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► **To cite this version:**

Jean-François Casta, Olivier J. Ramond, Stephen W. Lin. Value Relevance of Summary Accounting Income Measures: Evidence from Major European Capital Markets. *La comptabilité, le contrôle et l'audit entre changement et stabilité*, AFC, Cergy-Pontoise (2008), May 2008, Cergy-Pontoise, France. pp.Actes on line. halshs-00681212

HAL Id: halshs-00681212

<https://shs.hal.science/halshs-00681212>

Submitted on 20 Mar 2012

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**Value Relevance of Summary Accounting Performance Measures:
Evidence from Major European Capital Markets**

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February 2008

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We acknowledge the helpful comments of the participants of the EAA 2007 30th Annual Congress held in Lisbon, Portugal, and the AAA mid-year IAS 2007 conference held in Charleston, USA.

**Value Relevance of Summary Accounting Performance Measures:
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Abstract

This study investigates the extent to which three key summary accounting performance figures, namely operating income, net income and comprehensive income, provide value-relevant information to investors in major EU capital markets. Using a large sample over the pre-IAS-compliance period (1992-2004), we find that all these three figures are statistically associated with share returns in any of the countries under analysis although disparities in the degree of 'usefulness' appear across samples. Our main results are then fourfold. We first provide evidence that net income is more informative than operating income in all the sample countries except UK. We also find that comprehensive income is less value-relevant than both net income and operating income in all the sample countries. Third, we show that aggregate other comprehensive income is value-relevant and generally provides incremental price-relevant information beyond net income. Finally, considering early adoption firms, we find that increased transparency on reporting other comprehensive income as required by International Accounting Standards and US GAAP may have warranted a stronger statistical association between share returns and comprehensive income. This last finding strongly supports the ideology underlying the IASB/FASB 'Performance Reporting' joint project, and provides evidence supporting Beaver's (1981) psychology-based financial reporting theory.

Keywords: Value-relevance, Comprehensive Income, Other Comprehensive Income, Performance Reporting

JEL Classification: M41, G12, G31

Data availability: All data are available from sources outlined in the text.

**Value Relevance of Summary Accounting Income Measures:
Evidence from Major European Capital Markets**

1. Introduction

In October 2003, the International Accounting Standards Board (IASB) and the US Financial Accounting Standards Board (FASB) (collectively, the Boards) formed a Joint International Group (JIG) whose objective is to lead up to a project that could establish new international accounting standards on reporting financial performance. This project was initially entitled "Performance Reporting: Reporting Comprehensive Income¹, and is mainly concerned with the presentation and disclosure of financial performance information in financial statements under the current US GAAP and International Accounting Standards (IAS). As argued by some academics and professionals (e.g. Linsmeier et al, 1997; Barker, 2004), this project is especially well-timed because the proliferation of alternative and inconsistent financial performance measures are prejudicial to high-quality financial reporting, which is not only essential to any well-informed investment decisions but is also propitious to efficient capital markets around the world.

The joint project deals with many issues relating to reporting financial performance that have not been addressed in other accounting standards. The most crucial but controversial issues include the format of statement of financial performance, performance components² that should be reported in the statement, and disclosure of other comprehensive income and its components. In practice, a variety of performance components and summary accounting performance measures, such as gross profit, operating income, net income, and comprehensive income etc, have been disclosed in different financial statements³ by firms

across different countries. Surprisingly, there is no clear guidance on what performance components and summary accounting performance measures should be disclosed and where in financial statements they should be disclosed in most of countries including US and UK. More surprisingly, some of the performance components and summary accounting performance measures reported in financial statements are not even clearly defined in accounting standards. For example, gross profit, operating income, net income, and other comprehensive income are all not clearly defined in US GAAP and International Accounting Standards (IAS). Summary accounting performance measures such as operating income and net income could be very important for unsophisticated and small investors because these investors do not have alternative information resources for investment decision making (Lin and Walker, 2000; Lin, 2006). In addition, they may not be able to understand increasingly complicated accounting disclosure in financial statements, and therefore need simple summary accounting performance measures to evaluate a firm's performance. Many studies also find that even sophisticated users of financial statements such as financial analysts use very simple summary accounting performance measures, such as earnings per share, when valuing a firm, although this practice has been increasingly challenged by some accounting standard setters, such as the ASB in the UK and the FASB in the US⁴. To our knowledge, there is no study investigating the extent to which the markets value summary accounting performance measures in an international context.

This study particularly focuses on the value relevance of comprehensive income because of the following three reasons. First, reporting comprehensive income has triggered a great deal of controversies among academics, practitioners, and accounting standard setters around the world over the last decade. It has also become an important financial reporting issue after the introduction of IAS to European countries in 2005. Second, operating income, net income,

and other comprehensive income can be regarded as the major components (or subtotals) of comprehensive income, although they do provide incremental value-relevant information beyond comprehensive income (Lin, 2006). Third, the joint project on reporting financial performance between IASB and FASB intends to adopt the all-inclusive concept of income. IASB has made it clear that comprehensive income is more 'informative' than net income because the latter performance measure cannot be used to compare between different firms and industries and does not provide equal prominence to all aspects of a firm's performance (*IAS 1*, 2007, par. BC10).

This study uses a panel dataset from five major EU countries and investigates the extent to which the markets value three key summary accounting performance measures, namely operating income, net income, and comprehensive income, when they are reported by firms in different countries where reporting environment and market conditions vary. To achieve this purpose, we use the data *before* the adoption of the IAS. This research design allows us to enhance our understanding of the usefulness of various summary accounting performance measures among countries with different legal, social, and economic environment especially when these income measures were mainly voluntarily disclosed by companies before the adoption of IAS. It is our purpose to avoid the homogeneity in reporting financial performance among different companies after the adoption of IAS⁵. In addition, this study provides preliminary results on the impact of early adoption of IAS on the value relevance of the above summary accounting performance measures.

This study contributes to the literature in threefold. First, this is the first study investigating the extent to which key summary accounting performance measures are valued by the markets in five major European countries where the reporting environment and market condition vary.

We find that operating income, net income, and comprehensive income are all statistically associated with share returns, although their explanatory powers for share returns vary between countries. Operating income (net income) appears to be more value relevant than other accounting measures in the UK (continental European countries). We also find that comprehensive income provides much less value-relevant information than bottom-line net income and operating income across all the five EU countries. However, aggregate other comprehensive income is value-relevant and provides incremental price-relevance beyond net income in most of the examined countries. This is very different from the mixed findings based in the US and UK.

Second, this study also provides evidence on how early adoption of IAS has affected the extent to which the markets value three key summary accounting performance measures. We find that the early adoption of IAS in Germany and Italy significantly increase the explanatory power of other comprehensive income for share return. This indicates that transparent disclosure of other comprehensive income and its components in financial statements as required by IAS and US GAAP (i.e. SFAS130) may have warranted a stronger statistical association between firm share returns and other comprehensive income. This finding basically supports the ideology underlying the IASB/FASB joint project on Performance Reporting and also provides evidence supporting Beaver's (1981) and Hirst and Hopkins' (1998) psychology-based financial reporting theory.

Finally, the recent development of the joint project on reporting financial performance between IASB and FASB indicates that the format and presentation of 'income statement' (or statement of performance) will change dramatically. It is the intention of the boards to reduce the use of accounting 'subtotals' on the face of income statement (or statement of

performance). Reporting summary accounting performance measures is crucial for publicly listed companies because it could be used to signal the markets and reduce information asymmetry between firm managers and investors. However, very little effort has been made so far to evaluate the economic consequences of reporting summary accounting performance measures that have been widely reported by companies on the face of income statement for many decades across different countries. As a result, our empirical results may help the Boards in evaluating whether summary accounting performance measures should continue to be disclosed, whether comprehensive income provides any incremental value relevant information for investors and should be legitimately introduced into the new coming IAS, given the importance of decision relevance of accounting information addressed in the IASB *1989 Conceptual Framework*, and eventually supersede the traditional net income figure.

The remainder of the paper proceeds as follows. Section 2 provides a summary of prior studies on the value relevance of summary accounting performance measures. Section 3 develops the testable hypotheses. Section 4 and 5 describes our sample selection criteria and research models, respectively. Empirical results are reported and discussed in section 6. Robustness tests are performed and discussed in section 7. Final section summarizes and concludes.

2. Prior studies on the value relevance of summary accounting performance measures

It has been a long time that companies disclose ‘operating income’ and ‘net income’ on the face of income statement (or statement of financial performance), although they are not clearly defined in any accounting standards around the world including the US GAAP and IAS. Interestingly, both FASB and IASB define comprehensive income in their conceptual

frameworks. Comprehensive income (CI) is normally defined as the change in shareholders' equity except those owners' transaction including issues and distributions of equity. CI differs from the traditional bottom-line net income (NI) measure as it encompasses dirty surplus items, often termed 'other comprehensive income' (OCI) by standard-setters, i.e. the accounting items that are directly taken to shareholders' equity and bypass the income statement. NI is also different from operating income (OPIN) as it includes non operating items.

Most of the previous studies on the value relevance of summary accounting performance measures are based in the US and have largely focused on net income and comprehensive income. Using a large US sample over the pre-*SFAS 130* period 1972-1989, Cheng et al. (1993) find that both conventional summary accounting income measures, i.e. operating income and net income, dominate comprehensive income in terms of their explanatory power for returns. They also report that differences between net income and operating income i.e. non-operating items, including exceptional and extraordinary items provide incremental value-relevant information beyond operating income. Nevertheless, Cheng et al (1993) fail to find any statistical significance for the difference between net income and comprehensive income, i.e. dirty surplus items. Using US data for the period 1995-1996, Dhaliwal et al. (1999) investigate the value-relevance of comprehensive income and its major three components as required by *SFAS 130*. They find that the only component of comprehensive income that improves the association between income and return is the marketable securities adjustment. Further evidence suggests that this finding is driven by financial firms. As a result, they conclude that comprehensive income does not provide significant value-relevant information beyond net income.

Chambers et al (2006), however, argue that the weak results documented in the previous studies are caused by significant measurement errors in the examined variables. This is because US firms were not required to report the actual amounts of comprehensive income and its components in financial statements before SFAS 130 became effective in 1997. Researchers therefore needed to estimate these items with potentially significant measurement errors before 1997. Chambers et al (2006) define the 'estimated' comprehensive income as 'as if' comprehensive income to be distinct from the 'as reported' comprehensive income that is the actual comprehensive income reported in the financial statements⁶ after the SFAS 130 became effective in 1997. The latter income figure can only be obtained through hand collection.

