



# The (un)usefulness of comprehensive income in explaining future cash flows: evidence from Italy

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*ABSTRACT: The issue of the IAS 1 revised has introduced in the financial statements IFRS complaints, from 2009, a new measure of firm performance: the Comprehensive Income. This kind of measure has always been intended by the literature to be more predictable of future performance than the simple net income, as its components represent part of the next firm earning, making it a guide for investors. Indeed, because the Comprehensive Income includes more than the Profit and Loss (P/L) revenues just recognized but not yet realized, it is considered better than P/L to predict the future firm operating performance. As the main scope of the IASB Financial Statement is to allow users to predict the cash generating ability, the aim of this research was to investigate whether the Comprehensive Income and/or its individual components, is/are useful in explaining the future cash flows for Italian listed companies, after its implementation between 2008-2010 (the 2008 data are collected from 2009 financial statements). Specifically, on a sample of 146 Italian, financial and non financial, companies listed in the Italian Stock Exchange, we tested the ability first of the Comprehensive Income, and then of its individual components, aggregated and as single elements, to analyze future cash flows occurring on one-year-ahead and two-year-ahead. Our research stands out from others on the same topic because we employed the fixed-effect regression model which allows for both firm-specific variations in cash flow data and time trends in cash flow levels during the test period. Our results stress that Comprehensive Income is not relevant to explain future cash flows, while net income and some individual elements of Other Comprehensive Income item seem to be more relevant to explicit the future financial position. On the other hand, we find a negative association between OCI and future cash flow. Similar are the results depending on whether we consider the cash flows on one-year-ahead or two-year-ahead. These findings demonstrate the inadequacy of the instruments and methods used to estimate asset values when they depends on FV criterion and the lack of consistency of IAS 1 revised, that oblige to separate P/L from OCI without giving a definition either of them, or of recycling mechanism. In conclusion, CI betrayed the expectations because it makes more complex and consequently less clear the representation of economic performance provided to the annual reports' users. The higher complexity of financial information deriving from these new rules is not acceptable as it doesn't improve the financial statement capability to inform on the cash generating ability of the firm.*

## 1. Introduction and background

In 2007, the IASB revised the IAS 1 *Presentation of Financial Statements*: it required to present annually from 2009 onwards a new bottom line in addition to the traditional measure of earnings (Profit and Loss, P/L) within the income statement, the Other Comprehensive Income (OCI). The OCI includes unrealized items, as we will clarify in the following section, that are not part of the P/L, but that are added to it, giving the user a bigger, more comprehensive picture of the entity performance, actual and perspective.

In other words, the OCI mainly includes changes in fair value of some items that are excluded from the determination of the net income, as the probability that those values will be realized in a direct and immediate way is lower, but they are still considered important in predicting the future firm operating performance.

In fact, if the high use of the fair value accounting in IAS/IFRS has greatly increased in previous years, it is just due to the Board will to achieve the Financial Statement perspective ability.

Specifically, the IASB states that the main scope of the Financial Statement is to allow users to assess the entity cash generating ability, that is the prospects for future net cash inflows to an entity in regards to the amount, the timing and the uncertainty of these to occur (*Framework* IASB, 2010, par. OB3). In this view, the Comprehensive Income is the earnings figure that, better than Profit and Loss, includes unrealized gains/losses and should inform on the future cash flows, as already stressed in other standards (FASB, SFAS n. 130, par. 12, 1997; ASB, FRS n. 3 par. 1, 1992)

Based on these assumptions, in this research we focused our attention on the ability of the Comprehensive Income to predict the expected cash flows.

The importance of cash flow data to assess a corporation's liquidity and solvency is something well known. Cash flow predicting is a fundamental factor for the investment community, both corporate owners and creditors, not only as a direct measure of return of investment, but also because future cash flows are essential in assessing the firm value as reflected in share prices (BARTH ET AL., 2001).

Our research would contribute to the international debate on the (un)usefulness of the new statement of CI to predict expected cash flows, and more generally in the international debate on the role of the IFRSs in improving the Financial Statements information ability for users, particularly in countries where the accounting systems are extremely different from those in Anglo-American countries (JOO-LANG, 1994; La PORTA ET AL., 1997; NOBES, 1998, 2006; ALI-HWANG, 2000; MACCHIONI ET AL., 2013; DEAN ET AL., 2013).

Italy, in fact, is classified in the European Continental cluster characterized by a legal system of civil law mainly oriented to the protection of the outsiders (creditors, in particular), guaranteed principally by the use of the prudence principle in the accounting evaluation and that is difficult to change to accommodate the IFRSs (ZAMBON, 1996, RICCABONI AND DI PIETRA, 2003, MACCHIONI, 2007). Furthermore, few diffused owner structures imply that the primary readers of the balance sheet are lenders rather than revenue authorities (DEVALLE ET AL., 2010).

Based on these assumptions, the aim of this paper is to examine whether the Comprehensive Income is useful in explaining the future cash flows for Italian listed companies after its implementation, between 2008-2010, considering also that the other studies on the Italian context are focused mainly on the effects of the CI introduction with regard either the reporting choice or the value relevance. In accordance with other studies stating that the predictability of earnings increases when considering its disaggregated components (BARTH ET AL., 2001; AL-ATTAR AND HUSSAIN, 2004), we tested whether a decomposition analysis of the CI in its individual components would help users to assess future corporate cash flows.

This is achieved by observing the explanatory power of current available financial reporting data (comprehensive income, other comprehensive income or its individual components) in relation to future cash flows occurring one-year-ahead and two-year-ahead.

Considering methodology, our research stands out from others on the same topic because we employ the fixed-effect regression model which allows both for firm-specific variations in cash flow data and time trends in cash flow levels during the test period, providing more reliable results than the OLS regression (HISIAO, 2003).

Section II reviews prior studies on the predictability of CI as well as the related academic literature. Section III describes our sample and data. Section IV presents the results of our empirical analysis. Section V provides a conclusion.

