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DO EARNINGS REPORTED UNDER IFRS IMPROVE THE PREDICTION OF FUTURE CASH FLOWS? EVIDENCE FROM EUROPEAN BANKS

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ABSTRACT

This paper examines the relative costs and benefits of International Financial Reporting Standards (IFRS) adoption in the European Union by testing the ability of earnings computed under IFRS to predict future cash flows. The study considers the contribution of net income, comprehensive income and other comprehensive income to the usefulness of earnings to predict cash flows, and it compares IFRS with domestic Generally Accepted Accounting Principles (GAAP).

Evidence from a sample of Continental-European banks shows that IFRS improve the ability of net income to predict future cash flows. Comprehensive income, too, provides relevant information to predict future cash flows, although with a measurement error, which is higher than that in net income for greater lags of time. In our interpretation, these findings are consistent with unrealized gains and losses recognized in other comprehensive income being more transitory and volatile in nature.

Overall, our results are relevant to academics and standard-setters debating the merits of IFRS adoption and to those who use financial statements and adopt reported earnings to form expectations about future cash flows.

1.   INTRODUCTION

Over the last 15 years, financial reporting quality, with the increasing adoption of International Financial Reporting Standards (IFRS[1]) as national accounting standards, has become a dominant topic in international accounting research (e.g. Ashbaugh and Pincus 2001; Daske and Gebhardt 2006; Christensen *et al.* 2007; Ding *et al.* 2007; Tyrrall *et al.* 2007; Chand *et al.* 2008; Daske *et al.* 2008; Lantto and Sahlström 2008; Hellmann *et al.* 2010; Peng and van der Laan Smith 2010; Rezaee *et al.* 2010; Larson and Kenny 2011). Regulation 1606/2002, which has mandated IFRS in the European Union (also EU hereafter), states that adopting IFRS should ensure a higher degree of transparency in financial statements of firms from countries that previously used domestic Generally Accepted Accounting Principles (GAAP) based on the European directives. This should, in turn, lead to more effective and efficient functioning of the European capital market.

According to the IASB's Conceptual Framework, the primary objective of financial reporting is to provide financial information that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity and, specifically, to help them assess the prospects for future net cash inflows of the reporting entity (IASB 2010). Indeed, cash flow prediction is a predominant element of accounting measurements and valuation processes. Cash flows are central to many practitioners' valuation models (e.g. Brealey and Myers 2003) and play an important role in research, as well. For instance, free cash flow is the primary variable in the valuation constructs modeled by Feltham and Ohlson (1995). Creditors, suppliers and workers also use cash flow prediction to assess a firm's liquidity and solvency.

Consistent with the IASB's view, we define and test the usefulness of earnings in terms of their ability to predict future cash flows. In doing this, our study expands previous literature on the attributes of financial statements by focusing on the European Union and within the banking industry, for which IFRS adoption has long been questioned (e.g. European Central Bank 2004).

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[1]For ease of exposition, the term IFRS is used to refer to both the International Accounting Standards (IAS) and to the International Financial Reporting Standards (IFRS). IFRS are issued by the International Accounting Standard boards (IASB), whereas IAS were issued by the International Accounting Standard Committee (IASC), the predecessor of the IASB until 2000.

We investigate the role of earnings computed under IFRS in predicting future cash flow, and we compare IFRS and domestic GAAP in this perspective. To our knowledge, this is the first study investigating how effectively net income, comprehensive income and its related components, under IFRS, track future cash flows. It is also the first study comparing the predictive ability of earnings computed under IFRS with domestic GAAP based on European Directives.

Rather than focusing on the relation between stock prices, or returns and earnings, as value-relevance studies normally do, we investigate the relation between cash flows and earnings. In fact, as future cash flow is a primitive construct for share valuation, value relevance can directly be measured in terms of earnings ability to predict cash flows (Francis and Schipper 1999). A major advantage of this approach over value-relevance studies is that we look at how accounting data explains *actual* future cash flows disclosed by firms. Moreover, this approach does not require a certain number of assumptions underlying value-relevance studies, including market efficiency, which may not hold in practice.

As stated by European Regulation 1606/2002, IFRS are expected to increase the quality of financial statements. Compared to the European Directives, one of the most important innovations provided by IFRS is fair-value accounting, which is meant to provide investors with better information to predict the capacity of firms to generate cash flows from the existing resource base (Barth *et al.* 2001). A substantial portion of a firm's assets and liabilities are measured under IFRS at fair value, including pension assets and liabilities; derivative financial instruments; certain other financial assets and liabilities; tangible and intangible fixed assets that have been acquired in a business combination; assets held for disposal; share-based payment liabilities; provisions; and biological assets. Fair value is also an option for other assets such as, among others, investment properties. Furthermore, IASB seems to be willing to increase the use of fair value, as evidenced by IFRS 9, *Financial Instruments*, which extends further the use of fair value for financial instruments.

Under fair-value accounting, income changes from realized income to mixed income, which includes unrealized gains and losses. Some of these are treated similarly to realized items, and are

thereby recognized in net income, while others, which are viewed as more transitory in nature, are deferred until realization occurs and thereby recognized in other comprehensive income. As a result, examining the predictive ability of net income compared to comprehensive income, and assessing the specific contribution of other comprehensive income items, is key to discussing financial reporting under IFRS.

Our research tackles five specific issues. Firstly, it examines how closely earnings under domestic GAAP and IFRS are associated with future cash flows and compares the predictive ability of the accounting standards sets. Then, it focuses on IFRS investigating whether comprehensive income is a better predictor of future cash flows than net income. It also disaggregates comprehensive income into net income and other comprehensive income in order to assess the specific contribution, provided by the latter, to the prediction of cash flows. Finally, it focuses on available-for-sale assets, which are core to financial institutions, and examines the predictive ability of their changes in value, recognized in other comprehensive income.

In line with our expectations, findings show that IFRS have a better predictive ability of future cash flows than domestic GAAP, which provides some support for earnings reported under IFRS being more useful to stakeholders. Results indicate that comprehensive income, too, has predictive ability for future cash flows, although with a measurement error that is higher than that in net income for greater lags of time. In our interpretation, this is consistent with the other comprehensive income component including gains and losses generally arising from a random walk, and thereby more transitory in nature. Our analysis, instead, provides mixed results with regard to the ability of changes in value of available-for-sale assets to predict future cash flows.

Taken together, our results are of interest to academics and standard-setters debating the merits of IFRS adoption and the usefulness of earnings computed under IFRS, either as net income or as comprehensive income. Moreover, they can be relevant to financial statements' users who adopt reported earnings to form expectations about future cash flows.

The remainder of the paper is organized as follows. Section 2 relates this study to prior research and provides research motivation. Section 3 develops the model and empirical predictions, while Section 4 describes the sample and primary findings. Section 5 reports results from regressions, while Section 6 concludes.