Chambers et al (2006) find that other comprehensive income and its components, including foreign currency translation gains/losses, marketable security adjustments, and pension liability adjustments, are never priced by the market in the pre-SFAS 130 period (1994-1997), but are positively priced in the post-SFAS 130 period ((1998-2001) for their S&P 500 index firms. They conclude that as reported comprehensive income and its components are price-relevant, and provide incremental price-relevant information beyond net income although net income still dominates comprehensive income in predicting future net income and operating cash flow. In a very similar study, using a sample of NYSE firms during the pre-(1994-1996) and post-(1998-2003) SFAS 130 period, Kanagaretnam et al. (2005) find evidence that as if comprehensive income and its components are all value-relevant for non-financial firms although the post-SFAS 130 sample exhibits much stronger statistical associations. In addition, they confirm that net income dominate comprehensive income as a predictor of future firm operating performance. Using as if comprehensive income and its components, Biddle and Choi (2006) find consistent results supporting the value-relevance of

comprehensive income and its components after controlling for prior year comprehensive income. They also find comprehensive income dominates net income in predicting future net income and operating cash flow.

Several studies have used international data. Using a small UK sample, O'Hanlon and Pope (1999) find that dirty surplus components are not price-relevant except extraordinary items even when using various measurement intervals. In the UK *Financial Reporting Standard N°3* (1993) context, Lin (2006) find that operating income is value relevant, and provides incremental price relevant information beyond net income. He also finds that comprehensive income provides small but statistically significant incremental price relevant information beyond net income. Different from O'Hanlon and Pope (1999), Lin (2006) finds that dirty surplus items such as extraordinary items, foreign currency translation gains/losses, reversal of written goodwill, and other items are all value-relevant and provide incremental value-relevant information beyond net income. Using a small New-Zealand sample, Cahan et al (2000) do not find any evidence on the value-relevance of comprehensive income and its components. Similarly, using Australian data over the period 1988-1997, i.e. the pre-*AASB N°1018 'Statement of Financial Performance'* period, Brimble and Hodgson (2005) document that comprehensive income exhibit lower value relevance than net income, and that components of other comprehensive income have very minor price information content even after considering non-linear setting.

In summary, previous empirical evidence generally supports the value relevance of operating income and net income, although both performance measures are not clearly defined in the accounting standards around the world. However, it is true that both accounting performance measures have been voluntarily disclosed by many companies around the world for several

decades. In contrast, previous empirical evidence on the value-relevance of comprehensive income and its components appear to be mixed across different countries and within the same countries across different time periods. Interestingly, most of previous studies in this area are based in English speaking countries where Anglo-American accounting and common law systems dominate. The main features of this accounting system are principles-based and equity capital market-oriented. Continental European countries such as Germany and France, however, adopted a more rules-based and credit capital market- and tax-oriented accounting system. Ball, Kathori, and Robin (2000) find that accounting income in common-law countries appears to be significantly more timely than that in codified-law countries due to income conservatism. They also find that information asymmetry is resolved in codified-law countries by a closer relationship between managers and stakeholders. It is, therefore, likely that findings from countries with Anglo-American countries may not be applied to continental European countries in terms of the relation between share return and summary accounting performance measures. Hence, using a large sample firms from five major European countries this study provide further empirical evidence on the value-relevance of summary accounting performance measures especially of comprehensive income, underlying the IASB / FASB joint project on '*Performance Reporting*'. Research hypotheses are discussed next.

3. Hypotheses development

The hypotheses developed in this section refer to the literature regarding the value-relevance of summary accounting performance measures. More precisely, we focus on the following four major issues which underlie the debates:

- 1) Are summary accounting performance measures such as operating income, net income, and comprehensive income valued by the markets? Are these measures valued differently across countries?
- 2) Does comprehensive income provide incremental value-relevant information beyond net income and operating income across different countries?
- 3) Does 'other comprehensive income' provide incremental value-relevant information beyond traditional net income across different countries?
- 4) Are 'comprehensive income' and its components more value-relevant when it is clearly disclosed in the financial statements than when it is not?

The above four issues are investigated in this study through the following three hypotheses (in the form of alternative hypothesis). By definition, operating income is the core income of a firm, which has been widely disclosed by many firms around the world. Chen et al. (1993) and Lin (2006) find operating income is value relevant and provides incremental price relevant information beyond net income in the US and UK, respectively. Under the IAS, European firms are required to clearly identify and disclose both operating profit⁷ and its components on the face of the profit and loss account (*IAS1*, par. 75; the IASB Conceptual Framework, pars. 29-30) if they are material. Although operating profit has not been clearly defined in any IAS, the IASB regards it as an important summary performance measure. If investors in the examined European countries and the IASB standard-setter are correct in the assessment of the decision relevance of operating income, then the following hypothesis should be true.

H₀₁: operating profit is value- relevant and provides incremental value-relevant information beyond net income across different countries.

Comprehensive income and other comprehensive income have been at the centre of accounting debates among accounting profession and academia for several decades. Previous studies have failed to find consistent evidence on the value relevance of comprehensive income and its components. Skinner (1999) argues that other comprehensive income mainly include “accounting adjustments that are difficult to interpret economically and which sophisticated analysts tend to ignore in estimating future earnings and cash flows”. Similarly, White et al (1998, quoted in Skinner, 1999) conclude these items add undoubtedly noise to reported earnings and are therefore meaningless in any valuation process. Following Skinner’s (1999) claims, one may expect that comprehensive income is less value-relevant than other conventional summary performance measures since investors are more interested in using recurrent earnings for valuation purpose. On the other hand, CFA Institute (2005) argues that comprehensive income is important information that is absolutely necessary for the securities analysis and valuation purposes. As a result, the above two competing theories can be empirically verified through the following two testable hypotheses:

H_{02a}: Comprehensive income, at an aggregate level, is value-relevant and provides incremental value-relevant information beyond net income and operating profit across different countries.

H_{02b}: Other comprehensive income is price-relevant and provides incremental price information beyond net income across different countries.

In parallel of the above normative claims, psychology-based financial reporting research that focuses on the presentation and display of accounting information document that financial

statement users are more likely to use information when it is provided in a clear, simple manner (e.g. Johnson, Payne, and Bettman, 1988; Harper, Meister and Strawser, 1987, 1991). In this sense, Hirst and Hopkins (1998: 1) note: “research in psychology suggests that information will not be used unless it is both available and readily processable (i.e. clear)”. Similarly, Beaver (1981) carves out the rationale of accounting regulation under the efficient market hypothesis stating that if accounting regulation makes the market more efficient with respect to a richer information set, then the price effects may be expected as a result of accounting disclosures. Consistent with this analysis, Sanbonmatsu et al (1997) find evidence that if individuals perceive information to be more important (e.g. other comprehensive income and its components, may be perceived to be more important once they are disclosed as part of comprehensive income), they weight this information more heavily in their decision making if the informational environment is finer⁸.

Different from continental European countries, disclosure of comprehensive income is already required in the UK since 1993. UK FRS 3 “*Reporting Financial Performance*”, first issued in October 1992, explicitly requires the reporting of a comprehensive income item through the Statement of Total Recognized Gains & Losses (hereafter, STRGL). This statement is defined by FRS 3 as “a primary financial statement that includes the profit or loss for the period together with all movements in reserves reflecting recognised gains and losses attributable to shareholders”, and is clearly separated from the Profit and Loss account and statement of shareholders’ equity.

Therefore, following Beaver (1981) and Hirst and Hopkins (1998), the following two hypotheses are expected to be empirically verified:

H_{03a}: Comprehensive income is more value-relevant, and provides more incremental price information beyond net income in the UK than any other continental European countries.

H_{03b}: Other comprehensive income is more price-relevant and provides more incremental price information beyond net income in the UK than in any other European country

The value relevance of accounting information has been widely examined through the statistical association between share return and accounting numbers in the accounting literature. In other words, one possible economic consequence of accounting information disclosure is directly linked to the change in share price. Following Roll (1988) and Lev (1989), this study uses the explanatory power of examined accounting items for share returns (i.e. R^2 statistic) to investigate their usefulness⁹ for investors (or the capital market overall) and a way to test the previously developed hypotheses.

Using a large sample from European listed firms obtained from DATASTREAM and WORLDSCOPE databases, we examine the value relevance of summary accounting performance measures through the above three hypotheses. The details of sample selection and data collection are summarised in section 5. The next section describes the major steps of the research design methodology.

4. Research design

Our research design to investigate the above five hypotheses is briefly discussed as follows.

(i) Comprehensive income and other comprehensive income

In European countries, including the five countries under analysis in this study (i.e. UK, France, Germany, Italy, and Spain), dirty surplus accounting items and practices vary widely from one national accounting framework to another one. Since it would be too costly to deal with country-specific dirty surplus components, we choose to use a proxy for other comprehensive incomes inspired from the Ohlson's (1991) clean surplus relationship. The articulation between balance sheet amounts, accounting flows, dividends and capital changes for each accounting period, t , is then defined as follows (company subscript suppressed):

$$BV_t \equiv BV_{t-1} + N_t - d_t + CI_t \quad (1a)$$

Or:

$$CI_t \equiv \Delta BV_t - N_t + d_t \quad (1b)$$

Where Δ denotes a change between periods $t-1$ and t ; BV denotes the book value of ordinary shareholders' funds; N denotes the firm's total equity issued; d denotes annual cash dividends and CI denotes the firm's comprehensive income. Moreover, since comprehensive income is defined here as an 'all inclusive income', it can be stated that:

$$CI_t \equiv NI_t + OCI_t \quad (1c)$$

Where NI denotes the firm's bottom-line income (or net income) and OCI denotes dirty surplus items or other comprehensive income. Substituting expression (1c) into (1a) and (1b), it is straightforward to rewrite these two latter equations respectively as follows:

$$BV_t = BV_{t-1} + N_t - d_t + E_t + OCI_t \quad (1d)$$

$$OCI_t = [\Delta BV_t - N_t] - [E_t - d_t] \quad (1e)$$

Where $[\Delta BV_t - N_t]$ represents the movement of shareholders' funds and $[E_t - d_t]$ denotes the annual income that the firm decides to reintroduce in its cyclical activities (i.e., the "firm self-funding item"; see Beaver (1981)) for the accounting period t . Relationship (1e) does underline that there are three important flow statements underlying the IASB project like in *UK FRS 3* (that does not include the balance sheet). $[E_t - d_t]$ appears in the profit and loss account (which constitutes a sub-statement in the *IASB* project), change in *BV* and change in capital appears in the reconciliation of the movements in shareholders' funds (called in the *IASB* project, 'statement of changes in equity'); *OCI* appears in the *STRIE* (i.e. the statement of comprehensive income). Therefore, equations (1b) and (1e) provide proxies respectively for comprehensive income and for the yearly dirty surplus accounting flow¹⁰. These proxies will be used in the research models described hereafter.