## 2. Previous studies and hypothesis

### 2.1. Literature review

The ability of earnings to predict future cash flow has been stated by the FASB since 1978 (FASB 1978, par. 37-39) and the issue has been deeply investigated by many studies. Initially, research directly investigating this issue had mixed results: Bowen, Burgstahler, and Daley (1986) failed to find that aggregate earnings provides better predictions of future cash flows than past cash flow. In contrast, Greenberg, Johnson, and Ramesh (1986) concluded that aggregate earnings have more predictive ability than cash flow and Finger (1994) found that cash flow is marginally superior to aggregate earnings for short prediction horizons; however, earnings and cash flow perform equally well for longer horizons. Moreover, Burgstahler, Jiambalvo, and Pyo (1998) found that cash flow has more predictive ability than aggregate earnings.

The studies on the predictive power of disaggregated earnings are more interesting, because they provide a better indicator than their aggregate result. The model specified by Dechow et al. (1998), which represents the cash flows as a function of earnings and net operating cash flows resulting from combining the cash inflows from uncollected sales and the cash outflows from unpaid purchases, suggested that current aggregate earnings are the best estimate of future cash flows. Furthermore the work of Lorek and Willinger (1996) focused on quarterly rather than annual amounts and found that accruals have predictive ability incremental to cash flow. Barth et al. (2001) made an extended analysis on this relationship. In particular, their study revealed that current cash flow has more predictive ability for future cash flows than current aggregate earnings. However, this superiority isn't present when the earnings are disaggregated into cash flow and the components of accruals, as the various accrual components of earnings, capture different information not only about delayed cash flows related to past transactions, but also about expected future cash flows related to management's expected future activity. More recently, Al-Attar and Hussain (2004) analysed a UK companies' sample and concluded that there appear to be significant gains to the disaggregation of corporate earnings into cash flows and accrual components. While they confirmed that current cash flows are a better predictor of future cash flows than current aggregate earnings, the data obtained from the combination of cash flow and accruals generated the greatest explanatory power.

As the comprehensive income is the result of the sum of net income and particular elements deriving directly from financial statement accruals, a sort of extended accounting data, the studies about this latter issue could be related to the study of the relationship between comprehensive income and future cash flow. Specifically, while in the previous studies the subject of the research was the role of the accrual components, that are the discretionary elements evaluated by the management (BADERTSCHER ET AL., 2012), to predict future cash flows, considering the (Other) Comprehensive Income the focus of the current study is on accruals components that come from market evaluations to

predict future cash flows. In this sense, the elements of the (Other) Comprehensive Income should be more efficient (more reliable) to assess the future performance.

While the studies on the value relevance of comprehensive income are numerous and from different contexts, there are few empirical studies on the predictive power of comprehensive income and its individual components for future cash flows, especially with regard to IFRS countries. This seems quite strange, because it is well known that the financial dimension and the perspective approach are two milestones in the financial statement IASB model. Indeed, as already stated, the aim of the financial statement, following the IASB model, is clearly the cash generating ability, intended as the actual capacity of the firm to produce future cash flows (Framework IASB, 2010, par. OB3). In recent years we have observed that the recognition of expected profit (by the fair value) has been increased to enlarge the “perspective charge” of the financial statement. If (i) the variation of an element of the balance sheet embeds a future financial flow (following e.g. the IASB definition of assets and liabilities) and if (ii) the Comprehensive Income is an income representation that contains, more than the Profit/Loss, the earned but unrealized gains, so the CI should show a higher predictive power of the future financial firm performance.

Most academic studies dealing with (other) comprehensive income investigate the ways of representing this measure of performance and the relevance of comprehensive income compared to net income for the prediction of future stock prices.

The first area of studies presents some descriptive and theoretical research which analyses the ways of representing comprehensive income ( to investigate its effects on the analysts valuations (HIRST AND HOPKINS, 1998 - MAINES AND MCDANIEL, 2000), but also to understand and explain the reasons underlying these evaluations principally in the USA context (CAMPBELL, CRAWFORD AND FRANZ, 1999 - BHAMORNSIRI AND WIGGINS, 2001 - JORDAN AND CLARK, 2002 - PANDIT AND PHILLIPS, 2004 – LEE ET AL., 2006 - PANDIT, RUBENFIELD AND PHILLIPS, 2006 – BAMBER ET AL., 2010 - FITZPATRICK, RAJU AND TOCCO, 2010). Recently there has also been some descriptive and theoretical research in the European context, after the introduction of IFRS 1 in the 2009 financial statements (QUAGLI, 2009 – D’ESTE AND FELLEGARA, 2009 - PISANI, 2011 - FERRARO, 2011 - CIMINI, 2012 - INCOLLINGO AND DI CARLO, 2012)

The second aspect under examination is often referred to as “value relevance” and also represents an attribute of earnings quality (DECHOW AND SCHRAND, 2004). A comprehensive overview of these studies is given by Thinggaard, Wagenhofer, et al. (2006) who listed studies performed worldwide until 2006. More recently, new studies analysing the USA context (CHAMBERS ET AL., 2007) and the French one (RAMOND, BATSCH AND CASTA, 2007), showed a high correlation between the disclosure of comprehensive income and the stock return and confirmed the value relevance of this new performance measure. On the contrary, in another study analysing the German context (ERNSTBERGER, 2008) this correlation is missing. Moreover, in the last years there have been numerous studies about this topic in the Italian context (AZZALI ET AL., 2012, VELTRI AND FERRARO, 2012, MECHELLI, 2011), with the same results of the german context. Although the results in this field of research are varied and often depend on the nationality of analysed societies, there are many studies on comparing different context (MECHELLI, 2012, FIORI ET AL., 2012), and the sector where they operates (CIMINI AND MECHELLI, 2012, BRIMBLE AND HODGSON, 2004), the overall finding is that net

income is often a more useful measure in terms of value relevance than comprehensive income.