2. RELATION TO PRIOR RESEARCH AND RESEARCH MOTIVATION

Usefulness of financial reporting underlies the whole IASB's Framework. According to the IASB, the main objective of financial reporting is to provide information that is useful to investors, creditors and others in making investment, credit and similar resource allocation decisions (IASB 2010). Although the IASB mentions a large number of stakeholders, it focuses on the needs of participants in capital markets. Investors are considered those who are most in need of information from financial reports, given that they cannot usually request information directly from the firm. Moreover, given that they provide risk capital to firms, the financial statements that meet their needs also meet most of the needs of other users (IASB 2010).

European Regulation 1606/2002 mandating IFRS in the European Union is very much focused on capital market, too. According to such a Regulation, adopting IFRS should ensure a high degree of transparency in financial statements, which should, in turn, lead to more effective and efficient functioning of the European capital market.

Consistent with both the IASB and European Regulation's view, in recent decades, empirical research has investigated the relationship between financial information provided by different accounting standards and share prices, or returns, with the purpose of identifying the best accounting measures able to support investors' decision making. This research stream has been called "value-relevance" research (Holthausen and Watts 2001).

Value-relevance research has been prevailing in examining the effects of IFRS reporting in the EU, with results that are sometimes contrasting and inconsistent. Moreover, it has mainly focused on non-financial firms or it has not sufficiently discriminated among financial and non-financial firms. Most of the studies also refer specifically to IFRS mandatory adoption in the European Union.

Devalle *et al*. (2010), for instance, examine a sample from different industries and find that the value-relevance of earnings increased following the introduction of IFRS in France, Germany and the United Kingdom, while the value-relevance of book value decreased everywhere except for the United Kingdom. Aubert and Grudnitski (2011) investigate the IFRS impact on the European Union by considering 13 countries and 20 industries at the same time, but fail to document a statistically significant increase in the value relevance of accounting information after the IFRS adoption. Agostino *et al.* (2011), instead, focus on a sample of European banks reporting overall positive effects of IFRS adoption on the value-relevance of accounting data. Along the same lines, Barth *et al.* (2014) find that investors view net-income adjustments resulting from mandatory IFRS adoption in Europe as value-relevant, for both non-financial and financial firms, although there are still some differences related to domestic standards and institutions among the various countries.

Other studies on IFRS adoption have focused on individual countries in order to avoid country-related factors that might affect the value-relevance of accounting numbers. Also in this case, research has mainly focused on non-financial firms and results have been contrasting. Callao *et al.* (2007), for instance, do not find IFRS to be more value-relevant than domestic GAAP for a sample of non-financial Spanish firms, with similar results provided by Morais and Curto (2008) for a Portuguese sample and by Paananen and Lin (2009) for German industrial firms. Jarva and Lantto (2012) fail to find systematic evidence that IFRS adoption resulted in improved accounting quality for a sample of Finnish non-financial firms. Gjerde *et al.* (2008) find mixed results for firms listed on the Oslo Stock Exchange according to the econometric methodology employed. In contrast, Horton and Serafeim (2010) find that reconciliation amounts to IFRS are value-relevant for a set of English firms. Along the same lines, Iatridis and Rouvolis (2010) document that IFRS measures have higher value-relevance than those prepared under Greek GAAP for a sample of non-financial firms, whereas Karampinis and Hevas (2011) report some small, yet positive effects of IFRS adoption on the value-relevance of reported income.

Value-relevance research has also been prevailing in investigating the usefulness of net income relative to comprehensive income. Most of the studies have focused on the United States, where firms have been required to report and display comprehensive income and its components according to FAS 130 since 1997. Some studies find that net income has more explanatory power than comprehensive income (e.g. Cheng *et al.* 1993; Goncharov and Hodgson 2011), while others report the opposite result, suggesting that comprehensive income has higher value relevance (e.g. Biddle and Choi 2006; Kanagaretnam *et al.* 2009). This contradiction has been highlighted by Dhaliwal *et al.* (1999), who find comprehensive income to be less value-relevant when including all the sectors in the sample, but more value-relevant when using a return model and including only financial firms. Dhaliwal *et al.* (1999) also perform an analysis of the ability of earnings to predict future cash flows, which shows lower association of one-year ahead cash flow with comprehensive income than with net income. This result is in contrast with Kanagaretnam *et al.* (2009), who find that comprehensive income is a better predictor of future cash flows than net income for a sample of Canadian firms.

Some value-relevance studies have investigated the usefulness of individual components of other comprehensive income, providing even more conflicting results. Among these, some have focused on unrealized gains and losses on available-for-sale securities. Available-for-sale securities are core to financial institutions, such as banks, and their fair value measurement has long been controversial (Palea and Maino 2013). As mentioned above, Dhaliwal *et al.* (1999) find changes in available-for-sale securities to be value-relevant, especially when the sample is limited to financial firms. Chambers *et al.* (2007) and Kanagaretnam *et al.* (2009) confirm the findings obtained by Dhaliwal *et al.* (1999) for non-financial firms, while Mitra and Hossain (2009) document irrelevance of unrealized gains and losses on available-for-sale securities. Goncharov and Hodgson (2011), instead, find that unrealized gains and losses on available-for-sale securities are value-relevant at 10% only when using a return model. Finally, Hirst and Hopkins (1998) document that equity analysts estimate more accurately the stock price of a company that upwardly manages its net income using the available-

for-sale investment portfolio. A follow up study of bank analysts' risk and value judgments reaches a similar conclusion (Hirst *et al.* 2004).

Several studies have explained mixed results in value-relevance research in terms of differences in enforcement regimes and firms' reporting incentives. Daske *et al.* (2008), for instance, document that capital market effects of IFRS adoption are larger for firms in countries with domestic standards of lower quality and varying greatly from IFRS. Prather-Kinsey *et al.* (2008) show that firms from code law countries experience more significant market benefits from implementing IFRS than firms from common law countries. Along the same lines, Morais and Curto (2009) find that the value-relevance of financial information under IFRS varies according to countries' specific factors, while Kvaal and Nobes (2010) document the existence of national patterns of accounting within IFRS implementation.

Other studies have, instead, suggested that mixed results in value-relevance studies could be driven by methodological issues, such as the misspecification of regression models (Soderstrom and Sun 2007), which makes it difficult to compare different accounting standards. For example, Clarkson *et al.* (2011) report increased nonlinearity in the relation between share prices and accounting data subsequent to the adoption of IFRS, which makes linear model inadequate to investigate such an issue.

In this research, we adopt a different approach and investigate the relationship between earnings computed under different accounting standards and cash flows, rather than between earnings and stock prices or returns. This approach has the advantage that it does not require a certain number of assumptions underlying value-relevance studies, such as market efficiency, which may not hold in practice. Moreover, as pointed out by Francis and Schipper (1999), cash-flow is a primitive valuation construct, thus value relevance can directly be measured in terms of earnings ability to predict cash flows.