(ii) Modelling background

The idea that market capitalization and book value are closely related to each other as being the two faces of the same coin of shareholders' equity "stock" values has been widely documented in the financial literature in the past two decades (e.g. Harris and Ohlson (1987); Lev (1989); Easton and Harris (1991)). However, links observed between share price, earnings, dirty surplus and other movements in shareholders' funds have seldom been formerly demonstrated. In a UK earnings-return association study, Lin (2006) proposes an

Ohlson (1995) model-based approach to examine the above relationships. We thus consider an Ohlson (1995)-based model taking the following form for each financial period t :

$$P_t = k(\phi CI_t - d_t) + (1 - k)BV_t + \alpha V_t \quad (2)$$

Where P denotes the firm's share price at time t ; CI denotes comprehensive income per share, d is the firms' annual dividend per share; V denotes additional information about future earnings that is not reflected in current earnings and book value for period t ; k is a factor for weighting the contribution of change in book value, i.e. $\phi CI - d$, versus book value levels in the explanation of stock price, and ϕ , α are other estimated parameters. As underlined by Ohlson (1995), this valuation model states that a firm value is a weighting sum of a book value model, i.e. BV_t , and an earnings model retreated for dividend, i.e. $\phi CI_t - d_t$.

A more simplified form of the above model has frequently been investigated in the return-earnings relationship literature (e.g. Easton & Harris (1991); O'Hanlon & Pope (1999)):

$$P_t = \alpha_0 + \alpha_1 BV_t + \alpha_2 CI_t + \varepsilon_t \quad (3)$$

Where P denotes the firm's share price adjusted for dividend, BV denotes the firm's book value per share, CI denotes the firm's comprehensive income (or earnings) per share and the subscript t denotes the accounting period.

To avoid encountering scale effect in the return-earning regression statistics, some previous studies (e.g. Cheng et al (1993); Easton (1999)) have proposed another modelling

specification that turns the dependent variable, i.e. share price P , into a share return variable.

Following this, model (3), expressed for every financial period t , is then transformed to:

$$RET_t = \beta_0 + \beta_1 \frac{CI_t}{P_{t-1}} + \beta_2 \frac{\Delta CI_t}{P_{t-1}} + u_t \quad (4)$$

Where RET is the firm's average cumulative share return¹¹, P is the firm's cum-dividend share price, CI is comprehensive income per share and ΔCI is the change in comprehensive income per share during each accounting period t . Using the relationship (1c), it is straightforward to rewrite (4) as:

$$RET_t = \beta_0 + \beta_1 \left(\frac{NI_t + OCI_t}{P_{t-1}} \right) + \beta_2 \left(\frac{\Delta NI_t + \Delta OCI_t}{P_{t-1}} \right) + u_t \quad (5a)$$

Or:

$$RET_t = \beta_0 + \beta_1 \frac{NI_t}{P_{t-1}} + \beta_1 \frac{OCI_t}{P_{t-1}} + \beta_2 \frac{\Delta NI_t}{P_{t-1}} + \beta_2 \frac{\Delta OCI_t}{P_{t-1}} + u_t \quad (5b)$$

It is noteworthy that following Ohlson's (1989; 1995) framework, the assumption on the coefficients of CI, i.e. β_1 and β_2 , might not be verified given earnings reported in the profit and loss account have higher persistence than dirty surplus items (i.e. other comprehensive income) that are reported in the statement of total recognised incomes and expenses (Pope and Wang, 2005).

Similarly to Ohlson (1999) and Pope and Wang (2005), we propose to investigate the following extended model that allows for more flexible considerations:

$$RET_t = \gamma_0 + \gamma_1 \frac{NI_t}{P_{t-1}} + \gamma_2 \frac{\Delta NI_t}{P_{t-1}} + \gamma_3 \frac{OCI_t}{P_{t-1}} + \gamma_4 \frac{\Delta OCI_t}{P_{t-1}} + \omega_t \quad (5c)$$

Model (5c) is then further developed to investigate the value-relevance of each earnings component. The following subsection presents the research approach adopted in this study.

(iii) Value -Relevance Models for Earnings Components

Consistent with Lin's (2006) and Cheng et al's (1993) methodologies, comprehensive income (or earnings) in model (5b) is then decomposed into the typical functional P&L structure. To compare the information content between three different summary measures of financial performance and test our five hypotheses, we estimate model (5c) for each key performance measure and its components, and for each of our five country samples:

$$RET_t = \gamma_0^{(1)} + \gamma_1^{(1)} \frac{OPIN_t}{P_{t-1}} + \gamma_2^{(1)} \frac{\Delta OPIN_t}{P_{t-1}} + \omega_t^{(1)} \quad (6a)$$

$$RET_t = \gamma_0^{(2)} + \gamma_1^{(2)} \frac{NI_t}{P_{t-1}} + \gamma_2^{(2)} \frac{\Delta NI_t}{P_{t-1}} + \omega_t^{(2)} \quad (6b)$$

$$RET_t = \gamma_0^{(3)} + \gamma_1^{(3)} \frac{CI_t}{P_{t-1}} + \gamma_2^{(3)} \frac{\Delta CI_t}{P_{t-1}} + \omega_t^{(3)} \quad (6c)$$

$$RET_t = \gamma_0^{(4)} + \gamma_1^{(4)} \frac{NI_t}{P_{t-1}} + \gamma_2^{(4)} \frac{\Delta NI_t}{P_{t-1}} + \gamma_3^{(4)} \frac{OCI_t}{P_{t-1}} + \gamma_4^{(4)} \frac{\Delta OCI_t}{P_{t-1}} + \omega_t^{(4)} \quad (6d)$$

Accordingly, our testable hypotheses can be reformulated into the following three null hypotheses:

$$H_{01}: R^2_{NI|OPIN} \equiv R^2_{NI} - R^2_{OPIN} = 0$$

$$H_{02a}: R^2_{CI|NI} \equiv R^2_{CI} - R^2_{NI} = 0 \text{ and } H_{02b}: R^2_{CI(UK)|CI(EU)} \equiv R^2_{CI(UK)} - R^2_{CI(EU)} = 0$$

$$H_{03a}: R^2_{NI,OCI|NI} \equiv R^2_{NI,OCI} - R^2_{NI} = 0 \text{ and } H_{03b}: R^2_{NI,OCI(UK)|NI,OCI(EU)} \equiv R^2_{NI,OCI(UK)} - R^2_{NI,OCI(EU)} = 0$$

Where $R^2_{P|Q}$ denotes an increase in adjusted- R^2 due to variable P, conditional on variable Q and $R^2_{P,Q}$ denotes the adjusted- R^2 due to P and Q¹².

(iv) Nested and non nested statistical tests

Following previous studies, whether earnings components provide incremental value-relevant information over aggregate earnings is measured by the difference in adjusted R -squared values between nested models and its statistical significance (using F -test), and the statistical significance of the slope coefficients of examined variables. In the case of non-nested models' comparison, the likelihood-ratio-based Vuong's (1989) test is implemented. Easton and Sommers (2003) document that the scale effect gives rise to overwhelming R -squared values in price-level regressions. This study uses only share returns associated with panel data and therefore should not encounter this peculiar econometrical issue.

The details of sample selection and data description are shortly discussed in the next section.

5. Sample selection and data description

We initially collected accounting data for all the listed companies on the UK, German, French, Italian and Spanish stock markets available from DATASTREAM and WORLDSCOPE for the period 1992-2004¹³. We selected this test period for this study to avoid the first adoption of IAS for firms that are listed in EU capital markets from 2005 onwards. We believe that the introduction of IAS to the EU may have significant impact on reporting summary accounting performance measures especially comprehensive income, which should be separately examined when the data become available. The purpose of this study is to investigate how the EU major capital markets value summary accounting performance measures that are not clearly defined in their national accounting standards but are widely disclosed in corporate financial statements before IAS was enforced to their listed firms. Using the level 6 industrial classification in DATASTREAM, coded INDC6¹⁴, we deleted sample observations with INDC6 spanning from 8000 to 8999 (i.e. financial sectors). We exclude these firms because of their unique regulatory environment and financial reporting practice.

'Comprehensive Income' is not clearly reported on the face of financial statements during the test period in four of our five sample countries, including Germany, France, Italy and Spain¹⁵ although the information to construct it is readily available from financial statements¹⁶. UK firms were required to disclose comprehensive income and its components in the statement of total recognised gains and losses after 1993. Before 1993, UK firms disclosed this information in the statement of shareholders' equity. Neither DATASTREAM nor WORLDSCOPE provide a separate item for comprehensive income¹⁷. Subsequently, we manually computed comprehensive income using the following well-known clean-surplus formula¹⁸:

$$CI_t = \Delta BV_t + d_t - N_t \quad (1b)$$

Where BV_t denotes the book value of ordinary and preference shareholders' funds at the end of period t ; N_t denotes new equity issued during period t ; and d_t denotes dividends paid to all shareholders during the year.

More precisely, our empirical tests use the following accounting items in DATASTREAM and WORLDSCOPE to construct the variables in model 1(b):

$$BV \equiv \text{Ordinary Share Capital (Item \#301) + Reserves (Item \#304)} \\ + \text{Preference Capital (Item \#306)}^{19}$$

$$d \equiv \text{Dividends Paid (Item \#434)}$$

$$N \equiv \text{Total Equity Issued (Item \#406)}^{20}$$

As a result, firms with missing accounting data in DATASTREAM or WORLDSCOPE were deleted from the sample. We also excluded firms whose financial markets data are not available in DATASTREAM. Besides, in order to avoid the impact of potential outliers on our empirical results, we deleted top and bottom 1% extreme observations for each variable of interest. Table 1 exhibits a breakdown by country of the sample size before and after deleting outliers for each model used in the analysis.