The predictive power of Comprehensive Income has mainly been investigated in two different ways: as a general predictor of the future firm performance and as a specific predictor of future cash flows. The first kind of investigation, related to USA and European firms, finds a higher predictive ability of comprehensive income over net income in anticipating future economic results (BIDDLE AND CHOI, 2006 – CHOI AND ZANG, 2006 – PRONOBIS AND ZULCH, 2011). On the other hand, the results of the empirical studies on the predictive power of Comprehensive Income for future cash flows are different. The research conducted by Dhaliwal, Subramanyan, and Trezevant (1999) on USA enterprises concluded that net income predicts future operating cash flows better than comprehensive income, while Kanagaretnam, Mathieu, and Shehata (2009) observed a better predictive power of current period's comprehensive income over net income for future net income, future comprehensive income and future operating cash flows in the Canadian societies. The studies of Wang (2006) and Goncharov and Hodgson (2011) which focused on European firms also confirm the stronger predictive power of net income over comprehensive income; however, while Wang focused on local GAAP numbers, Goncharov and Hodgson replicated their tests by differentiating between local GAAP and IFRS..

In conclusion, it becomes clear that the examination of comprehensive income's predictive power of future cash flows needs further clarification. Moreover, it's important to note that there isn't any research on the predictive power of IFRS income kinds in a homogeneous economic setting, which would avoid the influence of specific countries' differences on the results, that could have affected previous empirical studies in the IFRS context (GONCHAROV AND HODGSON, 2011).

## **2.2. Hypotheses**

In accordance with the contents of previous sections, the increased prominence of (other) comprehensive income shall improve the predictability of future firm performance.

More specifically we concentrated our observations on the operating performance because we wanted to prevent abnormal elements, including the fiscal effect or profit and loss that come from contingent transactions (such as selling of an asset) or from funding operations, from affecting our results. Our study was perfectly consistent with previous studies that always considered values that reflect a proxy of the operating firm performance.

Due to the fact that the concept of future firm operating performance cannot be measured directly, an operational definition was obtained to predict future period's operating cash flows as prominent variables of firm performance. The theoretical claim about an increased prominence of (other) comprehensive income in reporting is transformed into an operational definition which assumes that financial statement users will replace net income with (other) comprehensive income as the key earnings measure in their analyses.

Now an empirical analysis can be performed in order to assess whether the independent variable comprehensive income can explain the dependent variables future period's operating cash flows. If this link between the two defined operational definitions

is confirmed by empirical evidence, then inferences about the usefulness of the different income numbers for predicting future period's operating cash flows can be drawn. In other words, the relationship between accounting information and future firm operating performance becomes directly observable.

Then, in accordance with other empirical research that demonstrates how the decomposition of earnings increases the ability to assess expected cash flows, we also analysed whether the discrete OCI components have a positive association with the future financial position.

Based on these statements, we have constructed the following hypotheses:

H1: Comprehensive income has a predictive power for future operating cash flows.

(H2: Net Income has a predictive power for future operating cash flows).

H3: The sum of all OCI components has a predictive power for future operating cash flows.

H4: Each individual component of other comprehensive income has a predictive power for future operating cash flows.

We also tested the H2 because we wanted to exclude that the earnings measurement is not always related to the future cash flows.

### **3. Methodology**

#### ***3.1. Sample selection***

The empirical analysis was conducted on a sample of 146 Italian listed companies, 121 non-financial and 25 financial. We examined only listed companies because only these are required to represent the Statement of comprehensive income in accordance with the IAS 1-revised, stressing the CI measure.

The sample was randomly selected (by a random sampling technique) on Borsa Italiana and its size calculated by putting the confidence level at 95% and confidence interval at 5% (SAUNDERS ET AL., 2009).

The test period was between 2008-2010. Actually, the IAS 1-revised has been effective since the 1st of January 2009, so for our research we observed data from 2009, 2010 and also the 2008 because the CI figure is represented in the balance sheet as comparative information. We have not considered data from 2011 because the model specified (as will be seen later) considered the dependent variable (cash flows) at t period and the independent variables (earnings and its disaggregated elements) at t-1 period, which means the latest free cash flows data disposables are those of 2011 so we have limited our observation of the predictors to 2010.

#### ***3.2. Model specification***

To examine the power of the Comprehensive Income and its components to predict future free cash flows, we specified the following fixed-effect regression models to test our hypotheses.

To verify H1 (the ability of the CI to predict the future cash flows), H2 (the ability of the P/L to predict the future cash flows), and H3 (the ability of the OCI to predict

the future cash flows), we specified the following models, the first four model verify the predictability of CI one-year-ahead, the second four two-year-ahead:

$$\begin{aligned}
 [1] \quad & \text{NFCFO}_{it} = \beta_0 + \beta_1 \text{CI}_{it-1} + \alpha_i + \varepsilon_{it} \\
 [2] \quad & \text{NFCFO}_{it} = \beta_0 + \beta_1 \text{P/L}_{it-1} + \alpha_i + \varepsilon_{it} \\
 [3] \quad & \text{NFCFO}_{it} = \beta_0 + \beta_1 \text{P/L}_{it-1} + \beta_2 \text{OCI}_{it-1} + \alpha_i + \varepsilon_{it}
 \end{aligned}$$

To verify H4 (the ability of single OCI components to predict the future free cash flows), we specified the following model [3] that we may write as the model [4].

$$\begin{aligned}
 [4] \quad & \text{NFCFO}_{it} = \beta_0 + \beta_1 \text{P/L}_{it-1} + \beta_2 \text{HEDGE}_{it-1} + \beta_3 \text{PENS}_{it-1} + \beta_4 \text{FOREX}_{it-1} + \\
 & \beta_5 \text{AFS}_{it-1} + \beta_6 \text{EQMETH}_{it-1} + \beta_7 \text{OTHER}_{it-1} + \alpha_i + \varepsilon_{it} \\
 [5] \quad & \text{NFCFO}_{it} = \beta_0 + \beta_1 \text{CI}_{it-2} + \alpha_i + \varepsilon_{it} \\
 [6] \quad & \text{NFCFO}_{it} = \beta_0 + \beta_1 \text{P/L}_{it-2} + \alpha_i + \varepsilon_{it} \\
 [7] \quad & \text{NFCFO}_{it} = \beta_0 + \beta_1 \text{P/L}_{it-2} + \beta_2 \text{OCI}_{it-2} + \alpha_i + \varepsilon_{it} \\
 [8] \quad & \text{NFCFO}_{it} = \beta_0 + \beta_1 \text{P/L}_{it-2} + \beta_2 \text{HEDGE}_{it-2} + \beta_3 \text{PENS}_{it-2} + \beta_4 \text{FOREX}_{it-2} + \\
 & \beta_5 \text{AFS}_{it-2} + \beta_6 \text{EQMETH}_{it-2} + \beta_7 \text{OTHER}_{it-2} + \alpha_i + \varepsilon_{it}
 \end{aligned}$$

Clearly, our analysis is limited to observe the predictability of CI and its single components one-year-ahead and two-year-ahead, even if it is known that the non-monetary components might have an effect on future cash flows over a period of more than two years as considered by us. However, as there are only a few years that the CI has been introduced, we not had sufficient data for a time-series analysis.

