper$							0.152	***				
$Accruals_{t-3}*Upper$							0.475	***				
$CFO_{t-1}*Lower$									36.917	***		
$CFO_{t-2}*Lower$									11.832	***		
$CFO_{t-3}*Lower$									52.895	***		
$Accruals_{t-1}*Lower$											-1.086	***
$Accruals_{t-2}*Lower$											-0.258	***
$Accruals_{t-3}*Lower$											-0.888	***
Obs.	20153		18638		20105		18638		20105		18638	
Adj. R-sqrd:	0.167		0.011		0.304		0.053		0.392		0.074	
F-Stat.:	1392.4	***	71.6	***	1568.2	***	176.7	***	2395.4	***	251.9	***

Notes: p<0.1; p<0.05; p<0.01.

Models (3.3) and (3.4) add the specific predictive power of cash flow and accruals for the 25% firms of the sample with higher levels of accruals (Upper Quartile). Model (3.3) shows, at first, that while controlling for this specific effect, the general effect is more intense and that the third lag has a negative effect. Second, while the two first lags have positive effect, just like models (3.1) and (3.2), the cash flow from operations have negative effects (23.930 - 25.891 = -1.961; 8.272 - 11.365 = -3.094) on future earnings for firms in the Upper Quartile. That is, while current higher cash flows indicate future higher earnings for firms in general, for these firms with higher level of accruals, current high cash flows indicate future lower earnings.

Model (3.4) also adds some interesting evidences. First, controlling for the specific effects for firms in the Upper Quartile we see that all three lags become significant and that the first one turn into a positive effect. Regarding the specific predictive power of accruals for those firms with the higher levels we see that it is quite similar to those showed by model (3.2), that is, the first two lags are negative (0.665 - 0.745 = -0.081; -0.240 + 0.152 = -0.088) and the third one is basically zero (-0.475 + 0.475 = 0.000). Therefore, the result of model (3.2) seems to be due to the influence of those firms with higher levels of accruals.

Finally, models (3.5) and (3.6) add the specific predictive power for the 25% firms of the sample with the lower levels of accruals (Lower Quartile). Model (3.5) shows that controlling for the effect of those firms turns the general predictive power of the cash flows for general firms into negative, while the specific effect for those firms is positive (-5.885 + 36.917 = 31.032; -2.189 + 11.832 = 9.643; -2.326 + 52.895 = 50.569), suggesting that the effect seen in model (3.1) is due to the influence of those firms with lower levels of accruals. At last, model (3.6) shows that adding this control yields the same general effect seen in model (3.2), while it is intensified for the firms in the Lower Quartile (-0.079 - 1.086 = -1.165; -0.086 - 0.258 = -0.344; 0 - 0.888 = -0.888).

It is interesting to note how CFO is sensitive to the accruals ranking while the accruals themselves are not that sensitive. Therefore, the amount of accruals of a firm seems to affect the information content of the cash flows while it seems not to change much of the accruals'.

4.2 IFRS Period Analysis

The next analysis consists in entertaining the models once again but adding interactions with a dummy variable indicating whether the observation refers to the Post-Adoption period. Table 4 reports the results for these models.

Model (4.1) in Table 4 shows how IFRS adoption affects the predictive power of the Cash Flow from Operations. Our attention is first drawn by the fact that adding the interaction with IFRS, the original variables for the two first lags lose significance. This is probably due to high correlation among the original variables and the interactions. Second, the third lags continue significant but with an opposite effect, similar to what happened in model (3.3), when the effect were controlled by the firms in the Upper quartile. Therefore, when analyzing the interactions, one can see that the effect of the two first lags after IFRS adoption is quite similar to that of model (3.1) (13.991 and 2.957), suggesting that a great part of the effect seen there is due to an increase in the predictive power of CFO brought by IFRS. Besides, one can see that the IFRS adoption affects the predictive power of the third lag similarly to the general effect seen in the firms in the higher levels of accruals (-4.074 - 10.948 = -15.021). Model (4.3) discussed ahead provides better insights for this issue.

Model (4.2) shows how IFRS affects the predictive power of Accruals. Adding the interactions turns the general effect of lagged accruals insignificant also probably due to high correlation, suggesting that at least part of the effect seen in model (3.2) is due to IFRS.

Model (4.3) shows the effect of IFRS for the firms that are part of the Upper Quartile. First, adding this kind of control only alters the intensity of the effects seen in model (4.1). Comparing it with model (3.3) from Table 3, we see that only the third lag remains significant, while the specific effect of IFRS for those firms is highly significant and negative (0 - 32.538 = -32.538; 0 - 16.943 = -16.943; 3.772 - 42.239 = -38.466). This result suggests that part of the predictive power of CFO for firms with higher level of accruals were also due to an increase brought by IFRS.