[INSERT TABLE 1 ABOUT HERE]

6. Empirical results

(i) Univariate and bivariate statistics

The descriptive statistics of all the variables examined in this study are reported in Table 2. Accounting variables are reported on a per share basis, and are deflated by prior year end share price. Panel A shows that the mean (median) value of comprehensive income is -0.010 (0.041) in the UK, -0.018 (0.024) in Germany, 0.032 (0.049) in France, 0.023 (0.036) in Italy and 0.092 (0.069) in Spain, respectively. The mean (median) value of net income is -0.022 (0.049) in the UK, -0.036 (0.032) in Germany, 0.033 (0.052) in France, 0.008 (0.038) in Italy and 0.061 (0.070) in Spain, respectively. Net income appears to be smaller than comprehensive income except in France. The Mann-Whitney-Wilcoxon two-tailed test shows that comprehensive income (*CI*) and net income (*NI*) are significantly different except in Spain and Italy. We further examine the distribution of the other comprehensive income (*OCI*) in these two countries. Unreported Student's *t*-test shows that *OCI* in the Italian and Spanish samples is statistically different from zero at a 1% level. We therefore expect that both *NI* and *CI* provide different value-relevant information amongst the examined samples. Spain has the highest amount of *OCI* (i.e 3.10%) in comparison with UK, (1.10%), Germany (1.7%) and Italy (1.50%). France is the only country with very small negative *OCI* (i.e. -0.1%)

Panel B exhibits the Pearson and Spearman rank correlation coefficients for all the variables under analysis. It shows that *OCI* is negatively correlated to net income (*NI*) and operating income (*OPIN*) for all the examined countries²¹ except Spain (for the Spearman rank

correlation), and positively correlated to comprehensive income (CI) and change in comprehensive income (ΔCI).

[INSERT TABLE 2 ABOUT HERE]

(ii) Price relevance of performance components

Unreported Shapiro-Wilks statistics show that most of the examined performance components are not normally distributed, indicating that potential outliers might still drive the OLS statistics. To overcome this problem, two sets of regression results are provided for comparison and robustness test purposes. The first set of results use 'reported' summary accounting measures as independent variables (i.e. the conventional OLS method); the second set of results uses the ranks of reported summary accounting measures as independent variables (i.e. the ranking method). They are reported in Panels A and B, respectively throughout Tables 3 to 6. The ranking method, inspired from Fama and McBeth's (1973) zero-investment portfolio construction methodology, has been used in many empirical studies (e.g. Abarbanell and Bushee, 1998; Raedy, 2000; Lin, 2006) to standardise all the explanatory variables in order to reduce the impact of potential outliers, and to fit the potential non-linear relationship between share return and accounting numbers better.

Panel A of Table 3 reports regression results for the value relevance of operating income across five EU countries. Results indicate that the slope coefficients of the level of and change in operating income ($OPIN$ and $\Delta OPIN$, respectively) are value relevant in all the five cases. However the usefulness of operating income for investors, as proxied by the regression R -squared values, appears to vary across our sample countries. Operating income appears to

explain the variation of share return better for French and Italian firms. These findings are also confirmed by the ranking OLS method reported in Panel B. Panel B shows that (1) *R*-squared values are consistently higher than those using the conventional OLS method, indicating that the ranking method fits the relation between share return and earnings components better; (2) both *OPIN* and Δ *OPIN* are statistically significant at the 1% level, suggesting operating income is indeed value relevant; (3) slope coefficients are consistently lower than those using the conventional OLS method, suggesting that the ranking method alleviates the influence of outliers; (4) *R*-squared value is higher for French (16.59%) and Italian (16.62%) samples, indicating that operating income is more 'useful' in these two countries than UK, Germany and Spain.

In summary, results reported in Table 3 suggest that operating income is value relevant in all the examined countries although it appears to be more 'useful' for investors in both France and Italy. We find evidence supporting H_{01} in the sense that operating income is value relevant. Table 6 reports the evidence on whether operating income provides incremental price information beyond net income.

[INSERT TABLE 3 ABOUT HERE]

Table 4 reports the results for the value relevance of net income using both the conventional and ranking OLS regression models. It shows that net income is consistently associated with return in all the examined countries. The level of and change in net income are statistically significant at the 1% (10%) level in Germany, France and Spain (UK and Italy). Besides, OLS *R*-squared values are consistently higher in the French, Italian and Spanish samples, suggesting that net income is more 'useful' for investors in these countries than in the UK or

Germany. In addition, it is worth noting that adjusted R -squared values of German sample in Panel A of Tables 3 and 4 appear lower than that of France, Italy and Spain. Leuz and Wüstemann (2005) justify this finding on the ground that insider information and trading are commonly spread on the German market due to its bank-oriented financing system. Subsequently, private information diffusion coupled with insider trading could have reduced the contemporaneous association of accounting numbers with share returns.

Using the ranking OLS regression, Panel B shows that (1) the R -squared values of model (6b) ranges from 10.16% to 24.96% and are much higher than those using the conventional OLS method (ranging from 4.12% to 13.18%); (2) the slope coefficients of level of and change in net income (NI and ΔNI , respectively) are much smaller (except in Germany where they are higher and in UK where they are almost equal) than those using the conventional OLS regression model; (3) NI and ΔNI appear to be positively associated with share return at the 1% level in all the cases. The ranking regression fits the association between share return and net income better, and effectively reduces the impact of extreme observations on the OLS regression. Using the both regressions, UK firms appear to have lowest R -squared value, indicating that NI contains less value-relevant information in the UK in comparison with other European counterparts.

[INSERT TABLE 4 ABOUT HERE]

Table 5 reports results for the value relevance of comprehensive income. Panel A of Table 5 shows that both level of (CI) and change in comprehensive income (ΔCI), respectively are positively and statistically associated with share return at least at the 5% level except Italy and Spain where change in comprehensive income is insignificant. Panel B reports results using

the ranking OLS method. Again, we find that the *R*-squared values using the ranking regression (ranging from 6.64% to 20.75%) are much higher than those using the conventional OLS regression (ranging from 3.52% to 9.56%). Besides, *R*-squared values are consistently higher for German, French and Italian samples (13.55%, 14.92% and 20.75%, respectively). In summary, we find evidence supporting H_{02a} in the sense that comprehensive income is value-relevant in all the examined countries. Table 6 reports the evidence on whether comprehensive income provides incremental price information beyond net income and operating income.

[INSERT TABLE 5 ABOUT HERE]

In summary, tables 3, 4, and 5 indicate that operating income, net income, and comprehensive income are all statistically associated with share return. It appears that net income and comprehensive income are more useful for investors, measured by the *R*-squared values, for continental European countries especially for the Latin countries, namely France, Italy and Spain. Interestingly, UK investors do not value these two measures of income as much as their continental European counterparts. They appear to emphasise on operating income instead. The above findings are further confirmed in the Panel A of Table 6. It shows that the mean and median *R*-squared values for all the models are consistently lower when UK samples are included except operating income. This indicates that net income and comprehensive income are more useful in continental European countries than UK. Operating income appears to be the favourite measure of income for UK investors. This is consistent with Lin (2006) who document that operating income provide incremental price-relevant information beyond pre-tax earnings in the UK over the post-*FRS 3* period 1993-1998. It is also consistent with US evidence from Cheng et al (1993) that operating income is more

associated with share return than net income and comprehensive income. In summary, the above results provide no evidence to support H_{02b} in the sense that comprehensive income in the UK is not as useful as that in continental European countries, and it does not provide incremental price information beyond net income.

To further test H_{01} and $H_{02a,b}$, we also need to investigate whether one measure of income dominates the other. This study uses the Vuong's (1989) non-nested test to evaluate the statistical difference in R -squared values from models (6a), (6b), and (6c). Panel B of Table 6 shows that comprehensive income is less value-relevant than net income at the 1% significance level in all the cases. Besides, Vuong's statistics also show that comprehensive income exhibits less value-relevant than operating income at the conventional significance levels in UK, France and Germany (only using the ranking regression). Consistent with our previous finding, net income dominates operating income in Germany and Italy when using both methods, and in France and Spain when using the ranking method only. Operating income appears to dominate net income in our UK sample. This interesting finding could be caused by the fact that operating income has been reported by UK firms on the face of profit and loss account since FRS3 became effective in 1993 if it is not earlier. In contrast, European investors may not be familiar with this item especially when it is not defined clearly in any accounting standards yet. Overall, we find no evidence supporting H_{01} in the sense that operating income provides incremental price information beyond net income for our continental European countries, although there is evidence to support this hypothesis in the UK.

Furthermore, we also find no evidence supporting H_{02a} in the sense that comprehensive income does not provide incremental price information beyond net and/or operating income

for all the examined countries. H_{02b} is also rejected due to the fact that comprehensive income in the UK is not as value-relevant (useful) as it is to other European countries, and that it does not provide more incremental price information beyond net income than that in other continental European countries. These findings are robust for both conventional and ranking regressions.

[INSERT TABLE 6 ABOUT HERE]

Table 7 reports the results for the incremental value relevance of other comprehensive income beyond net income. Panel A shows that the level of *OCI* is negatively associated with share return for Germany and France, but the change in *OCI* is positively associated with return for all the countries except Spain. Again, we find that *R*-squared value is higher for France and Italy. Panel B, using the ranking OLS regression, shows that the slope coefficients of level of and change in other comprehensive income are significant at the conventional levels after controlling for net income (except Spain where change in other comprehensive income is not significant). Italy, France, and Germany appear to have much higher *R*-squared values than UK and Spain. In summary, we find evidence on supporting H_{03a} in the sense that dirty surpluses are value-relevant and provide incremental price information beyond net income for all the examined countries. We also find that aggregate *CI* and/or *OCI* are value-relevant for all the examined countries, and provide incremental price information beyond net income. Our results also show that other comprehensive income is generally more useful for the investors in continental European countries than UK. We therefore find no evidence supporting H_{03b} .

[INSERT TABLES 7 ABOUT HERE]

Table 8 summarises the sign of slope coefficients and the significance of *OCI* and ΔOCI from both conventional and ranking OLS regressions. Panel A shows that level of *OCI* is significant at less than 5% level only if its coefficient is negative. On the other hand, all the change in *OCI* is consistently positive and significant at less than 5% level except Spain. Panel B shows that the probability of *OCI* being significantly associated with share return is 60% if its slope coefficient is negative, although the expected probability is only 12.5%. Using the Chi-square Good-of-fit test, the difference is significant at the 1% level. This result is driven by Germany, France and Italy. On the other hand, the probability of ΔOCI being significantly associated with share return is 80% if its slope coefficient is positive although the expected probability is only 12.5%. Again the Chi-square Good-of-fit test suggests the difference is significant at the 1% level. This result is driven by UK, Germany, France and Italy, indicating that an increase in *OCI* is perceived as a good signal by investors on the UK, German, French and Italian stock markets.