We defined all the variables included in the models in Table 1.

• **Table 1 - Definition of variables**

<i>Variables</i>	<i>Definition of variables</i>
NFCFO	Net free cash flow from operation/Total Asset ( <i>source: Datastream</i> )
P/L	Profit and Loss/Total Asset ( <i>source: Datastream</i> )
CI	Comprehensive income /Total Asser
HEDG	Current gain or loss on cash flow hedges or on hedging instruments of a net investment in a foreign operation/Total Asset
FORTTRANS	Current foreign currency translation adjustment/Total Asset
AFS	current unrealized gain or loss on re-measuring available-for-sale financial assets/Total Asset
PENS	Current actuarial gain or loss on defined benefit pension obligations/Total Asset
OTHER	Other gain and loss on other assets/Total Asset
EQMETH	Gain and loss on the equity methods/Total Asset,
OCI	Other comprehensive Income, measured as the sum of HEDG, FORTTRANS, AFS, PENS, OTHER, EQMETH
$\beta_0, \dots, \beta_n$	Regression coefficient
$\alpha$	Unknown intercept of firms
$\varepsilon$	Error term

As seen from Table 1, one part of the data were collected from the *Datastream* database while the other part were hand-collected from the balance sheets of the single companies.

Moreover, the figures that we used are very inconsistent with each other because they depend on the entity's investments, therefore we decided to weigh the date in relation to the investments, measured as the total asset of each entity.

In our model we used a panel dataset, so we employed the fixed-effect regression because we wanted to reduce the problem of the pooled methods.

The OLS regression, in fact, assumes that model parameters remain constant across all the firms, but the presence of systematic differences between firms could imply that the disturbance terms across the whole dataset will fulfill the assumption required for OLS estimation. In other words, as each entity has its own individual characteristics that may or may not influence the predictor variables (i.e. the business practices of a company may influence its stock price), the fixed effect removed the effect of those time-invariant characteristics from the predictor variables so we could assess the predictors' net effect. With specific regard to the object of this study, it is known that firm-specific accounting policy choices and/or the issue of industry-specific cash cycles could impact on corporate financial position, so we preferred to employ a regression model that might reduce the problems of disturbance terms produced by those time-invariant firm characteristics (GREEN, 1997).

On the base of the previous assumptions, it is evident that the limit of this method is that it is impossible to include in the model regressors assuming a constant value inside of observations relating to individual, because might imply collinearity problem and the inefficiency of the estimators (HISIAO, 2003).

We selected the fixed-effect method over the random-effect method on the base of the results of the Hausman test.

Our analysis was conducted to recognize a linear model between future cash flows and the income or the comprehensive income or OCI measure and the single OCI components. At this scope, we analysed whether the comprehensive income/income/OCI, first, and the single OCI components, second, are able to predict the future cash flows.

## **4. Empirical findings**

### ***4.1. Descriptive statistics and correlation matrix***

The summary of the descriptive statistics of the variables included in the models are presented in Table 2 below. The overview shows that the majority of the Italian listed companies have a positive net free cash flow from operations, a positive income and a positive comprehensive income. Also the OCI is prevalently positive as stressed by the result that the Comprehensive income is higher than the pretax income on average. Nevertheless, as it can be seen in Table 2, even if we have a positive figure, based on the median it might be observed that half of the companies in the sample have a negative OCI and the other half have a positive OCI. Moreover, the descriptive statistics demonstrate that some of the OCI components present a positive sign, such as FORTRANS, EQMETH, OTHER, while some others, such as HEDG, AFS, PENS, on average, have a negative effect on the Comprehensive income measure. Nevertheless, observing the median of AFS, PENS, EQMETH it might be seen that just less than half of the sample of companies accounts for this kind of figure. In fact, the median, the 25th and

the 75th percentiles are zero. Our findings for HEDG, AFS, PENS are consistent with the previous studies conducted on US (DHALI WAL ET AL., 1999) and Canadian (KANAGARETNAM ET AL., 2009) OCI data and the previous studies on IFRS OCI data (ERNSTBERGER, 2008; GONCHAROV AND HODGSON, 2011). However, for the FORTRANS, our results are consistent with previous studies conducted on US and Canadian OCI data, but are in contrast with studies conducted on IFRS OCI data. As it's well known, the recognition of the real economic meaning of this component is strongly debated (PINTO, 2005).

• **Table 2 - Describing data**

<i>Panel A: Descriptive statistics</i>						
<i>Variables</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>25%</i>	<i>50%</i>	<i>75%</i>	<i>No. Obs.</i>
NFCFO	.0449259	.0910671	.0071899	.0431567	.085463	438
P/L	.016012	.1040831	-.0036767	.0207829	.0613465	438
CI	.0188601	.1437467	-.0025457	.0249301	.0667472	438
BTM	1.805845	6.154824	.8	1.24	2.04	438
DPS	.1886758	.2738965	0	.08	.24	438
HEDG	-.0065392	.0897913	-.0006146	0	0	433
FORTRANS	.0011989	.0151227	-.0000445	0	.001861	431
AFS	-.0007564	.0059696	0	0	0	438
PENS	-.0002881	.0023728	0	0	0	437
EQMETH	.0000318	.0014815	0	0	0	438
OTHER	.0001932	.001943	0	0	0	438
OCI	-.0061036	.0914452	-.0033946	0	.0043061	438