The IASB, too, considers cash-flow projection as a desirable characteristic of accounting information. To have predictive value, however, information needs not to be presented in the form of an explicit forecast. Information on the performance of an enterprise already provides information useful to predicting the capability of the enterprise to generate cash flows from the existing resource

base (IASB 2010). Earnings therefore occupy a central position in financial reporting. In our research, we also consider how well information on comprehensive income and its components is reflected in cash flows. Investors, creditors, and others who are concerned with assessing the prospects for enterprise net cash inflows are in fact interested in this kind of information (IASB 2010). As a result, the ability of net income, comprehensive income and its components to assess future cash flows is a fundamental issue in financial reporting under IFRS.

Prior research focusing on the relationship between earnings and cash flows has shown that earnings are consistently useful in forecasting cash flows. Dechow *et al.* (1998), for instance, find that earnings better predict operating cash flows than current cash flows. Building on Dechow *et al*. (1998), Barth *et al.* (2001) and Al-Attar and Hussain (2004) show that disaggregating earnings into cash flow and the accrual components increases the predictive ability for future cash flow. Kim and Kross (2005) investigate the ability of earnings to predict future cash flows over time and find that the relationship between earnings and one-year-ahead operating cash flows increased over the 1973-2000 period. Jones and Smith (2011), instead, focus on the predictive ability of other comprehensive income relative to special items included in net income for a sample of firms reporting under FASB standards, showing that gains and losses included in comprehensive income have weaker predictive value than gain and losses reported as special items in net income. All these studies, however, refer to non-IFRS firms.

The only study on the ability of earnings to predict future cash flows under IFRS is by Atwood *et al.* (2011), which finds, for a sample of firms from 33 countries and different industries, that earnings reported under IFRS are no more or less associated with future cash flows than earnings reported under non-US domestic GAAP. To the best of our knowledge, our paper is therefore the first investigating the ability of earnings under IFRS to predict cash flows relative to Domestic GAAP based on the European Directives. In doing this, it focuses on the banking industry, which has long been at the center of a lively debate over the advisability of adopting IFRS. Our aim is to contribute to such a debate with a piece of empirical research.

3. RESEARCH DESIGN

In this paper we investigate five issues. Firstly, we examine how well earnings under both domestic GAAP and IFRS are reflected in future cash flows and we compare the predictive ability of the two accounting standards sets. Then, we focus on earnings computed under IFRS and investigate whether comprehensive income is a better predictor of future cash flows than net income. We also disaggregate comprehensive income into net income and other comprehensive income in order to assess the specific contribution provided by the latter to the prediction of a firm's future performance. Finally, we focus on available-for-sale assets, which are core to financial institutions, and we test whether related unrealized gains and losses, reported in the other comprehensive income item, have predictive ability for cash flows.

We test the ability of net income to predict next-period cash flow under IFRS, and we compare such ability with domestic GAAP using the following model:

$$CFO_{i,t} = IFRS \times [\alpha_0 + \sum_{X=1}^{n} \alpha_x NI_{i,t-x}] + DGAAP \times [\beta_0 + \sum_{X=1}^{3} \beta_x NI_{i,t-x}] + \varepsilon_{i,t} + \omega\ country\ +\ \omega\ year \qquad (1)$$

Where: $CF_{i,t}$ = free cash flow to equity for firm i at time t; $NI_{i,t-x}$ = net income for firm i at time t-x; IFRS = a dummy variable set to a value of one for firms reporting under IFRS, zero otherwise; DGAAP = a dummy variable set to one for firms reporting under domestic GAAP, zero otherwise; n = number of years, up to three; ω country = country fixed effects in the model; ω year = year fixed effects in the model.

Although many studies investigating international accounting differences do not account for country-specific factors (e.g. Barth and Clinch 1996), we acknowledge that differences in the regulatory environment and enforcement regimes can play a role in IFRS implementation (e.g. Daske *et al.* 2008; Prather-Kinsey *et al.* 2008; Morais and Curto 2009; Kvaal and Nobes 2010). As will be discussed in Section 4, the criteria used to select our sample already limit the influence of country effects on findings. Nonetheless, following Atwood *et al.* (2011), we also include year and country dummy-variables in the regressions to control for time and fixed cross-country effects.

Driven by the principle of parsimony in statistics (Jefferys and Berger 1992; Forster and Sober 1994), and in line with prior research (e.g. Dechow *et al.* 1998; Barth *et al.* 2001; Al-Attar and Hussain 2004; Kim and Kross 2005), we do not include in our regressions firm-specific variables that account for the presence of loss firms or for differences in corporate governance quality. We are therefore aware that, while interpreting results, we must consider our findings as suggestive and subject to specific firm-related factors. However, benefits from increasing the number of variables included in the regression would presumably not counterbalance the violation of the parsimony in model selection. Likewise, following previous studies (e.g. Atwood *et al.* 2011), we do not include accruals in our regressions. In practice, we perform typical regressions used in value-relevance studies (Palea 2013 for a review), but we consider actual future cash flows, instead of stock prices or returns, as a dependent variable.

Finally, research on earnings' usefulness to predict future cash flows generally focuses on very short lags of time. Several studies investigate the relationship between earnings and one-year-ahead cash flows (e.g. Dhaliwal *et al.* 1999; Kim and Kross 2005; Kanagaretnam *et al.* 2009; Lev *et al.* 2010), while others consider both one and two-year-ahead data (e.g. Atwood *et al.* 2011). Dechow *et al.* (1998), along with Al-Attar and Hussain (2004), examine the ability of current earnings to explain future cash flows up to three lags of time, while Barth *et al.* (2001) use up to six lags of earnings, according to the number of explanatory variables included in the model. We follow Barth *et al.* (2001) and, according to the number of explanatory variables included in our extended model (4), we investigate the predictive ability of earnings over three lags of time.

In order to test the ability of comprehensive income to predict cash flows for our IFRS sample, we use the following model:

$$CF_{i,t} = IFRS \; x \; [\gamma_0 + \sum_{x=1}^{n} \gamma_x CI_{i,t-x}] + \varepsilon_{i,t} + \psi \; country + \psi \; year \qquad (2)$$

Where: $CI_{i,t-x}$ = comprehensive income for firm i at time t-x, while the other variables are defined as above.

Consistent with prior research on the predictive ability of earnings (e.g. Dechow *et al.* 1998; Barth *et al.* 2001) and their value-relevance (e.g. Brown *et al.*1999), we expect earnings computed under IFRS either as net income or comprehensive income to be useful in predicting cash flows. If stock price is the present value of future cash flows, and evidence shows that earnings are value-relevant, we should find that earnings are good predictors of future cash flows. As a result, at least some coefficients from equation (1) and (2) should differ from zero.