The above results are contrary to the findings of Cheng et al (1993), Dhaliwal et al (1999), Pope and O'Hanlon (1999), and Chambers et al (2005), who report that the aggregate other comprehensive income is not priced. However, our finding is consistent with Kanagaretnam et al (2005), Biddle and Choi (2006), and Lin (2006). We therefore provide further evidence supporting H_{03a} in the sense that dirty surplus is value-relevant and provides incremental price information beyond net income.

Panel C shows that other comprehensive income provides incremental value-relevant information beyond net income in all the examined countries except UK and Germany when using the ranking regression method. More precisely, using the conventional OLS regression,

model (6d) has 0.76% (i.e. 18.45% increase) higher *R*-squared value than model (6b) in the UK, 1.95% (i.e. 23.96% increase) in Germany, 0.51% (i.e. 3.87% increase) in France, 4.07% (i.e. 35.03% increase) in Italy and 3.00% (i.e. 36.32% increase) in Spain, respectively. Again, this finding supports H_{03a} . However, dirty surplus items appear to provide more incremental price information beyond net income in continental European countries than UK. As a result, we cannot find evidence supporting H_{03b} .

[INSERT TABLES 8 ABOUT HERE]

7. Sensitivity Test

To investigate whether the above findings are sensitive to how share return is calculated, we provides two robustness checks by replacing raw return in models (6a) to (6d) with abnormal return derived from the market-adjusted and market models. Unreported results suggest that aggregate other comprehensive income does not appear to provide statistically significant incremental price information beyond aggregate net income for Germany and Italy when abnormal return is derived from the market model. Moreover, in some cases, the sign of the coefficients are consistent with our previous finding but their statistical significance have been reduced, indicating that results using abnormal return appears to be weaker than those using raw return. Finally, *R*-squared values using the abnormal return derived from the market model appear to be weaker than those using the raw return and abnormal return derived from the market-adjusted model respectively.

As noted previously, many EU firms, especially German listed firms, have adopted US and International Accounting Standards prior to the IAS-compliance transition date because of cross-listing regulatory requirements or accounting policy choice. This study uses the following two methods to investigate the potential impacts of these early adopters on our empirical results. Firstly, we add an early adopter dummy variable to our regression model, shown as follows:

$$RET_t = \lambda_0 + \lambda_1 \cdot D_t \cdot \frac{I_t}{P_{t-1}} + \lambda_2 \cdot D_t \cdot \frac{\Delta I_t}{P_{t-1}} + \lambda_3 \cdot \frac{I_t}{P_{t-1}} + \lambda_4 \cdot \frac{\Delta I_t}{P_{t-1}} + \varepsilon_t \quad (6e)$$

Where RET is the firm's average cumulative share return as defined previously; D is a dummy variable taking the value 1 if the company is an early adopter of IAS or US GAAP and 0 otherwise; P_{t-1} is the firm's prior year end cum-dividend share price; I is an accounting income measure and ΔI is the change in the accounting income measure (i.e. operating income, net income, or comprehensive income) during period t . More precisely, the dummy variable, D_t , takes the value 1 for the period t if the firm meets at least one of the following two criteria:

- 1) The firm must publish its financial statements under the IAS or US GAAP at the end of period t . This information was originally collected from the Worldscope database. Besides, since the German sample contains more early adopters than any of the three other continental countries, we double checked the data from Worldscope by referring to the reports issued by the German ASB (GASB) in July 2005. When data appear to differ between these two sources, we referred to the GASB information. Moreover, missing data is dealt with based on the following two rules: (i) when one year data is

missing between two identical year data, we assume that the missing data is same as the collected data; (ii) when a firm publishes its financial statements under local accounting standards for more than two consecutive years, we presume that the firm also followed local standards during the preceding years.

- 2) The firms are already cross-listed on the UK or the US stock market at the end of period t . Wordscope data are double checked with the non-US listed firms listing provided by the NYSE Group on 30th October 2006.

As a result, if the accounting income measures of early adoption firms provide incremental price relevant information beyond those of other firms, then we should be able to observe a significant λ_1 and/or λ_2 .

The numbers of early adopters are presented by countries and by years in Table 9. It shows that Germany early adopters represent about 27.6% of the entire Germany sample firms, while early adopters only represent around 5% of the entire sample firms in other three European countries. OLS regression results of model (6e) for Germany, France, Italy and Spain are reported in Table 10.

[INSERT TABLES 9 ABOUT HERE]

Results exhibited in Table 10 indicate that only German and French early adopters have significant impact on the regression estimators. In the German (French) sample, early adopters impact positively (negatively) the relationship between the accounting income measure (except operating income) and share return. Interestingly, we find that all the R -

squared values increase after controlling for early adopters for Germany. This finding also applies to France except for the operating income model. In contrast, Italy has higher *R*-squared value only for the comprehensive income model. All the *R*-squared values decrease after controlling for early adopters for Spain. As a result, we conclude that the other comprehensive income of German, French, and Italian early adoption firms provides incremental value relevant information beyond net income after controlling for early adopters.

[INSERT TABLES 10 ABOUT HERE]

The second robustness test simply deletes early adoption firms from each country. Table 9 shows that Germany has more early adoption firms than any other continental countries. In contrast, UK firms were not allowed to adopt IFRS before 2005. Tables 11 and Tables 12 report the results based on the models 6(b) and 6(d) after deleting early adoption firms. We find that net income and/or change in net income are generally statistically significant using both the conventional OLS (Panel A) and ranking (Panel B) models. Aggregate *OCI* and change in *OCI* are also generally statistically significant except that both items are not significant for Spain when using the conventional OLS. Panel C shows that *R*-squared values are significantly reduced after deleting early adoption firms. However, aggregate *OCI* and change in *OCI* in the UK, Germany and Italy appear to have provided more value-relevant information (proxied by higher price increase in *R*-squared values and percentage of change in *R*-squared values) than Spain and France. UK has the highest percentage of increase in *R*-squared values, followed by Germany and Italy, although Germany and Italy have the highest increase in *R*-squared values. The results above suggest that other comprehensive income is value relevant even after controlling for or deleting early adoption firms, and provides incremental value relevant beyond net income. Moreover, we find that the adoption of IAS or

US GAAP appears to have increased the explanatory power of other comprehensive income for share return in continental European countries especially in Germany and Italy. This could be caused by the fact that the early adopters are normally cross-listed firms and are generally larger than the late adopters. They normally have larger amount of aggregate other comprehensive income than the late adopters. More importantly, our result also indicate that clear disclosure on other comprehensive income and its components in financial statements as required by IAS and US GAAP (i.e. SFAS130) may have warranted a stronger statistical association between firm share returns and other comprehensive income.

[INSERT TABLES 11 ABOUT HERE]

[INSERT TABLES 12 ABOUT HERE]

8. Summary and conclusion

This study examines the extent to which three major summary measures of income provide value-relevant information for investors' decision making. Empirical evidence shows that operating income, net income and comprehensive income are all statistically associated with share returns in all five EU countries. However, we find comprehensive income provides much less value-relevant information than bottom-line net income and operating income in all five EU countries. We also find that aggregate other comprehensive income is value-relevant and provides incremental price-relevance beyond net income in most of the continental

European countries. This is very different from the finding documented in the US and UK based earnings components literature, suggesting that empirical evidence from Anglo-American studies may not be extended to the continental European financial reporting environment. More interestingly, we find that early adopters especially in Germany and Italy significantly increase the explanatory power of other comprehensive income for share return. This indicates that clear disclosure on other comprehensive income and its components in financial statements as required by IAS and US GAAP (i.e. SFAS130) may have warranted a stronger statistical association between firm share returns and other comprehensive income. This finding seems to support the ideology underlying the IASB/FASB joint project on Performance Reporting and provides evidence supporting Beaver's (1981) and Hirst and Hopkins' (1998) psychology-based financial reporting theory.

Our analysis is, however, subject to three caveats. First, like Cheng et al (1993) and Dhaliwal et al (1999), our samples are based on '*as if* comprehensive income' figures in all country samples except UK. As documented by Chambers et al (2005), '*as reported* comprehensive income' might give rise to very different findings. Second, we suspect dirty surplus practices to vary manifestly amongst the countries under analysis because of the difference in environmental setting. This concern should be taken into account while comparing statistical results between two different countries. Finally, our findings so far only apply for pre-*IAS*-compliance period (i.e. 1993-2004). Further research should examine the impact of the adoption of the international accounting standards on the usefulness of comprehensive income and its components when data becomes available.

ENDNOTES

¹ The IASB board originally split up the “Performance Reporting” project into two segments (A and B). Segment A entitled “Financial Statement Presentation” is mainly concerned with addressing what should constitute a complete set of financial statements under IAS. Amongst other fundamental statements, it proposes through an amendment to the IAS 1 standard issued in March 2006 to introduce a comprehensive income statement, labelled “Statement of Recognised Income and Expense”. Segment B deals with the totals and subtotals that should be displayed in each financial statement made mandatory by the previous project phase.

² This study uses performance instead of earnings components to be consistent with the view that a firm’s financial performance can only be evaluated from a range of performance measures instead of a single accounting earnings figure.

³ They could be disclosed in the income statement, profit and loss account, statement of financial performance, statement of total recognized gains and losses, and statement of shareholders’ equity etc.

⁴ ASB introduced Financial Reporting Standard No.3: Reporting Financial Performance in October 1992, and FASB released a proposal for ‘Reporting Information about the Financial Performance of Business Enterprises’ in August 2001 both argued that a firm’s financial performance can only be evaluated from a wider range of financial performance measures instead of a single accounting earnings figure.

⁵ We believe the value relevance of comprehensive income and its components after the introduction of IAS in 2005 should be examined in a separate paper.

⁶ SFAS 130 allows other comprehensive income to be reported in statement of financial performance, a combined statement of income and comprehensive income statement, or statement of shareholders’ equity although FASB prefers the first two statements.

⁷ IASB and US-based terminologies (respectively operating profit and operating income) are used interchangeably in this study.

⁸ Ohlson (1979: 214) defines ‘a finer information environment’ as “an environment in which the set of available state descriptors is a superset as compared with some alternative (coarser) environment”. Given this, he then shows theoretically that the variability of the stock price is more important in a finer environment.

⁹ Consistent with previous studies (e.g. Cheng et al, 1993), usefulness is defined here as the relative information content and incremental information content of an accounting figure. For a more formal definition and analysis of an accounting item’s ‘usefulness’, see Lev (1989: 156).

¹⁰ These definitions are only proxies for the *US SFAS 130*’s framework and the IASB project for the reasons discussed in footnote 2.