<i>Panel B: Correlation matrix (Pearson)</i>											
<i>Variables</i>	NFCFO	P/L	CI	BTM	DPS	HEDG	FORTRANS	AFS	PENS	EQMETH	OTHER
NFCFO											
P/L	0.5703***										
CI	0.2998***	0.5814***									
BTM	0.0172	-0.0414	-0.0680								
DPS	0.1978***	0.2495***	0.2175***	0.0092							
HEDG	0.0161	0.0677	0.6927***	-0.0008	0.0479						
FORTRANS	0.0161***	-0.0885**	0.2660***	-	-	0.0356					
AFS	-0.0133	0.0431	0.0918*	0.2662***	0.0099	-0.0068	0.1041**				
PENS	-0.0216	0.071	0.0834*	0.1384***	0.0023	-0.0020	0.0844*	0.1066**			
EQMETH	-0.0604	0.0079	0.0203	-0.0093	-	0.0009	0.0048	0.0497	0.0432		
OTHER	0.0958**	0.0360	0.0404	0.0010	0.0458	-	0.0178	0.0009	-0.0413	0.0319	
OCI	-0.0096	0.0572	0.7205***	-0.0530	0.0066	0.0450	0.9818***	0.2082***	0.079	0.0447	0.0229

Panel B shows the correlation matrix of the variables considered in this study.

NFCFO is significantly positively correlated with CI and P/L, in addition to FORTRANS. Even though it is not statistically significant, Panel B illustrates a negative correlation between our response variable and OCI as well as other components of this

(AFS, PENS, EQMETH), while it illustrates a positive correlation with HEDG and OTHER. For the independent variables considered in our regression models, although the correlation coefficients are not always significant, they are all below 0.60. Multicollinearity in regression analysis is considered harmful only when the coefficients exceed 0.8 (FIELD, 2000).

As known, the analysis of bivariate correlation coefficients is not a reliable indicator of the association between response variables and independent ones, so we also employed a regression analysis.

#### 4.2. Panel results and discussion

In this section we investigate the predictive gains to cash flows of the CI and its disaggregated components using the fixed-effect regression model.

Corporate expected cash flows were recorded as a lagged variable both in the period subsequent to measurement of the earnings variables and the two periods subsequent.

Table 3 shows the results of the regression analysis, considering only the robust coefficients.

• **Table 3 - Fixed-effect regression results one-year-ahead**

Model	[1]	[2]	[3]	[4]
	<i>Coeff. Robust (t-value)</i>	<i>Coeff. Robust (t-value)</i>	<i>Coeff. Robust (t-value)</i>	<i>Coeff. Robust (t-value)</i>
R-sq <sup>overall</sup>	9%	33%	30%	14%
F-test	0.40 (0.50)	7.03 (0.00)***	4.94 (0.00)***	6.79 (0.00)***
No. Obs.	438	438	438	438
<b>Variables<sup>1</sup></b>				
P/L	–	.2296683 (2.65)***	.2318626 (2.96)***	.2256203 (4.09)***
CI	-.0505944 (-0.63)	–	–	–
OCI	–	–	-.1028409 (-1.94)**	–
HEDGE	–	–	–	-.0654222 (-4.42)***
PENS	–	–	–	9.831192 (3.23)***
FOREX	–	–	–	-.5322188 (-1.74)*
AFS	–	–	–	-.2592811 (-0.51)
EQMETH	–	–	–	-13.33171 (-3.59)***
OTHER	–	–	–	1.232829 (2.05)**
Intercept	.0458802 (30.43)***	.0412483 (29.75)***	.0405855 (29.18)***	.0438041 (34.85)***

<sup>(1)</sup> All variables are normalized as divided for the total asset.

The Table demonstrates that the model [1], that tests the predictive ability of CI on NFCFO, is not significant at a statistical level; at the same time the model [2] shows that P/L is predictive of future NFCFO, being statistically significant at a conventional level. Therefore, we rejected H1, while we accepted H2. This result is not consistent with previous studies on CI predictive power. In the research on Anglo-Saxon countries (DHALI WAL ET AL., 1999, KANAGARETNAM ET AL., 2009) as well as those on European countries (WANG, 2006, GONCHAROV AND HODGSON, 2011) CI has always been renowned as a predictor of future cash flow. Our study shows that by modifying the culture of the analyzed country and focusing on a specific country, rather than a group, the results can change in a significant way.

The found predictability of P/L demonstrates that CI doesn't have a predictive power as an aggregate measure, however this power could be found in its individual components. Then, consistent with previous studies on the earnings predictability (BARTH, 2001 AND HUSSAIN, 2004), we tested the ability of earnings to assess expected cash flows by the decomposition of CI. The model [3] (statistically significant at a conventional level) shows that there is a positive association between P/L ( $p < 0.01$ ) and NFCFO and a negative association between the response variable and OCI ( $p < 0.05$ ). These results seem confirm that the disaggregated measure has more predictive ability than the aggregate measure and propose some interesting considerations on the topic of the sign of OCI association. Indeed, the negative relationship could be due to the effects of recycling. It is important to stress that OCI includes unrealized gains and losses that, in many cases, when realized are erased from the OCI and recognized as a P/L item. From our perspective, this could mean that we insert in the OCI elements that could alter the relevance of the new aggregate earnings as a cash flow predictor. Therefore, we accepted the H3.

The model [4] (statistically significant at a conventional level), explores more deeply the decomposition of CI and shows that there is a positive association between NFCFO and P/L ( $p < 0.01$ ), PENS ( $p < 0.01$ ) and OTHER ( $p < 0.05$ ); while there is a negative association between the response variable and HEDGE ( $p < 0.01$ ), FOREX ( $p < 0.1$ ) and EQMETH ( $p < 0.01$ ). The missed association between AFS and the NFCFO is quite strange, because of the nature of this OCI component. As the gains and losses recognized in AFS are strictly linked to the market, we expected that would have presented a high association with future cash flow: the absence of the latter could be justified by the presence of the financial crisis during the sample period or due to a general inefficiency of the measure. However, in this case we accepted H4.