Since net income includes realized or very short-time realizable gains, we expect it to be more statistically significant than comprehensive income for one lag of time. Conversely, we expect comprehensive income to be more statistically significant for greater lags of time, as it includes unrealized gains and losses, which usually take a longer time to result in cash flows. Furthermore, as IFRS promise more accurate, comprehensive and timely information than domestic GAAP, we expect a closer relationship between future cash flows and net income computed under IFRS than for net income under domestic GAAP.

Several ways exist to test the ability of net income under IFRS to explain future cash-flow variation relative to net income under domestic GAAP. Some studies (e.g. Barth *et al.* 2001) compare the adjusted R^2 of regressions by using the Vuong statistics (1989), which has however been proven by recent research to have several weaknesses (Shi 2011). Other studies simply use the standard deviation of residuals from regression of cash flows on earnings computed under different accounting standards as a measure of cash-flow predictability (Gordon *et al.* 2010). In this paper, we adopt a different approach by performing a pooled regression for the IFRS and DGAAP firms, in which the dependent variable is the actual value of cash flow, while the independent variables are the predicted value of cash flow, a dummy for reporting earnings under IFRS or domestic GAAP, and an interaction term between the predicted value of cash flow and the dummy. We set the dummy variable equal to one for firms reporting under IFRS and equal to zero for firms reporting under domestic GAAP. If the predictive ability of net income is higher under IFRS, we expect a positive and statistically

significant coefficient on the interaction term. We also use this approach to test the ability of comprehensive income to predict cash flows relative to net income for the IFRS sample.

Consistent with previous research, which shows that disaggregating earnings into components enhances the prediction of future performance (Fairfield *et al.* 1996; Barth *et al.* 2001), we disaggregate comprehensive income into net income and other comprehensive income, and we perform the following regression:

$$CFO_{i,t} = IFRS \times [\delta_0 + \sum_{x=1}^{3} \delta_x NI_{i,t-x} + \sum_{x=1}^{3} \delta_{3+x} OCI_{t-x}] + \vartheta \, country + \vartheta \, year + \varepsilon_{i,t} \qquad (3)$$

Where: OCI$_{t-x}$ is other comprehensive income, while the other variables are defined as above.

We take net income as a base and we look at the marginal ability of OCI to predict future cash flows. Investigating the predictive ability of the other comprehensive income item is useful to add to prior research maintaining that related components of gains and losses are often transitory and driven by volatile fluctuations in market conditions, which limits their usefulness in predicting future cash flows and firms' values (e.g. Linsmeier *et al.* 1997; Barker 2004; Chambers *et al.* 2007; Yen *et al.* 2007; Bamber *et al.* 2010). We are therefore interested in whether the coefficients on OCI are statistically significant.

Finally, we focus on available-for-sale-financial instruments, which are core to financial firms such as banks, and we test the ability of related changes in value to predict next-period cash flows using the following model:

$$CFO_{i,t} = IFRS \times [\omega_0 + \sum_{x=1}^{3} \omega_x NI + \sum_{x=1}^{3} \omega_{3+x} CHAFS_{t-x} + \sum_{x=1}^{3} \omega_{6+x} ROCI_{t-x}] + \pi \, country + \pi \, year + \varepsilon_{i,t} \qquad (4)$$

Where CHAFS$_{t-x}$ is changes in value of available-for-sales financial instruments, ROCI$_{t-x}$ is remaining other comprehensive component and the other variables are defined as above.

Fair-value measurement for available-for-sales financial instruments has long been questioned, so we are interested in assessing the ability of their changes in value, which are recognized in other comprehensive income to predict future cash flows. Given the contrasting results from prior research, it is difficult to draw clear expectations on whether changes in available-for-sale assets have a

predictive ability for cash flows. Therefore, we do not make any prediction about the coefficient on $CHAFS_{t-x}$.

4. DATA AND DESCRIPTIVE STATISTICS

As mentioned, our analysis focuses on the bank industry, for which IFRS adoption has long been questioned (e.g. European Central Bank 2004). Moreover, focusing on banks helps to exclude specific industry effects in our analysis. The bank industry is also characterized by low diversification of firm activities, which further contributes towards isolating the effects of adopting IFRS on the ability of earnings to predict future cash flows (Palea 2007).

Our sample is made of bank-observations drawn from Bankscope files. Data cover the 1998-2012 period, for which data are available. We divide observations relative to firms using IFRS from those using domestic GAAP. We limit our sample to banks based in France, Italy, Germany and Spain for several reasons. Most importantly, these countries share common legal-system roots and similar legal settings (Nobes 2008; Doupnik and Perera 2012; Nobes and Parker 2012). Although we control for country-effects in our regressions, this choice helps our analysis to remain as unaffected as possible by differences in the institutional setting. These countries also share similar IFRS enforcement regimes, as evidenced by Brown *et. al.* (2014). Finally, all of these countries use the Euro as currency, which makes our analysis free from potential problems connected to exchange rates (Palea 2007). As a result, banks comprising our sample can be considered as highly comparable with regard to their regulatory and enforcement setting.

Our analysis focuses on consolidated accounts, for which IFRS have become mandatory in the EU starting from 2005. We exclude cases with missing data or outliers, which we define as cases lying in the top and bottom 1% of the variables included in the regressions (Abad *et al.* 2000).

Our final sample is the result of data availability in Bankscope and of their cleaning-up from outliers. Table 1 displays the IFRS and domestic GAAP sample distribution per year and per country.

(Insert Table 1 about here)

15

Table 1 reports some observations for IFRS before their mandatory adoption in the EU, as a few countries already allowed IFRS for some types of firms (e.g. German-listed companies have been allowed to use IFRS for consolidation purposes since 1998). There are also observations for domestic GAAP after 2005 because IFRS are not compulsory for non-listed financial institutions in some countries (e.g. France, Germany). Our sample distribution per country shows a predominance of German observations for the domestic GAAP sample, and little presence of cases from Italy and Spain, whereas the IFRS observations are more equally distributed among countries.

Tables 2 and 3 report descriptive statistics for the variables used in the estimation equations. Table 2 reports distributional statistics, while Table 3 reports correlation matrixes. Panel A in each Table refers to the IFRS sample, whereas Panel B refers to domestic GAAP.

(Insert Table 2 about here)

Descriptive statistics in Panel A of Table 2 reveal that cash flow, net income and comprehensive income are positive, in mean and in median, for the IFRS sample. Net income is higher than comprehensive income in mean at times t-1 and t-3, and in fact other comprehensive income is negative; net income is instead lower at time t-2, and in fact other comprehensive income is positive. Moreover, exactly half of the sample firms report negative other comprehensive income, as evidenced by a median equal to zero. Consistent with Dechow (1994) and Dechow *et al.* (1998), net income is less variable than cash flow. In addition, net income appears to be less variable for each period of time than comprehensive income, consistent with the latter incorporating transitory gains and losses generally arising from a random walk (Jones and Smith 2011).