¹¹ We calculated share return starting from the beginning of the financial period to 4, 5, 6 months after the year end respectively for each firm. We then took the average of the three values for each firm. Three different time horizons are used since we suspect some firms to release their earnings components information later than others. Other proxies for the firm security return are proposed in the robustness check section of this study.

¹² In nested models, the increase in R^2 associated with adding an explanatory variable is consistent with the F -test indicating that the explanatory variables are jointly significant. Thus, measuring the increase in adjusted R^2 can be interpreted as a measure of the marginal contribution of the added explanatory variable. For further details, *see* Kmenta (1986: 593-595).

¹³ The period of analysis will be shortened by one year observation (i.e. 1993-2004) because of the comprehensive income variable construction.

¹⁴ INDC6 is the most detailed industrial classification available under DATASTREAM. This industrial breakdown is based on the New FTSE / DJ Industry classification benchmark (ICB) (similar to the US SIC 4 classification scheme) and comprises up to 83 sub-sectors.

¹⁵ Like Spanish, French and Italian GAAPs, German accounting standards codified in the German Commercial Code ('Handelsgesetzbuch' – HGB) do not require explicitly the disclosure of the comprehensive income figure. However, it is worth noting that most of the companies quoted on the Frankfurt stock market publish their financial statements under either US GAAPs or IFRS standards since 2001. In this sense, Leuz and Wüstemann (2003) report that in 2002, already 41% (39%) of the DAX 100 Index firms were applying IAS (US) accounting standards. Much emphasis on this point is then required while discussing OLS results related to the German firms sample.

¹⁶ More specifically, financial statements published under local GAAPs in these four European continental countries, i.e. Germany, France, Italy and Spain, all clearly disclose the accounting components needed for the comprehensive income computation on the face of statement of shareholders' equity movements (respectively untitled, "Eigenkapitalentwicklung", "Tableau de variation des capitaux propres", "Prospetto delle variazioni del patrimonio netto" and "Estado del cambio de los fondos propios").

¹⁷ Similarly, Chambers et al (2005) note that 'comprehensive income' is not yet fully reported in any machine-readable database although major financial databases, such as COMPUSTAT, already report a number of items directly related to it. During our investigation, we found that DATASTREAM or WORLDSCOPE propose neither any Comprehensive Income related items nor Comprehensive Income as a stand-alone item. After further investigation, we find this observation to be extendable to EXTEL and I/B/E/S.

¹⁸ Empirical studies encountering this problem commonly use two different but equivalent ways. While some studies (e.g. O'Hanlon & Pope, 1999) use the formula as described above, others (e.g. Cheng et al, 1993; Dhaliwal et al, 1999) compute comprehensive income, following US FAS 130 definition, i.e. as the sum of change in retained earnings, and preferred and common dividends. Besides, Lin (2006) uses a slightly different version of our formula considering 'share repurchases' into the computation of the firm capital change.

¹⁹ These three items are summed up under the DATASTREAM [WORLDSCOPE] item “Total Share Capital & Reserves” (#307) [“Common Equity” (#WC03501) and “Preferred Stock” (#WC03451)].

²⁰ According to DATASTREAM definitions, the “Total Equity Issued” item represents the amount a company received from the sale of common and/or preferred stock. It includes amounts received from the conversion of debentures or preferred stock into common stock, exchange of common stock for debentures, sale of treasury shares, shares issued for acquisitions and proceeds from stock options. “Total Equity Issued” and “Dividend Paid” are set to zero while missing from the database.

²¹ A similar negative correlation is exhibited although not discussed in Cheng et al’s (1993) US-based study.

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TABLE 1: Summary Income Measures and Sample Observations

	Observations <i>Before</i> Deleting Outliers	Observations <i>After</i> Deleting Outliers*
Model (6a): Operating Income (OPIN)		
- <i>United-Kingdom</i>	6,673	6,450
- <i>Germany</i>	5,090	4,900
- <i>France</i>	4,249	4,123
- <i>Italy</i>	1,239	1,198
- <i>Spain</i>	756	733
Model (6b): Net Income (NI)		
- <i>United-Kingdom</i>	6,664	6,448
- <i>Germany</i>	4,849	4,697
- <i>France</i>	4,017	3,898
- <i>Italy</i>	1,258	1,222
- <i>Spain</i>	759	738
Model (6c): Comprehensive Income (CI)		
- <i>United-Kingdom</i>	6,055	5,871
- <i>Germany</i>	4,804	4,643
- <i>France</i>	3,987	3,865
- <i>Italy</i>	1,168	1,138
- <i>Spain</i>	694	677
Model (6d): Net Income and Other comprehensive income		
- <i>United-Kingdom</i>	6,007	5,705
- <i>Germany</i>	4,400	4,173
- <i>France</i>	3,750	3,564
- <i>Italy</i>	1,165	1,107
- <i>Spain</i>	694	667

* Top and bottom 1% of the observations were deleted to avoid outliers.

TABLE 2: Descriptive Statistics

Panel A. Descriptive Statistics for the Dependent and Independent Variables

Variable	N	Mean	Median	StdDev	Skewness	Kurtosis
UK						
Share Return	6,435	0.034	0.051	0.288	-0.459	1.271
Comprehensive Income	6,539	-0.010	0.041	0.249	-2.444	11.612
Change in Comprehensive Income	5,836	0.030	0.008	0.347	2.596	18.844
Other comprehensive income	6,539	0.011	-0.001	0.136	2.623	17.786
Change in Other comprehensive income						
Net Income	5,827	0.002	0.000	0.195	0.894	14.199
Change in Net Income	6,539	-0.022	0.049	0.248	-3.392	14.821
Operating Income	6,449	0.022	0.008	0.281	2.662	21.425
Change in Operating Income	6,456	0.054	0.085	0.173	-1.959	7.297
	6,418	0.014	0.010	0.123	1.580	11.888
Germany						
Share Return	4,608	-0.104	0.015	0.725	-1.262	2.699
Comprehensive Income	4,666	-0.018	0.024	0.333	-2.238	14.203
Change in Comprehensive Income	4,273	0.041	0.001	0.520	2.489	17.765
Other comprehensive income	4,666	0.017	0.000	0.146	2.899	16.786
Change in Other comprehensive income						
Net Income	4,270	-0.015	0.000	0.227	-0.996	13.386
Change in Net Income	4,666	-0.036	0.032	0.323	-2.911	15.246
Operating Income	4,605	0.051	0.005	0.407	3.649	24.086
Change in Operating Income	4,603	-0.065	0.012	0.414	-5.849	71.056
	4,535	0.051	0.007	0.303	2.988	17.038
France						
Share Return	3,888	0.106	0.116	0.462	-0.273	0.539
Comprehensive Income	3,963	0.032	0.049	0.152	-1.617	7.954
Change in Comprehensive Income	3,673	0.007	0.004	0.192	1.336	13.251
Other comprehensive income	3,963	-0.001	0.000	0.069	1.338	17.761
Change in Other comprehensive income						
Net Income	3,663	-0.007	0.000	0.103	-0.701	13.419
	3,963	0.033	0.052	0.142	-2.137	9.785

Change in Net Income	3,910	0.015	0.006	0.146	2.325	17.225
Operating Income	3,940	0.079	0.082	0.162	-0.544	4.589
Change in Operating Income	3,913	0.014	0.008	0.124	1.171	8.273
Italy						
Share Return	1,210	0.068	0.083	0.445	-0.140	-0.239
Comprehensive Income	1,236	0.023	0.036	0.178	-0.686	7.998
Change in Comprehensive Income	1,143	0.005	0.003	0.239	1.013	9.408
Other comprehensive income	1,236	0.015	0.000	0.111	4.654	30.622
Change in Other comprehensive income	1,141	-0.001	0.000	0.154	1.335	12.929
Net Income	1,236	0.008	0.038	0.155	-2.506	9.179
Change in Net Income	1,225	0.008	0.004	0.154	1.088	10.711
Operating Income	1,209	0.041	0.047	0.204	-0.858	6.956
Change in Operating Income	1,202	0.005	0.004	0.131	0.660	7.407
Spain						
Share Return	734	0.256	0.255	0.436	0.606	1.459
Comprehensive Income	745	0.092	0.069	0.206	2.303	13.538
Change in Comprehensive Income	683	0.037	0.007	0.214	2.406	11.592
Other comprehensive income	745	0.031	-0.001	0.172	4.275	21.643
Change in Other comprehensive income	682	0.015	0.000	0.163	2.721	15.947
Net Income	745	0.061	0.070	0.119	-2.341	14.511
Change in Net Income	738	0.021	0.008	0.133	4.966	52.909
Operating Income	738	0.095	0.099	0.129	-1.126	7.123
Change in Operating Income	735	0.018	0.009	0.104	2.572	17.942

Panel B. Pearson/Spearman rank correlation coefficients

UK Sample

	CI	ACI	OCI	AOCI	NI	ANI	OPIN	AOPIIN
CI	1.000	0.463	0.243	0.294	0.760	0.293	0.610	0.234
ACI	0.283	1.000	0.249	0.504	0.249	0.624	0.134	0.425
OCI	0.282	0.269	1.000	0.533	-0.263	-0.143	-0.187	-0.103
AOCI	0.249	0.433	0.597	1.000	-0.029	-0.125	0.019	-0.040
NI	0.850	0.129	-0.266	-0.074	1.000	0.397	0.777	0.313
ANI	0.173	0.736	-0.071	-0.100	0.220	1.000	0.211	0.631
OPIN	0.598	-0.006	-0.121	0.017	0.672	0.044	1.000	0.305
AOPIIN	0.099	0.435	-0.046	-0.016	0.127	0.510	0.180	1.000

German Sample

	CI	ACI	OCI	AOCI	NI	ANI	OPIN	AOPIIN
CI	1.000	0.434	0.262	0.260	0.820	0.330	0.613	0.196
ACI	0.218	1.000	0.250	0.508	0.274	0.692	0.138	0.466
OCI	0.292	0.225	1.000	0.497	-0.149	-0.014	-0.113	0.007
AOCI	0.235	0.414	0.482	1.000	0.016	-0.035	0.016	0.015
NI	0.902	0.125	-0.150	0.029	1.000	0.373	0.727	0.212
ANI	0.114	0.841	0.016	-0.008	0.112	1.000	0.192	0.609
OPIN	0.515	-0.051	-0.178	0.018	0.613	-0.105	1.000	0.262
AOPIIN	0.021	0.513	0.025	0.016	0.010	0.609	0.019	1.000