• **Table 4 - Fixed-effect regression results two-year-ahead**

Model	[5]	[6]	[7]	[8]
	<i>Coeff.</i> <i>Robust</i> <i>(t-value)</i>	<i>Coeff.</i> <i>Robust</i> <i>(t-value)</i>	<i>Coeff.</i> <i>Robust</i> <i>(t-value)</i>	<i>Coeff.</i> <i>Robust</i> <i>(t-value)</i>
R-sq <sup>overall</sup>	10%	16%	15%	13%
F-test	0.29 (0.5905)	6.54 (0.01)**	5.63 (0.00)***	4.44 (0.00)***
No. Obs.	292	292	292	292

<i>Variables<sup>2</sup></i>				
P/L	–	-3457672 (-2.56)**	-3462992 (-2.74)***	-305266 (-2.10)**
CI	.0571146 (0.54)	–	–	–
OCI	–	–	.0946355 (2.72)***	–
HEDGE	–	–	–	.0678884 (3.07)***
PENS	–	–	–	2.422445 (0.53)
FOREX	–	–	–	.4565427 (1.48)
AFS	–	–	–	-.4045143 (-1.30)
EQMETH	–	–	–	1.870834 (0.37)
OTHER	–	–	–	.9031469 (0.82)
Intercept	.043759 (24.55)***	.0485049 (32.77)***	.092242 (33.06)***	.0474736 (21.54)***

In the Table 4 we observe the association between independent variables and NFCFO two year ahead.

In this case the results and considerations of the Table 3 are partially confirmed: the results of models [5],[6] and [7] are the same, while there are some differences in the model [8]. In the latter, indeed, we observe a positive association only between HEDGE and NFCFO, while all the other variables are not associated at a significant level.

Looking two years ahead, we can say that the H1 is not accepted, as the CI in its aggregate form has not predictive power of future cash flows, while the H2 and H3 are accepted, finding a predictive power in the two main components of CI, the P/L and the aggregated OCI. At the same time the H4 is only partially accepted, as there is only one component (HEDGE) that has predictive power of future cash flows.

Our results are not consistent with previous studies (PRNOBIS AND ZULCH, 2011), who find a decreasing predictive power of main performance measures time by time, but our results are based only on two years ahead findings, while these studies have longer time series.

## 5. Conclusion

The aim of this study was to examine if the CI is useful to predict future cash flows of Italian listed companies, following the IASB approach who underline the importance of this new kind of result because of its ability to predict future financial performances and considering that previous studies on this issue are few in number and contradictory.

Our results show (i) a missing association between CI and future cash flows, while it has been detected for the single disaggregated components of this measure. Nevertheless, this association has been positive for the P/L (ii) and mixed for the OCI (iii). Even-

<sup>(2)</sup> All variables are normalized as divided for the total asset

tually, for none of single OCI components has been detected a positive association with cash flows both one year ahead and two years ahead (ii).

In our opinion, these results could bring to two different interesting considerations. The first one is about the evidence given by the main aim of this study, that shows the inability of this new performance measure to provide information suitable to allow a prediction of future firm cash flows. This is quite surprising because it is in contrast with the theoretical framework underlying the IASB financial statement model: indeed, if CI includes all the variations of assets and liabilities values (while P/L just some of them) and if these elements are recognized and valued depending on their capability to generate or absorb future cash flows, it should show a predictive ability of these flows and this ability should be higher than that shown from the P/L.

In our opinion, this result should bring standard setters, scholars, preparers and users to ask themselves about the real methods of recognition and (above all) measurement of those assets whom variation are included in the OCI. If the relationship between the value of these elements in the financial statement and the future financial performance is missing, it should depend on the inadequacy of the instruments and methods used to define this value. In other words, the technical modalities applied to estimate the value of these assets seem to be not adequate to capture the real value, that will reveal at the moment of realization.

The second issue is the predictive power of OCI: the negative association of one year ahead and the connected positive association two years ahead bring to an uncertain result and this is a signal of the irrelevance of OCI as predictor of future financial performance. Also this empirical evidence seems going against the new statement of comprehensive income theoretical framework, according to which the OCI should allow a better information on the firm potential income.

The origin of this phenomenon should depend on the recycling mechanism who, as well known, is mandatory for some OCI components: the reclassification of a specific value from the OCI to the P/L following the application of this mechanism makes the OCI incapable to predict future cash flows, because of the "dilution" of that accrued economic values, who should find their financial transformation, caused by the realize value happened in the same period.

This result should stimulate standard setters to evaluate the opportunity to abandon the distinction between P/L and OCI, who seems to be poorly useful without a clear definition of the differences between the two measure (P/L and OCI) and in the presence of the recycling mechanism, that at the same time is valid only for some elements and is not explicated in the income statement.

Indeed, our results allow us to admit that the CI measure, introduced by the IAS 1 revised, doesn't seem to present a predictive ability of future financial performance: about this issue the IFRS role in improving the informative capability of financial statements appears questionable.

In addition, the ways of representation of CI could be subject to strong criticisms, as it is the sum of elements of different nature (accrued and realized elements, but also accrued and unrealized elements) and origin (elements originated in the firm's activity, but also elements originated in the market). Moreover, the mechanism of recycling, mandatory only for some OCI components and not for all of them, is not well explained in the actual structure of the (comprehensive) income statement, who needs a soon improve-

ment. This should consist in a strict definition of its components and a clear representation of recycling mechanism. Indeed, in the current evolution of IAS <sup>13</sup> the distinction between P/L and OCI, and consequently the recycling mechanism, does not make sense.

In conclusion, at this stage, the new CI betrayed the expectations: on one hand it has not improved the financial statement capability to inform on the cash generating ability of the firm, on the other hand, it made more complex and consequently less clear the representation of economic performance provided to the users by the financial statement.