With regard to the domestic GAAP sample, Panel B of Table 2 indicates that cash flow is negative in mean and zero in median, thus reflecting one half of the sample firms reporting negative cash flow, whereas net income is always positive both in mean and median. For the domestic GAAP sample also, standard deviation of cash flow is higher than that of earnings. Moreover, standard deviation of net income under IFRS is higher than that under domestic GAAP, suggesting a higher variability in

net income among IFRS firms, which appears in contrast with the purpose of the IFRS regulation to increase convergence in financial reporting.

If we focus on the relationships between our samples' variables, some interesting findings arise from Table 3.

<center>(Insert Table 3 about here)</center>

Panel A of Table 3 shows that cash flow is significantly and positively correlated with both net and comprehensive income. The correlation coefficient between cash flow and net income is significantly higher than that of cash flow and comprehensive income at time t-1, consistent with net income incorporating realized gains and losses, which result in cash flows in a shorter time period than other comprehensive income. The correlation coefficients between cash flow and other comprehensive income are positive and significant, as well. Moreover, net income and comprehensive income are significantly and positively auto-correlated.

Panel B of Table 3 indicates that cash flow and net income under domestic GAAP are significantly correlated only at times t-2 and t-3. This result is rather surprising, as net income under domestic GAAP incorporates only realized gains, which should take a very short time to result in cash flow. Therefore, we would have expected net income to be strongly correlated with one-year-ahead cash flow. Moreover, correlation coefficient between cash flow and net income is negative at times t-3, which could however be explained in terms of other items, such as investments or dividend pay-out, which negatively affect cash flow. Finally, net income is significantly auto-correlated also for the domestic GAAP sample.

5. RESULTS FROM REGRESSIONS

Tables 4 and 5 display the estimation results from regression (1), which tests the predictive ability of aggregate earnings for next period cash flows. Table 4 refers to earnings computed as net income under both IFRS and domestic GAAP, whereas Table 5 presents results from the regression model based on comprehensive income, and therefore refers to the IFRS sample only.

<center>17</center>

Panel A of Table 4 displays the results for the IFRS sample, whereas Panel B refers to the domestic GAAP sample.

(Insert Table 4 about here)

Results from Panel A suggest that net income under IFRS is able to predict up to three-year-ahead cash flow. The adjusted R^2 of the regression improves monotonically from 13.7% to 19.7%: one lag of net income explains 13.7% of cash flow variation, two lags of net income explain 16.5% of cash flow variation, while three lags of earnings explain 19.7% of cash-flow variation. Coefficients on NI_{t-1} and NI_{t-2} are positive and statistically significant at the 1% level [NI_{t-1} coefficient = 0.81 and t-statistic = 14.21 in regression (a); NI_{t-1} coefficient = 0.36 and t-statistic = 4.16, NI_{t-2} coefficient = 0.53 and t-statistic = 7.02 in regression (b); NI_{t-1} coefficient = 0.31 and t-statistic = 3.39, NI_{t-2} coefficient = 0.76 and t-statistic = 8.11 in regression (c)]. Coefficient on NI_{t-3} is significant at the 1% level, but negative (NI_{t-3} coefficient = -0.18 and t-statistic = -2.68) in the regression including three lags of net income. As discussed above, a negative coefficient on net income could however be explained in terms of variables not included in the model, such as investments or dividend payout, which negatively affects cash flow.

Panel B of Table 4 reports results from the regression model (1) performed for the domestic GAAP sample over three lags of time. Related findings point out a very low adjusted R^2 (Adj. R^2 = 5%), which suggests a poor ability of net income to explain cash flow variation. A comparison with the adjusted R^2 of the model with three lags of net income reported under IFRS (Adj. R^2 = 19.7%) indicates that adopting IFRS has dramatically improved the ability of net income to predict next-period cash flow. Untabulated statistics report that the difference between regression (f) and (g) in explaining cash flow variation is significant[2].

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[2] As mentioned, our test is based on a pooled regression run for the domestic GAAP and IFRS observations in which real value of cash flow is the dependent variable. The independent variables are the predicted value, a dummy variable for reporting under either domestic GAAP or IFRS and an interaction term between the predicted value and the dummy variable. The dummy variable is set equal to one for firms reporting under IFRS and to zero for domestic GAAP. Results indicate that such as interaction term is positive and strongly significant, thus suggesting that net income under IFRS have a better predictive ability.

Contrary to our expectations, results indicate that coefficient on NI_{t-1} is not statistically significant for the domestic GAAP sample (NI_{t-1} coefficient = -0.57 and t-statistic = -1.27). The same holds for the coefficient on NI_{t-3} (NI_{t-3} coefficient = -0.40 and t-statistic = -1.06), whereas NI_{t-2} is positive and statistically significant (NI_{t-2} coefficient = 0.90 and t-statistic = 2.01). Since net income under domestic GAAP incorporates only realized gains, which makes it more persistent and less volatile over time (Jones and Smith 2011), we would have expected positive and significant coefficients for the NI variable, at least for one time lag.

Taken as a whole, results from Table 4 suggest that net income plays a relevant role in explaining next-period cash flow variation, and that such ability is higher under IFRS than under domestic GAAP.

Table 5 reports results from regression (2), which tests the ability of comprehensive income to predict next-period cash flow.

(Insert Table 5 about here)

All of the coefficients on comprehensive income are positive and strongly significant in predicting next-period cash flow. The adjusted R^2 increases monotonically from 9.9% in the model with one lag of time up to 20.9% in the model specification with three lags of time. A comparison with Table 4 indicates that net income ability to predict next-period cash flow is higher than comprehensive income at time t-1 and t-2, but lower at time t-3. This result is consistent with net income incorporating realized or short-time realizable gains, which makes it a better predictor over short lags of time, while comprehensive income incorporates potential gains and losses, which may take longer periods to result in cash flow. Untabulated statistics show that differences in the explanatory power of the regressions in Table 4 and 5 are statistically robust.

In order to gain deeper insight into the role of comprehensive income relative to net income in predicting future cash flow, we perform a regression that disaggregates comprehensive income into net income and other comprehensive income. Table 6 reports the estimation results from regression (3), which disaggregates the CI variable into NI and OCI over three time lags.

(Insert Table 6 about here)

Findings suggest that the other comprehensive income item recognizes some economic events that then result in cash flows. When the CI variable is divided into NI and OCI, the adjusted R^2 of the model increases from 20.9% to 24.7%, which reveals a stronger ability of the disaggregated components of CI to explain next-period cash-flow variation. This result is consistent with other studies that show how disaggregating earnings into components enhances the prediction of a firm's future performance (e.g. Fairfield *et al.* 1996; Barth *et al.* 2001).