Table 4: Regression Results - IFRS Effect

Dependent Variable: *Operating Income$_t$*	(4.1)	(4.2)	(4.3)	(4.4)	(4.5)	(4.6)
CFO$_{t-1}$	-1.092		4.028		-1.776	
CFO$_{t-2}$	0.090		-5.237		0.475	
CFO$_{t-3}$	-4.074 ***		-2.893 ***		0.171	
Accruals$_{t-1}$		0.000		1.165		0.024
Accruals$_{t-2}$		0.007		-0.134		0.018
Accruals$_{t-3}$		0.000		0.002		0.000
CFO$_{t-1}$*IFRS	13.991 ***		24.584 ***		-4.788	
CFO$_{t-2}$*IFRS	2.957 **		14.348 ***		-2.938 *	
CFO$_{t-3}$*IFRS	-10.948 ***		-46.519 ***		-3.023 ***	
Accruals$_{t-1}$*IFRS		-0.063		1.962		-0.107 *
Accruals$_{t-2}$*IFRS		-0.107 **		-0.850 ***		-0.094 **
Accruals$_{t-3}$*IFRS		-0.113 ***		-3.538 ***		-0.083 ***
CFO$_{t-1}$*Upper			-1.662			
CFO$_{t-2}$*Upper			4.969			
CFO$_{t-3}$*Upper			3.772 ***			
Accruals$_{t-1}$*Upper				-1.138		
Accruals$_{t-2}$*Upper				0.156		
Accruals$_{t-3}$*Upper				-0.002		
CFO$_{t-1}$*Upper*IFRS			-32.538 ***			
CFO$_{t-2}$*Upper*IFRS			-16.943 ***			
CFO$_{t-3}$*Upper*IFRS			-42.239 ***			
Accruals$_{t-1}$*Upper*IFRS				-2.070		
Accruals$_{t-2}$*Upper*IFRS				0.753 ***		
Accruals$_{t-3}$*Upper*IFRS				3.456 ***		
CFO$_{t-1}$*Lower					6.979	
CFO$_{t-2}$*Lower					-3.615	
CFO$_{t-3}$*Lower					-16.995 ***	
Accruals$_{t-1}$*Lower						1.341
Accruals$_{t-2}$*Lower						-2.010 ***
Accruals$_{t-3}$*Lower						0.003
CFO$_{t-1}$*Lower*IFRS					31.053 ***	
CFO$_{t-2}$*Lower*IFRS					15.839 ***	
CFO$_{t-3}$*Lower*IFRS					-36.381 ***	
Accruals$_{t-1}$*Lower*IFRS						2.347
Accruals$_{t-2}$*Lower*IFRS						0.957 *
Accruals$_{t-3}$*Lower*IFRS						-4.010 ***
Obs.	20153	18638	20105	18638	20105	18638
Adj. R-sqrd:	0.176	0.026	0.364	0.204	0.399	0.237
F-Stat.:	743.9 ***	84.8 ***	1049.6 ***	414.7 ***	1236.1 ***	507.1 ***

Notes: p<0.1; p<0.05; p<0.01.

The model also shows that IFRS seems to have substantially increased the predictive information content of the cash flows from operations for these firms with higher levels of accruals. While the effect of each lag of the variable CFO for these firms in model (3.3) are -1.961, -3.094 and -3.399, respectively, the effect interacted with the IFRS variable sums to -32.538 (0 + 0 - 32.538), -16.943 (0 + 0 - 16.943) and -41.359 (-2.893 + 3.772 − 42.239), respectively, as seem in model (4.3).

When analyzing the effect of IFRS in the predictive power of accruals for firms located in the Upper Quartile, we see that it is also relevant, comparing model (4.4) from Table 4 with model (3.4) from Table 3. First, we see that the original variables lose significance and the second and third lags interacted with IFRS are significant and negative (0 - 0.850 = -0.850 and 0 - 3.538 = -3.538), such as seen in model (4.2). Then, while the general effects for these firms also lose significance, in the IFRS period, the effect for these firms in the Upper Quartile is positive (0 + 0.753 = 0.753 and 0 + 3.456 = 3.456). Model (4.4) also shows that IFRS appears to have significantly affected the predictive content of accruals for firms in the Upper Quartile specially by changing its signal, that is, turning it into positive. The coefficients for these firms after IFRS sums to 0.000 (0 + 0 + 0), 0.753 (0 + 0 + 0.753) and 3.456 (0 + 0 + 3.456) for each lag.