French Sample

	CI	ACI	OCI	AOCI	NI	ANI	OPIN	ΔOPIN
CI	1.000	0.484	0.323	0.247	0.852	0.403	0.617	0.306
ACI	0.376	1.000	0.268	0.506	0.349	0.724	0.250	0.496
OCI	0.372	0.265	1.000	0.526	-0.054	-0.014	-0.088	-0.017
AOCI	0.269	0.500	0.543	1.000	0.009	-0.014	0.006	-0.006
NI	0.892	0.274	-0.087	0.026	1.000	0.456	0.735	0.348
ANI	0.297	0.789	-0.001	0.011	0.323	1.000	0.322	0.673
OPIN	0.622	0.156	-0.067	0.047	0.705	0.200	1.000	0.396
ΔOPIN	0.231	0.497	-0.009	0.037	0.254	0.631	0.314	1.000

Italian Sample

	CI	ACI	OCI	AOCI	NI	ANI	OPIN	ΔOPIN
CI	1.000	0.445	0.354	0.271	0.843	0.395	0.527	0.235
ACI	0.473	1.000	0.348	0.625	0.287	0.704	0.168	0.384
OCI	0.510	0.419	1.000	0.506	-0.010	0.082	-0.051	0.017
AOCI	0.381	0.696	0.655	1.000	0.030	0.098	0.041	0.047
NI	0.787	0.239	-0.130	-0.045	1.000	0.428	0.636	0.277
ANI	0.373	0.717	0.063	0.096	0.384	1.000	0.244	0.574
OPIN	0.434	0.153	-0.089	0.009	0.564	0.179	1.000	0.334
ΔOPIN	0.282	0.430	0.071	0.141	0.273	0.548	0.352	1.000

Spanish Sample

	CI	ACI	OCI	AOCI	NI	ANI	OPIN	ΔOPIN
CI	1.000	0.567	0.574	0.396	0.713	0.378	0.503	0.286
ACI	0.535	1.000	0.416	0.707	0.340	0.564	0.230	0.340
OCI	0.817	0.550	1.000	0.539	0.022	0.064	0.014	0.054
AOCI	0.540	0.812	0.620	1.000	0.078	0.039	0.052	0.051
NI	0.547	0.138	-0.037	0.082	1.000	0.483	0.677	0.341
ANI	0.235	0.553	0.111	0.050	0.264	1.000	0.333	0.584
OPIN	0.363	0.019	-0.031	0.054	0.678	0.084	1.000	0.456
ΔOPIN	0.228	0.224	0.047	0.042	0.333	0.571	0.445	1.000

Panel A exhibits univariate statistics for the models' independent and dependent variables. Descriptive statistics are reported by countries. The samples comprise all firms listed on the London, Frankfurt, Paris, Milan and Madrid stock exchanges whose data necessary to the modelling process described previously are available under DATASTREAM for the financial period 1992-2004.

Share return is the firm's yearly raw share return calculated as the average of cumulated share return for 16, 17 and 18 months, from 12 months prior through 4, 5 and 6 months after the fiscal year end month (month 0). Return index, market value, net income and operating income have been obtained from DATASTREAM. Comprehensive income is computed as the yearly change in book value, i.e. 'Ordinary Share Capital' (DS Item #301) + 'Reserves' (Item #304) + 'Preference Capital' (DS Item #306), minored by 'total equity issued' (DS Item #406) and augmented by dividends paid (DS Item #434). All accounting variables are on a per share basis and are deflated by prior fiscal year end share price. Observations within the top and bottom 1% are excluded to avoid potential outliers' issues.

Panel B reports Pearson and Spearman rank correlation coefficients for the independent variables used in the analysis. The number of observations for every variable in each sample is equivalent to the one reported in Panel A. Pearson and Spearman correlation coefficients which are NOT significant at a 10% level are reported in bold characters. Consistent with Panel A, all the above accounting numbers are on a per share basis and are deflated by prior year end share price.

CI	Comprehensive income
Δ CI	Change in comprehensive income
OCI	Other comprehensive income
Δ OCI	Change in other comprehensive income
NI	Net income
Δ NI	Change in net income
OPIN	Operating income
Δ OPIN	Change in operating income

TABLE 3: Price Relevance of Operating Income

Table 3 exhibits the empirical results from the following OLS regression:

$$RET_t = \beta_0 + \beta_1 \frac{OPIN_t}{P_{t-1}} + \beta_2 \frac{\Delta OPIN_t}{P_{t-1}} + u_t \quad (6a)$$

Where RET_t is the firm's raw share return, $OPIN_t$ is operating income per share and $\Delta OPIN_t$ is the change in operating income per share for each accounting period t . RET_t is calculated here as the average of cumulated share return for 16, 17 and 18 months, from 12 months prior through 4, 5 and 6 months after the fiscal year end month (month 0). All variables except RET_t are deflated by last financial period end firm's cum-dividend share price P_{t-1} . Panel A presents the coefficients and t -statistics from conventional OLS regressions for each country sample. Following Abarbanell and Bushee (1998), we calculated the scale decile rank for each independent variable used in equation (6a) by ranking the values of the variables into ten portfolios (with ranks 0-9). The decile numbers obtained were then deflated by nine so that the constructed independent variable ranges on a positive unitary standardized interval. Panel B exhibits the coefficients and t -statistics obtained from ranking OLS regressions.

The following notations are used across panels: * $p < .1$; ** $p < .05$; *** $p < .01$.

Panel A. Conventional OLS Model

	UK	GERMANY	FRANCE	ITALY	SPAIN
β_0	0.01* (1.66)	-0.15*** (-13.14)	0.03*** (3.48)	0.03*** (2.71)	0.19*** (9.69)
β_1	0.46*** (22.10)	0.05*** (6.87)	0.80*** (18.58)	0.53*** (8.41)	0.63*** (4.89)
β_2	0.18*** (6.34)	0.40*** (10.89)	0.49*** (8.48)	0.31*** (3.21)	0.49*** (3.06)
N	6,450	4,900	4,123	1,198	733
Adj. R^2	8.53%	3.30%	11.32%	8.70%	6.39%
F-statistic	301.57***	84.61***	264.07***	58.07***	26.03***

Panel B. Ranking OLS model

	UK	GERMANY	FRANCE	ITALY	SPAIN
β_0	-0.15*** (-20.16)	-0.73*** (-32.16)	-0.26*** (-18.30)	-0.29*** (-11.24)	-0.01 (-0.36)
β_1	0.27*** (24.17)	0.71*** (21.52)	0.45*** (19.80)	0.46*** (11.65)	0.36*** (6.53)
β_2	0.10*** (8.43)	0.46*** (14.10)	0.28*** (12.34)	0.24*** (6.00)	0.17*** (3.09)
N	6,450	4,900	4,123	1,198	733
Adj. R^2	11.69%	14.82%	16.59%	16.62%	10.50%
F-statistic	427.97***	427.10***	411.07***	120.43***	43.98***

TABLE 4: Price Relevance of Net Income

Table 4 exhibits the empirical results from the following OLS regression:

$$RET_t = \beta_0 + \beta_1 \frac{NI_t}{P_{t-1}} + \beta_2 \frac{\Delta NI_t}{P_{t-1}} + u_t \quad (6b)$$

Where RET_t is the firm's raw share return, NI_t is net income per share and ΔNI_t is the change in net income per share for each accounting period t . RET_t is calculated here as the average of cumulated share return for 16, 17 and 18 months, from 12 months prior through 4, 5 and 6 months after the fiscal year end month (month 0). All variables except RET_t are deflated by last financial period end firm's cum-dividend share price P_{t-1} . Panel A presents the coefficients and t -statistics from conventional OLS regressions for each country sample. Following Abarbanell and Bushee (1998), we calculated the scale decile rank for each independent variable used in equation (6b) by ranking the values of the variables into ten portfolios (with ranks 0-9). The decile numbers obtained were then deflated by nine so that the constructed independent variable ranges on a positive unitary standardized interval. Panel B exhibits the coefficients and t -statistics obtained from ranking OLS regressions. The following notations are used across panels: * $p < .1$; ** $p < .05$; *** $p < .01$.

Panel A. Conventional OLS Model

	UK	GERMANY	FRANCE	ITALY	SPAIN
β_0	0.04*** (11.15)	-0.10*** (-9.51)	0.06*** (9.06)	0.06*** (4.81)	0.19*** (10.50)
β_1	0.25*** (15.63)	0.57*** (17.08)	1.08*** (20.53)	0.93*** (11.07)	0.92*** (6.39)
β_2	0.02* (1.89)	0.23*** (9.20)	0.33*** (6.82)	0.14* (1.70)	0.41*** (3.55)
N	6,448	4,697	3,898	1,222	738
Adjusted R ²	4.12%	8.14%	13.18%	11.62%	8.26%
F-statistic	139.59***	209.02***	296.93***	81.37***	34.20***

Panel B. Ranking OLS model

	UK	GERMANY	FRANCE	ITALY	SPAIN
β_0	-0.13*** (-17.38)	-0.72*** (-35.50)	-0.30*** (-21.64)	-0.32*** (-13.70)	-0.07** (-2.17)
β_1	0.26*** (22.42)	0.86*** (26.99)	0.57*** (24.79)	0.64*** (16.63)	0.44*** (8.34)
β_2	0.06*** (5.19)	0.38*** (11.79)	0.24*** (10.57)	0.14*** (3.54)	0.20*** (3.71)
N	6,448	4,697	3,898	1,222	738
Adj. R ²	10.16%	21.13%	23.24%	24.96%	16.24%
F-statistic	365.60***	633.18***	591.20***	204.28***	72.53***

TABLE 5: Price Relevance of Comprehensive Income

Table 5 exhibits the empirical results from the following OLS regression:

$$RET_t = \beta_0 + \beta_1 \frac{CI_t}{P_{t-1}} + \beta_2 \frac{\Delta CI_t}{P_{t-1}} + u_t \quad (6c)$$

Where RET_t is the firm's raw share return, CI_t is comprehensive income per share and ΔCI_t is the change in comprehensive income per share for each accounting period t . RET_t is calculated here as the average of cumulated share return for 16, 17 and 18 months, from 12 months prior through 4, 5 and 6 months after the fiscal year end month (month 0). All variables except RET_t are deflated by last financial period end firm's cum-dividend share price P_{t-1} . Panel A presents the coefficients and t -statistics from conventional OLS regressions for each country sample. Following Abarbanell and Bushee (1998), we calculated the scale decile rank for each independent variable used in equation (6c) by ranking the values of the variables into ten portfolios (with ranks 0-9). The decile numbers obtained were then deflated by nine so that the constructed independent variable ranges on a positive unitary standardized interval. Panel B exhibits the coefficients and t -statistics obtained from ranking OLS regressions.