As in regression (c) of Table 4, coefficients on net income NI_{t-1} and NI_{t-2} are positive and statistically significant at the 1% level (NI_{t-1} coefficient = 0.32 and t-statistic = 3.45; NI_{t-2} coefficient = 0.84 and t-statistic = 8.72), whereas coefficient on NI_{t-3} is negative, although statistically significant (NI_{t-3} coefficient = -0.15 and t-statistic = -2.14). Coefficients on the OCI variable are all statistically significant and positive (OCI_{t-1} coefficient = 0.49 and t-statistic = 3.29; OCI_{t-2} coefficient = 0.61 and t-statistic = 4.68; OCI_{t-3} coefficient = 0.78 and t-statistic = 8.77), which confirms the informative usefulness of this item.

Finally, we test the ability of changes in value of available-for-sales financial instruments to predict next-period cash flows. Table 7 reports results from regression model (4), which disaggregates the other comprehensive component, OCI, into change in value of-available-for-sale financial instruments, CHAFS, and remaining other comprehensive component, ROCI.

(Insert Table 7 about here)

Regression (4) presents mixed results with regard to the CHAFS variable. Coefficient on $CHAFS_{t-1}$ is positive and statistically significant ($CHAFS_{t-1}$ coefficient = 0.31 and t-statistic = 1.76), whereas coefficients on $CHAFS_{t-2}$ and $CHAFS_{t-3}$ are not significant ($CHAFS_{t-2}$ coefficient = 0.33 and t-statistic = 1.39; $CHAFS_{t-3}$ coefficient = -0.06 and t-statistic = -0.27), which indicate that changes in value of available-for-sale financial instruments have no ability to predict future cash flows for greater lags of time. Such findings could however be the effect of the residual nature of this item, which includes

financial assets that do not fall into one of the other classifications provided by IFRS, as they are neither held for trading, nor to maturity, nor with a strategic intent.

In contrast, the ROCI variable is positive and statistically significant for both time t-1 and time t-3, which suggests that the remaining components of the other comprehensive income item have some predictive ability for future cash flow[3].

We perform a variety of robustness tests to examine whether our main results are sensitive to alternate variable measurements, sample selection, econometric model or different rules to limit the effect of possible outliers in the inferential analysis. Following Sloan (1996), we use a model with regression variables deflated by total assets and find that the results are qualitatively similar to those reported using undeflated variables. Moreover, we test the robustness of our results on different sample selection strategies. Firstly, we extend our analysis to all the observations drawn from the BankScope files, including data from separate financial statements. For instance, the Italian regulator requires banks to also draw up their separate financial statements according to IFRS. We then limit our analysis to banks which mandatorily adopted IFRS starting from 2005 on, and we find results similar to those tabulated in the paper.

Furthermore, we use an alternate econometric model based on a pooled regression that includes a dummy variable equal to one for firms reporting under IFRS, and equal to zero for firms reporting under domestic GAAP, as well as the interaction term between each accounting variable included in the model and the accounting-standard dummy variable. We also test for alternate rules to control for influential observations, and delete those with absolute studentized residuals above a value of two (Belsley *et al.*, 1980), obtaining results qualitatively similar to those reported. Altogether, results from our robustness check confirm that net income under IFRS has higher predictive ability for next-period

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[3] We do not split further the ROCI variable into its components because sample size reduces significantly, with potential negative effects on estimates' accuracy (Kish, 1965).

cash flow than under domestic GAAP, and that comprehensive income, too, has predictive ability for cash flow.

We finally extend, as a further robustness check, the time lags in regressions (3) up to six, which yields very interesting findings with regard to the OCI component. Results (untabulated) reports coefficients on the OCI variable at time t-5 and t-6 which are still statistically significant, but negative. To guide our interpretation of these results, we build on Barth *et al.* (2001) and interpret the sign of the OCI variable, calculated as the difference between CI and NI, as a measure of the reliability of comprehensive income relative to net income in predicting next-period cash flow. A negative coefficient on OCI in fact occurs when the error variance in the comprehensive income is higher than in net income. As a result, a negative but statistically significant coefficient on OCI is interpreted as evidence that other comprehensive income provides relevant information to predict cash flow, yet with a lower reliability than net income. This is consistent with comprehensive income including gains and losses generally arising from a random walk, that makes it more volatile. With this respect, our results are in line with value-relevance research indicating that non-recurring income maps in value less than core income, thus making the explanatory power of net income higher than for comprehensive income (e.g. Cheng *et al.* 1993; Goncharov and Hodgson 2011; Mechelli and Cimini 2014).

6. CONCLUSIONS

Motivated by the current debate regarding the effects of adopting IFRS in the EU, we investigate the ability of earnings reported under IFRS to predict future cash flows, and we compare IFRS and domestic GAAP based on the European Directives.

We use the association between earnings and future cash flows as a measure of earnings quality, consistent with the objectives set forth in the IASB's Conceptual Framework, which states that financial reporting should provide information helpful to users in predicting future cash flows (IASB 2010). Indeed, cash flow prediction is a predominant element of accounting measurements and valuation processes. Cash flows are central to many practitioners' valuation models and play an

important role in research, as well. Furthermore, cash flows are relevant to stakeholders such as creditors, suppliers, workers in order to assess a firm's liquidity and solvency. As a result, the ability of earnings to assess future cash flows is a fundamental issue underlying financial reporting.

Several studies have investigated the relationship between earnings and cash flows (e.g. Dechow *et al.* 1998, Barth *et al.* 2001), finding that earnings are consistently useful in forecasting future cash flows. Our paper expands previous literature on the attributes of financial reports by focusing on the IFRS adoption from a sample of Continental-European banks, for which IFRS adoption has long been questioned (Palea and Maino 2013). To our knowledge, this is the first study comparing the predictive ability of earnings computed under IFRS with domestic GAAP based on the European Directives. It is also the first study investigating how well net income, comprehensive income and its components under IFRS track future cash flows in the context of the EU.

We use a sample of banks from France, Germany, Italy and Spain to examine differences in reporting net income under IFRS relative to domestic GAAP, and to investigate the predictive ability of comprehensive income relative to net income for banks adopting IFRS. We limit our sample to France, Germany, Italy and Spain, as these countries share the same legal-system roots and similar legal setting (Nobes 2008; Doupnik and Perera 2012; Nobes and Parker 2012). Moreover, they all use the Euro as currency, which makes our analysis free from potential issues connected to exchange rates (Palea 2007).

Consistent with prior research (e.g. Dechow *et al*. 1998; Barth *et al.* 2001), our results show that, in general, earnings have predictive ability for future cash flows. More specifically, the predictive ability of net income is higher under IFRS than under domestic GAAP, which provides some support for IFRS being more useful to stakeholders than domestic GAAP based on the European Directives. Comprehensive income under IFRS, too, has predictive ability for future cash flows, which is higher than net income only for greater lags of time. This result is consistent with net income incorporating realized or short-term realizable gains, whereas comprehensive income includes unrealized gains and

losses, which may remain on the balance sheet for some years before the underlying asset is sold or the liability is settled.