Finally, the last two models in Table 4 shows the effect of IFRS for the predictive power of CFO (model (4.5)) and accruals (model (4.6)) for the firms in the Lower Quartile. Regarding the analysis of the CFO, comparing model (4.5) with model (3.5) one can see that, once again, the interactions with IFRS hold most significance, indicating that part of the results seen in model (3.5) are also driven by the effect of IFRS. However, the most important results seems to be that, while IFRS appears to have increased the negative predictive content of CFO for the firms in the Upper Quartile, for the firms in the Lower quartile, this effect is not quite clear. While, the first two lags seems to have its positive predictive content increased, the third lag had its signal inverted to negative, comparing model (3.5), which effect sums to 50.569 (-2.326 + 52.895) with model (4.5), which effect sums to -53.376 (0 - 16.995 - 36.381).

Regarding the analysis of the accruals, model (4.6) also suggests that the results found in (3.6) are related with IFRS, once adding its interactions leaves the original variables without significance. Finally IFRS seems to have increased the predictive power of accruals for the firms with lower levels of accruals, since the interaction with IFRS produce more intense coefficients than those of model (3.6), but only for the second (-2.010 + 0.957 = -1.053) and third (0 - 4.010 = -4.010) lags.

4.3 Models with Net Income

We re-entertained the models in Table 3 changing the dependent variable from Operating Income to Net Income. The only differences that appeared were the third lag of model (3.1) had its sign changed to negative and in model (3.5) where the third lag for the firms in the Lower Quartile also has its sign changed from positive to negative. Considering such small differences we do not report the results of these estimations.

We also re-entertain the models in Table 4 using Net Income as dependent variable, and it also only yielded minor different results that we do not report here. In model (4.2), the first lag of accruals gains significance while only the third lag interacted with IFRS is significant, and in the model (4.3), the result of the third interaction is inverted. In model (4.4) both interactions of $Accruals_{t-1}*IFRS$ and $Accruals_{t-1}*Upper*IFRS$ gains significance. Finally,

model (4.6) has less significant coefficients, the two first interactions of Accruals with IFRS lose significance and only the third lag interacted with IFRS and the variable *Lower* remains significant.

5 Concluding Remarks

This paper aims to analyze the information content of earnings components (accruals and cash flows) to predict future earnings and what are the impacts of IFRS adoption on this predictive power.

First, in the full period analysis, our results indicate that cash flows have the greater relative information content to predict future earnings, considering that the intensity of the effect of cash flows is much higher than the one of the accruals, once the coefficients and the adjusted R-squared are higher. Furthermore, our results also show that cash flows have a longer memory than accruals. While current earnings are explained by all three lags of cash flows, for accruals only the first two lags are statistical significant. These finds are in line with previous researches demonstrating that accruals may carry greater portions of noncurrent results, which are less likely to recur in future periods. Consequently, earnings attributable to accruals exhibits lower persistence than earnings performance attributable to cash flows (Sloan, 1996). Another interesting finding is that cash flows are highly sensitive to the accruals ranking (Upper and Lower quartiles), while the accruals themselves are not that sensitive.

Subsequently, our results indicate that IFRS adoption increases the information content and, thus, the predictive power of both components of current earnings. Our findings support the hypothesis proposed in this research and, thus, support the view that IFRS adoption, as a principle-based standards set, provides accounting amounts with higher quality, that better reflect firms' position and performance and, consequently, increases the information content about future earnings carried by both the current earnings components.

Although some may argue that IFRS, as a high quality reporting system, may have diminished the inherent uncertainty in accruals measures, we find that after IFRS adoption, the predictive power of cash flows is still higher than accruals'. Furthermore, it is also important to highlight that the intensity of cash flow for firms in the Upper Quartile of accruals is much higher after the IFRS adoption, suggesting that there is a way by which accruals affect the predictive power of cash flows and that IFRS plays an important role in this process. Future research could bring more elucidative information about this issue.

Our results are important because they indicate that IFRS adoption increases the information content and, thus, the predictive power of both earnings components (accruals and cash flows). Despite the fact that the intensity of cash flow is higher than accruals', our results also demonstrate that accruals carry informational content about future earnings and their amount seems to be associated with the predictive power of cash flows, and this association is significantly affected by IFRS, being, therefore, an important figure to be used by analysts to predict future earnings.

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