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## References

- ALI A., HWANG L.S. (2000), "Country-Specific Factors Related to Financial Reporting and the Value Relevance of Accounting Data", in *Journal of Accounting Research*, 38 (1).
- AL-ATTAR A., HUSSAIN S. (2004), "Corporate Data and Future Cash Flows", in *Journal of Business, Finance and Accounting*, 31 (7) & (8).
- ASB (1992), *FRS 3 - Reporting Financial Performance*.
- AZZALI S., FORNACIARI L. AND PESCI, C. (2012), "Reddito d'impresa e value relevance per gli investitori", *Economia Aziendale Online*, Vol. 3, No. 1: 1-19.
- BADERTSCHER B.A., COLLINS D.W., LYS T.Z. (2012), "Discretionary accounting choices and the predictive ability of accruals with respect to future cash flows", in *Journal of Accounting and Economics*, 53, 1-2.
- BAMBER L.S., JIANG J., PETRONI K.R., WANG I. (2010), "Comprehensive Income: Who's afraid of performance reporting?", in *The Accounting Review*, 85, 1.
- BARTH M.E., LANDSMAN W.R., WAHLEN J.M. (1995), "Fair value accounting: Effects on banks' earnings volatility, regulatory capital, and value of contractual cash flows", in *Journal of Banking and Finance*, 19, pagg. 577-605.
- BARTH M.E., CARM D.P., NELSON K. (2001), "Accruals and the prediction of future cash flows", in *The Accounting Review*, 76.
- BHAMORNSIRI S., WIGGINS C. (2001), "Comprehensive income disclosures". in *The CPA Journal*, October.

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<sup>(3)</sup> As we know, the IASB project formerly named Performance Reporting Project and now Financial Statements Presentation Project has not been yet concluded.

- BIDDLE G., CHOI J.H. (2006), "Is comprehensive income useful?", in *Journal of Contemporary Accounting & Economics*, Vol. 2, n.1.
- BOWEN R.M., BURGSTAHLER D., DALEY L.A. (1986), "Evidence on the relationships between earnings and various measures of cash flow", in *The Accounting Review*, 61.
- BRIMBLE M. AND HODGSON A. (2004), "The Value Relevance of Comprehensive Income and Components for Industrial Firms", *Working Paper*, Griffith University, Brisbane, Australia.
- BURGSTAHLER D., JIAMBALVO J., PYO Y. (1998), "The informativeness of cash flows for future cash flows", Working paper.
- CAMPBELL, L., CRAWFORD D., AND FRANZ D.R. (1999), "How companies are complying with the comprehensive income disclosure requirements", in *CPA Journal* (Jan-Mar): 13-19.
- CHAMBERS D., LINSMEIER, T.J., SHAKESPEARE C., SOUGIANNIS, T. (2007), "An Evaluation of SFAS n. 130 Comprehensive income Disclosures", in *Review of Accounting Studies*, 12.
- CHOI J.H., ZANG Y. (2006), "Implications of Comprehensive Income Disclosure for Future Earning and Analysts' Forecasts", in *Seoul Journal of Business*, Vol. 12, No. 2, pagg. 77-109.
- CIMINI R. (2012), "La rappresentazione del comprehensive income in Italia: l'evidenza empirica nell'esercizio di prima applicazione dello IAS 1-revised", in *Rivista Italiana di Ragioneria e di Economia Aziendale*, n. 1/2.
- CIMINI R. AND MECHELLI A. (2012), "The value relevance of net income and comprehensive income in banks and other financial institutions", *III Financial Reporting Workshop (Naples, 14th - 15th June 2012)*.
- D'ESTE C., FELLEGERA, A.M. (2009), "Valore economico, fair value e redditi non realizzati. Prime evidenze empiriche della rendicontazione del comprehensive income in Italia", in *Financial Reporting*, n. 4, pp. 9-34.
- DEAN A.F., PALUMBO R., CAPALBO F., GARACE D., MOLLICA V. (2013), "Information Disclosure and Stock Liquidity: Evidence from Borsa Italiana", in *Abacus*, 49, 4, pp. 423-440.
- DECHOW P.M., KOTHARI S.P., WATTS R.L. (1998), "The Relations Between Earnings and Cash Flows", in *Journal of Accounting and Economics*, Vol. 25, pagg. 133-168.
- DECHOW P. M., SCHRAND C. M. (2004). *Earnings Quality*, Charlottesville.
- DEVALLE A., ONALI E., MAGARINI R. (2010), "Assessing the Value Relevance of Accounting Data After the Introduction of IFRS in Europe", in *Journal of International Financial, Management and Accounting*, 21.
- DHALIWAL D., SUBRAMANYAMAN K.E., TRESEVANT R. (1999), "Is comprehensive Income Superior to Net Income as a Measure of Firm Performance?", in *Journal of Accounting and Economics*, 26.
- ERNSTBERGER J. (2008), "The Value relevance of comprehensive income under IFRS and US GAAP: empirical evidence from Germany", in *International Journal of Accounting, Auditing and Performance Evaluation*, 5, 1.
- FAMA E. F., FRENCH K. R. (2000), "Forecasting Profitability and Earnings", in *Journal of Business*, Vol. 73, No. 2, pagg. 161-175.
- FASB (1978), *Statement of Financial Accounting Concepts No. 1 - Objectives of Financial Reporting by Business Enterprises*.
- FASB (1997), *SFAS 130 - Reporting Comprehensive Income*.
- FERRARO O. (2011), "Comprehensive Income in Italy: Reporting Preferences and Its Effects on Performance Indicators", in *Journal of Modern Accounting and Auditing*, Vol. 7, N. 12, 1325-1328.
- FIELD A. (2000), *Discovering Statistic using SPSS for window*, Sage, London.
- FINGER C.A. (1994), "The Ability of Earnings to Predict Future Earnings and Cash Flow", in *Journal of Accounting Research*, 32.
- FIORI G., TISCINI R., FASAN M. AND BARRIOS J.M. (2012), "Other comprehensive income and its determinants in Continental Europe", *35<sup>o</sup> EAA Annual Congress (Ljubljana, 9th -12th May 2012)*.
- FITZPATRICK B.D., RAJU S.S., TOCCO A. L. (2010), "Comprehensive Income Options: A Detriment To Transparency", in *International Business and Economics Research Journal*, 9, 8.
- GONCHAROV I., HODGSON A. C. (2011), "Measuring and Reporting Income in Europe", in *Journal of International Accounting Research*, vol. 10, n.1.
- GREEN W.E. (1997), *Econometric analysis*, Prentice-Hall, International Edition, NJ, 3rd Ed.
- GREENBERG R.R., JOHNSON G.L., RAMESH K. (1986), "Earnings versus cash flow as a predictor of future cash flow measures", in *Journal of Accounting, Auditing and Finance*, 1.
- HIRST D.E., HOPKINS P.E. (1998), "Comprehensive Income Reporting and Analysts's Valuation Judgements", in *Journal of Accounting Research*, 36.
- HISIAO C. (2003), *Analysis of panel data*, Cambridge University Press.
- IASB (2007), *IAS 1 Revised - Presentation of Financial Statement*.
- IASB (2010), *Conceptual Framework*.
- INCOLLINGO A., DI CARLO F. (2012), "IAS 1 revised e nuova rappresentazione della performance economica nel bilancio: evidenze empiriche da Italia e Francia", in *Financial Reporting*, n. 2.
- JOOS P., LANG M. (1994), "The Effects of Accounting Diversity: Evidence from the European Union", in *Journal of Accounting Research* 32.
- JORDAN C.E., CLARK S. (2002), "Comprehensive Income: How is it Being Reported and What are Its Effects", in *The Journal of Applied Business Research*, 18, 2.