When comprehensive income is disaggregated into net and other comprehensive income, results indicate that other comprehensive income recognizes some economic events that then result in cash flows. Our robustness check, however, adds to our main result by showing that, for greater lags of time, comprehensive income recognizes economic events with a measurement error that is higher than that of net income. This result is consistent with other comprehensive income incorporating unrealized gains and losses generally arising from a random walk, which makes it more transitory and volatile in nature, thus affecting its reliability in forecasting cash flows. Finally, our analysis provides mixed results with regard to the ability of changes in value of available-for-sale assets, which are recognized in other comprehensive income, to predict future cash flows.

Our findings are robust to a variety of sensitivity checks to alternate-variable measurements, sample selection, econometric model, and different rules to limit the effect of possible outliers in the inferential analysis. Nonetheless, some cautions should be taken while interpreting our findings. First of all, our analysis is focused on the banking industry, which has specific business characteristics and regulatory rules that renders our results not completely generalizable. Moreover, our sample is made of banks from the Continental European Union, which have different legal systems compared to those from other countries in the EU, such as the United Kingdom (UK) or Ireland. Domestic GAAP in the Continental European Union also differ more from IFRS than domestic GAAP in the UK, as the former are more conservative. We therefore acknowledge that our sample selection strategy may affect our findings. Finally, for parsimony's sake, we limit the numbers of variables included in the regression to accounting items, which can make our results suggestive and subject to specific firm-related factors.

Taken as a whole, our study however provides insight into the usefulness of earnings computed under IFRS to predict future cash-flows in the context of the Continental European Union and within the banking industry, which can be of interest to academics, standard-setters and policy-makers

debating the merits of adopting IFRS. Furthermore, our results can be relevant to practitioners and those parties who use reported earnings to form expectations about future cash flows in assessing firms' performance.

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Table 1 – Sample distribution per year and country

Sample distribution for year

Year	IFRS sample	Domestic GAAP sample
1999	-	4.4
2000	-	4.9
2001	0.2	5.4
2002	0.4	5.9
2003	0.7	6.3
2004	0.7	6.1
2005	0.8	7.2
2006	1.0	7.6
2007	5.8	7.2
2008	14.8	7.6
2009	18.0	7.6
2010	18.6	9.0
2011	20.0	10.5
2012	19.0	10.2
Total	100.0	100.0

Sample distribution per country

	IFRS sample	Domestic GAAP sample
France	39.3	38.0
Germany	22.1	54.9
Italy	25.9	2.6
Spain	12.7	4.4
Total	100%	100%

Table 2 – Descriptive statistics

PANEL A – IFRS sample

	CF_t	NI_{t-1}	NI_{t-2}	NI_{t-3}	CI_{t-1}	CI_{t-2}	CI_{t-3}	OCI_{t-1}	OCI_{t-2}	OCI_{t-3}
Mean	211,590.66	216,046.43	210,132.16	179,730.10	195,117.74	212,143.94	167,686.70	-20,928.69	1,423.21	-12,843.68
First quartile	-12,625.00	15,550.00	16,325.00	16,100.00	4,300.00	8,775.00	8,900.00	-17,050.00	-5,400.00	-4,900.00
Median	300.00	65,600.00	64,850.00	64,800.00	50,700.00	60,150.00	62,000.00	0.00	0.00	0.00
Third quartile	35,525.00	171,650.00	173,700.00	174,600.00	171,000.00	204,000.00	210,050.00	3,225.00	12,775.00	18,300.00
Minimum	-5,433,000.00	-1,601,000.00	-3,195,000.00	-6,168,000.00	-2,511,000.00	-3,494,000.00	-9,957,000.00	-3,182,000.00	-3,926,000.00	-8,377,000.00
Maximum	15,638,000.00	5,866,000.00	7,356,000.00	7,356,000.00	6,478,000.00	6,714,000.00	7,434,000.00	2,759,000.00	3,278,000.00	2,971,000.00
Standard deviation	1,451,055.25	626,540.55	706,199.65	842,797.43	677,671.10	770,176.26	1,048,802.84	295,253.08	364,164.31	493,230.33
Number of observations	1,454	1,454	1,454	1,181	1,454	1,454	1,181	1,454	1,452	1,181

$CF_{i,t}$ = free cash flow to equity for firm i at time t; $NI_{i,t-x}$ = net income for firm i at time t-x; $CI_{i,t-x}$ = comprehensive income for firm i at time t-x; $OCI_{i,t-x}$ = other comprehensive income for firm i at time t-x. Data are in thousands of euros.

PANEL B – Domestic GAAP sample

	CF_t	NI_{t-1}	NI_{t-2}	NI_{t-3}
Mean	-1,463.01	36,369.13	48,606.14	26,607.71
First quartile	-1,975.00	2,025.00	2,300.00	2,300.00
Median	0.00	8,250.00	9,100.00	8,800.00
Third quartile	5,975.00	24,650.00	25,225.00	24,350.00
Minimum	-16,359,200.00	-2,860,000.00	-787,400.00	-2,860,000.00
Maximum	10,304,000.00	2,463,000.00	6,031,000.00	2,463,000.00
Standard deviation	846,373.99	251,538.19	331,699.45	230,384.72
Number of observations	576	576	488	410

$CF_{i,t}$ = free cash flow to equity for firm i at time t; $NI_{i,t-x}$ = net income for firm i at time t-x.
Data are in thousands of euros.

Table 3 – Correlation matrix

PANEL A - IFRS sample

	CF_t	NI_{t-1}	NI_{t-2}	NI_{t-3}	CI_{t-1}	CI_{t-2}	CI_{t-3}	OCI_{t-1}	OCI_{t-2}	OCI_{t-3}
CF_t										
NI_{t-1}	0.34***									
NI_{t-2}	0.37***	0.75***								
NI_{t-3}	0.22***	0.52***	0.69***							
CI_{t-1}	0.28***	0.90***	0.56***	0.39***						
CI_{t-2}	0.37***	0.72***	0.88***	0.45***	0.52***					
CI_{t-3}	0.25*+*	0.38***	0.57***	0.89***	0.24***	0.31***				
OCI_{t-1}	-0.10***	-0.06**	-0.30***	-0.23***	0.38***	-0.33***	-0.27***			
OCI_{t-2}	0.05	0.06**	-0.07***	-0.41***	0.01	0.41***	-0.47***	-0.11***		
OCI_{t-3}	0.17***	-0.09***	0.03	0.18***	-0.17***	-0.11***	0.61***	-0.19***	-0.30***	

$CF_{i,t}$ = free cash flow to equity for firm i at time t; $NI_{i,t-x}$ = net income for firm i at time t-x; $CI_{i,t-x}$ = comprehensive income for firm i at time t-x; $OCI_{i,t-x}$ = other comprehensive income for firm i at time t-x. **, *** p-value < 5%, 1% respectively.