- KANAGARETNAM K., MATHIEU R., SHEHATA M. (2009), "Usefulness of comprehensive income reporting in Canada", in *Journal of Accounting Public Policy*, 28.
- LA PORTA R., LOPEZ-DE-SILANES F., SHLEIFER A., VISHNY W. (1997), "Legal Determinants of External Finance", in *The Journal of Finance*, 52.
- LOREK K.S., WILLINGER G.L. (1996), "A multivariate time-series prediction model for cash flow data", in *The Accounting Review*, 71.
- MACCHIONI R. (2007), "Riflessioni su alcune proposte di modifica delle norme sul bilancio d'esercizio", in *Rivista Italiana di Ragioneria e di Economia Aziendale*, 107, 1/2.
- MACCHIONI R., SANNINO G., GINESTI G., DRAGO D. (2013), "Firms' disclosure compliance with IASB's management commentary framework: an empirical investigation", in *Rivista Italiana di Ragioneria e di Economia Aziendale*, 113, 7/8/9.
- MAINES L.A., MCDANIEL L.S. (2000), "Effect of Comprehensive Income Characteristics on Nonprofessional Investors' Judgments: the Role of Financial Statements Presentation Format", in *The Accounting Review*, 75, 2.
- MCCOY T.L., THOMPSON J.H., HOSKINS M.A. (2009), "Early evidence of the volatility of Comprehensive Income and its components", in *Academy of Accounting and Financial Studies Journal*, 13, Special Issue.
- MECHELLI A. (2011), "La value relevance del comprehensive income e dei suoi componenti: un'indagine empirica", in *Rivista Italiana di Ragioneria e di Economia Aziendale*, marzo-aprile.
- MECHELLI A. (2012), "The Value Relevance of Comprehensive Income and its Components in European Weak Equity Countries", 35° EAA Annual Congress (Ljubljana, 9th -12th May 2012).
- NOBES C. (1998), "Towards a General Model of the Reason for International Differences in Financial Reporting", in *Abacus*, 34.
- NOBES C. (2006), "The survival of International Differences under IFRS: Towards a Research Agenda", in *Accounting and Business Research*, 36(3).
- PANDIT G., PHILLIPS J. (2004), "Comprehensive income: reporting preferences of public companies", in *The CPA Journal*, 1st of november.
- PANDIT G., RUBENFIELD A., PHILLIPS J. (2006), "Current NASDAQ corporation methods of reporting comprehensive income", in *The American Journal of Business*, 21.
- PINTO J.A. (2005), "How Comprehensive is Comprehensive Income? The Value Relevance of Foreign Currency Translation Adjustments", in *Journal of International Financial Management and Accounting*, 2.
- PISANI M. (2011), "La struttura del Comprehensive Income Statement: le indicazioni del progetto congiunto IASB-FASB Financial Statement Presentation", in *Financial Reporting*, n.4.
- PRONOBIS P., ZÜLCH H. (2011), "The Predictive Power of Comprehensive Income and its Individual Components under IFRS", in *Problems and Perspectives in Management*, 4.
- QUAGLI A. (2009), "Il prospetto del Comprehensive Income nello IAS 1", in *Pratica Contabile*, n.12, pagg. 26-30.
- RAMOND O., BATSCH L., CASTA, J.F. (2007), "Résultat et performance financière en normes IFRS: Quel est le contenu informatif du comprehensive income?", in *Comptabilité - Contrôle - Audit*, dicembre.
- RICCABONI A. DI PIETRA R.(2012), "Il modello italiano di regolazione contabile: caratteri e recente evoluzione", in *Aa.Vv., L'armonizzazione dei principi contabili in Europa*, "Atti del Convegno Internazionale", Rimini, 12 aprile 2002, Casa Editrice Rirea, Roma, pagg. 59-98.
- SAUNDERS M., LEWIS P., THORNHILL A. (2009), *Research methods for business students*, Prentice Hall.
- THINGGAARD F., WAGENHOFER A., EVANS L., GEBHARDT G., HOOGENDOORN M., MARTON J., DI PIETRA R., MORA A., PEASNELL K., (2006), "Performance reporting. The IASB's proposed format of financial statement's in the Exposure Draft of IAS 1", in *European Accounting Review*, 3.
- VELTRI S., FERRARO O. (2012), "La value relevance incrementale dell'other comprehensive income rispetto al net income. Un'analisi sulle società quotate in Italia", in *Financial Reporting*, No. 3.
- WANG, Y., (2006), *Essays on the Relevance and Use of Dirty Surplus Accounting Flows in Europe*, Tilburg.
- YEN, A.C., E. HIRST, AND P. E. HOPKINS, (2007), "A Content Analysis of the Comprehensive Income Exposure Draft Comment Letters", in *Research in Accounting Regulation*, Vol. 19, pagg. 53-79.
- ZAMBON S. (1996), *Profili di ragioneria internazionale e comparata*, Cedam, Padova.