PANEL B – Domestic GAAP sample

	CF_t	NI_{t-1}	NI_{t-2}	NI_{t-3}
NI_{t-1}	0.06			
NI_{t-2}	0.24***	0.82***		
NI_{t-3}	-0.78***	0.31***	-,201***	
NI_{t-4}	-0.33***	0.84***	0.90***	0.72***
NI_{t-5}	-0.89***	0.85***	0.84***	0.88***
NI_{t-6}	0.08	0.54***	0.32***	0.30***

$CF_{i,t}$ = free cash flow to equity for firm i at time t; $NI_{i,t-x}$ = net income for firm i at time t-x. **, *** p-value < 5%, 1% respectively. *** p-value < 1% .

Table 4 – Summary statistics from regressions of cash flow on lagged net income

$$CFO_{i,t} = IFRS \times [\alpha_0 + \sum_{x=1}^{n} \alpha_x NI_{i,t-x}] + DGAAP \times [\beta_0 + \sum_{x=1}^{3} \beta_x NI_{i,t-x}] + \varepsilon_{i,t} + \omega \, country + \omega \, year \qquad (1)$$

	PANEL A – IFRS SAMPLE			PANEL B – Domestic GAAP SAMPLE
	(a)	(b)	(c)	(d)
DGAAP				55.67 (0.00)
IFRS	380,710.09*** (4.06)	436,484.99*** (4.28)	-69,345.45 (-0.63)	
NI_{t-1}	0.81*** (14.21)	0.36*** (4.16)	0.31*** (3.39)	-0.57 (-1.27)
NI_{t-2}		0.53*** (7.02)	0.76*** (8.11)	0.90** (2.01)
NI_{t-3}			-0.18*** (-2.77)	-0.40 (-1.06)
Country indicators	Yes	Yes	Yes	Yes
Year indicators	Yes	Yes	Yes	Yes
Adj. R^2	13.7%	16.5%	19.7%	5%
N	1,454	1,454	1,181	410

$CF_{i,t}$ = free cash flow to equity for firm i at time t; $NI_{i,t-x}$ = net income for firm i at time t-x; IFRS = a dummy variable set to one for firms reporting under IFRS, zero otherwise; DGAAP = a dummy variable set to one for firms reporting under domestic GAAP, zero otherwise; n = number of years, up to three.
**, *** p-value < 5%, 1% respectively. T-statistics for coefficients are in ( ). Results are robust to hetereoskedasticy.

Table 5 – Summary statistics from regressions of cash flow on lagged comprehensive income

$$CF_{i,t} = IFRS \times [\gamma_0 + \sum_{x=1}^{n} \gamma_x CI_{i,t-x}] + \varepsilon_{i,t} + \psi \, country + \psi \, year \qquad (2)$$

	(a)	(b)	(c)
IFRS	456,520.19	-35,141.18	-71,933.44
	(4.79)	(-0.37)	(0.64)
CI$_{t-1}$	0.63***	0.28***	0.25***
	(11.52)	(4.48)	(3.72)
CI$_{t-2}$		0.57***	0.58***
		(10.45)	(9.74)
CI$_{t-3}$			0.20***
			(4.93)
Country indicators	Yes	Yes	Yes
Year indicators	Yes	Yes	Yes
Adj. R^2	9.9%	16.2%	20.9%
N	1,454	1,454	1,181

$CF_{i,t}$ = free cash flow to equity for firm i at time t; $CI_{i,t-x}$ = comprehensive income for firm i at time t-x; n = number of years, up to three.
*, **, *** p-value < 10%, 5%, 1% respectively. T-statistics for coefficients are in ( ). Results are robust to hetereoskedasticy.

Table 6 – Summary statistics from regression of cash flow on current and lagged net income and other comprehensive income.

$$CFO_{i,t} = IFRS \times [\delta_0 + \sum_{x=1}^{3} \delta_x NI_{i,t-x} + \sum_{x=1}^{3} \delta_{3+x} OCI_{t-x}] + \vartheta \; country + \vartheta \; year + \varepsilon_{i,t} \qquad (3)$$

	IFRS	NI_{t-1}	NI_{t-2}	NI_{t-3}	OCI_{t-1}	OCI_{t-2}	OCI_{t-3}
	-103,273.44	0.32***	0.84***	-0.15**	0.49***	0.61***	0.78***
	(0.24)	(3.45)	(8.72)	(-2.14)	(3.29)	(4.68)	(8.77)
Country indicators	Yes						
Year indicators	Yes						
Adj. R²	24.7%						
N	1,181						

$CF_{i,t}$ = free cash flow to equity for firm i at time t; $NI_{i,t-x}$ = net income for firm i at time t-x; $OCI_{i,t-x}$ = other comprehensive income for firm i at time t-x.
*, *** p-value < 10%, 1% respectively. T-statistics for coefficients are in ( ). Results are robust to hetereoskedasticy.

Table 7 – Summary statistics from regression of cash flow on current and lagged net income, change in available-for-sale-assets and remaining other comprehensive income

$$CFO_{i,t} = IFRS \times \left[\omega_0 + \sum_{x=1}^{3}\omega_x NI + \sum_{x=1}^{3}\omega_{3+x}CHAFS_{t-x} + \sum_{x=1}^{3}\omega_{6+x}ROCI_{t-x}\right] + \pi\ country + \pi\ year + \varepsilon_{i,t} \qquad (4)$$

IFRS	NI_{t-1}	NI_{t-2}	NI_{t-3}	$CHAFS_{t-1}$	$CHAFS_{t-2}$	$CHAFS_{t-3}$	$ROCI_{t-1}$	$ROCI_{t-2}$	$ROCI_{t-3}$
-35,486.95	-0.21*	1.03***	0.24***	0.31*	0.33	-0.06	1.51***	2.81***	-0.91
	(1.69)	(9.04)	(2.69)	(1.76)	(1.39)	(-0.27)	(3.33)	(5.34)	(0.13)

Adj. R²	N	Country indicators	Year indicators
32.0%	621	Yes	Yes

$CF_{i,t}$ = free cash flow to equity for firm i at time t; $NI_{i,t-x}$ = net income for firm i at time t-x; $OCI_{i,t-x}$ = other comprehensive income for firm i at time t-x; $CHAFS_{t-x}$ = changes in value of available-for-sales financial instruments, $ROCI_{t-x}$ = remaining other comprehensive component.

*, **, *** p-value < 10%, 5%, 1% respectively. T-statistics for coefficients are in ( ). Results are robust to hetereoskedasticy.