The following notations are used across panels: * $p < .1$; ** $p < .05$; *** $p < .01$.

Panel A. Conventional OLS Model

	UK	GERMANY	FRANCE	ITALY	SPAIN
β_0	0.03*** (9.05)	-0.14*** (-13.00)	0.06*** (8.36)	0.03** (2.46)	0.19*** (11.09)
β_1	0.20*** (12.89)	0.38*** (12.60)	0.70*** (14.66)	0.71*** (9.32)	0.38*** (4.40)
β_2	0.03** (2.55)	0.13*** (6.28)	0.14*** (3.76)	0.04 (0.66)	0.03 (0.32)
N	5,871	4,643	3,865	1,138	677
Adj. R^2	3.52%	4.99%	7.64%	9.56%	3.88%
F-statistic	108.13***	122.97***	160.84***	61.18***	14.68***

Panel B. Ranking OLS model

	UK	GERMANY	FRANCE	ITALY	SPAIN
β_0	-0.09*** (-11.57)	-0.65*** (-29.30)	-0.23*** (-15.89)	-0.30*** (-12.13)	0.01 (0.43)
β_1	0.23*** (17.75)	0.75*** (20.88)	0.49*** (19.43)	0.58*** (14.20)	0.42*** (7.15)
β_2	0.01 (0.72)	0.26*** (7.15)	0.15*** (6.08)	0.11*** (2.76)	0.01 (0.18)
N	5,871	4,643	3,865	1,138	677
Adj. R^2	6.64%	13.55%	14.92%	20.75%	9.85%
F-statistic	209.90***	364.98***	339.85***	149.94***	38.00***

TABLE 6: Comparisons of Adjusted- R^2 between UK and other European Countries

Table 6 reports adjusted- R^2 and Vuong's (1989) z -statistic used in the discussion of hypotheses 1 and 2 of our research design. Panel A exhibits adjusted- R^2 's for the four earnings components model performed under conventional and ranking OLS regressions. Results are displayed by country. The last four columns exhibit the mean (median) of adjusted- R^2 's for each earnings components model used in the analysis. Panel B reports Vuong's (1989) z -statistic used to test the difference in significance amongst our non-nested performance components models. These models are represented by their dependent variables, i.e. *OPIN*, *NI* and *CI* respectively. The following notations are used: * $p < .05$; ** $p < .01$; *** $p < .001$.

Panel A. Adjusted- R^2 (in %) for earnings components models

Independent Variable(s)	Regression Method	UK sample excluded					UK sample included			
		UK	Germany	France	Italy	Spain	Mean	Median	Mean	Median
Model (6c): Comprehensive Income	OLS	3.52	4.99	7.64	9.56	3.88	6.52	6.32	5.92	4.99
	Ranking	6.64	13.55	14.92	20.75	9.85	14.77	14.24	13.14	13.55
Model (6d): Net Income and Other comprehensive income	OLS	4.88	10.09	13.69	15.69	11.26	12.68	12.48	11.12	11.26
	Ranking	10.50	23.41	24.21	29.88	16.53	23.51	23.81	20.91	23.41
Model (6b): Net Income	OLS	4.12	8.14	13.18	11.62	8.26	10.30	9.94	9.06	8.26
	Ranking	10.16	21.13	23.24	24.96	16.24	21.39	22.19	19.15	21.13
Model (6a): Operating Income	OLS	8.53	3.30	11.32	8.70	6.39	7.43	7.55	7.65	8.53
	Ranking	11.69	14.82	16.59	16.62	10.50	14.63	15.71	14.04	14.82

TABLE 6 (continued)

Panel B: Vuong's (1989) z-statistic for non-nested performance components models

Null-Hypothesis	UK		Germany		France		Italy		Spain	
	OLS	Ranking	OLS	Ranking	OLS	Ranking	OLS	Ranking	OLS	Ranking
NI > CI										
Likelihood ratio	34.05	110.75	31.86	169.04	76.70	151.31	30.82	50.67	20.40	23.52
Variance ω^2	0.03	0.05	0.03	0.13	0.06	0.11	0.10	0.13	0.22	0.10
z-statistic	2.59***	6.36***	2.69***	7.47***	5.43***	7.52***	3.00***	4.35***	1.69**	2.95***
N	5,587	5,587	4,072	4,072	3,523	3,523	1,071	1,071	659	659
OPIN > CI										
Likelihood ratio	126.51	146.87	-22.69	37.19	64.56	38.46	-7.08	-18.21	8.55	2.11
Variance ω^2	0.09	0.10	0.16	0.18	0.12	0.18	0.16	0.27	0.13	0.12
z-statistic	5.57***	6.28***	-0.88	1.36*	3.10***	1.54*	-0.55	-1.08	0.94	0.24
N	5,587	5,587	4,072	4,072	3,523	3,523	1,071	1,071	659	659
NI > OPIN										
Likelihood ratio	-92.47	-36.11	54.55	131.84	12.14	112.86	37.90	68.88	11.84	21.41
Variance ω^2	0.08	0.06	0.15	0.14	0.11	0.15	0.18	0.23	0.19	0.11
z-statistic	-4.27***	-1.93**	2.18**	5.57***	0.63	4.96***	2.75***	4.41***	1.07	2.46***
N	5,587	5,587	4,072	4,072	3,523	3,523	1,071	1,071	659	659

TABLE 7: Incremental Price Relevance of Other comprehensive income

Table 7 exhibits the empirical results from the following OLS regression:

$$RET_t = \beta_0 + \beta_1 \frac{NI_t}{P_{t-1}} + \beta_2 \frac{\Delta NI_t}{P_{t-1}} + \beta_3 \frac{OCI_t}{P_{t-1}} + \beta_4 \frac{\Delta OCI_t}{P_{t-1}} + u_t \quad (6d)$$

Where RET_t is the firm's raw share return, NI_t is net income per share, ΔNI_t is the change in net income per share, OCI_t is other comprehensive income per share, and ΔOCI_t is the change in other comprehensive income per share for each accounting period t . RET_t is calculated here as the average of cumulated share return for 16, 17 and 18 months, from 12 months prior through 4, 5 and 6 months after the fiscal year end month (month 0). All variables except RET_t are deflated by last financial period end firm's cum-dividend share price P_{t-1} . Panel A presents the coefficients and t -statistics from conventional OLS regressions for each country sample. Following Abarbanell and Bushee (1998), we calculated the scale decile rank for each independent variable used in equation (6b) by ranking the values of the variables into ten portfolios (with ranks 0-9). The decile numbers obtained were then deflated by nine so that the constructed independent variable ranges on a positive unitary standardized interval. Panel B exhibits the coefficients and t -statistics obtained from ranking OLS regressions. The following notations are used across panels: * $p < .1$; ** $p < .05$; *** $p < .01$.

Panel A. Conventional OLS Model

	UK	GERMANY	FRANCE	ITALY	SPAIN
β_0	0.03*** (9.20)	-0.10*** (-8.87)	0.05*** (6.71)	0.04*** (3.05)	0.14*** (7.52)
β_1	0.26*** (14.57)	0.60*** (16.45)	1.11*** (19.20)	1.12*** (12.29)	1.11*** (7.20)
β_2	0.03** (2.38)	0.24*** (8.98)	0.35*** (6.61)	0.09 (0.96)	0.52*** (3.88)
β_3	-0.04 (-1.17)	-0.28*** (-3.26)	-0.26** (-2.02)	-0.23 (-1.57)	0.18 (1.46)
β_4	0.10*** (4.09)	0.37*** (6.69)	0.18** (2.13)	0.37*** (3.55)	-0.00 (-0.01)
N	5,705	4,173	3,564	1,107	667
Adj. R^2	4.88%	10.09%	13.69%	15.69%	11.26%
F-statistic	74.13***	118.12***	142.34***	52.51***	22.16***
$\beta_3 + \beta_4$	0.04*** (3.62)	0.14*** (4.13)	0.02 (0.39)	0.13*** (2.59)	0.11** (2.04)

TABLE 7 (continued)

Panel B. Ranking OLS Model

	UK	GERMANY	FRANCE	ITALY	SPAIN
β_0	-0.14*** (-13.02)	-0.78*** (-26.98)	-0.34*** (-17.70)	-0.39*** (-12.87)	-0.11*** (-2.84)
β_1	0.25*** (20.06)	0.84*** (24.70)	0.55*** (22.80)	0.66*** (17.07)	0.41*** (7.39)
β_2	0.06*** (5.13)	0.40*** (12.03)	0.28*** (11.40)	0.14*** (3.60)	0.21*** (3.88)
β_3	-0.03** (-2.10)	-0.21*** (-5.79)	-0.08*** (-3.18)	-0.14*** (-3.36)	0.10* (1.84)
β_4	0.05*** (4.02)	0.29*** (8.21)	0.12*** (4.59)	0.21*** (5.08)	-0.04 (-0.74)
N	5,705	4,173	3,564	1,107	667
Adj. R^2	10.50%	23.41%	24.21%	29.88%	16.53%
F-statistic	168.35***	319.94***	285.63***	118.94***	34.01***
$\beta_3 + \beta_4$	0.03*** (2.72)	0.14*** (4.54)	0.03 (1.29)	0.10*** (2.95)	0.01 (0.26)

TABLE 8: Significance and Valuation-Sign of Other comprehensive incomes

Panel A reports coefficients' sign and statistical significance (p-value) of other comprehensive income (OCI) and change in other comprehensive income (ΔOCI) obtained from model (6d) under conventional and ranking OLS regressions. Empirical results are exhibited by country sample. Coefficients in bold are not significant at a 10% level. Panel B exhibits the number of positive and negative signs for the OCI, ΔOCI and (OCI + ΔOCI) coefficients. These results are then split up taking into account whether the OLS coefficients are significant at a 1% level. Panel C presents the incremental value-relevance of other comprehensive income as measured by the absolute and relative difference in adjusted R² between models (6b) and (6d).

Panel A. Statistical significance and signs of other comprehensive income variables

	UK		Germany		France		Italy		Spain	
	OLS	Ranking	OLS	Ranking	OLS	Ranking	OLS	Ranking	OLS	Ranking
Other comprehensive income (OCI)	<0	<0	<0	<0	<0	<0	<0	<0	>0	>0
Significance (p-value in %)	24.10	3.55	0.11	<.01	4.39	0.15	11.78	0.08	14.46	6.66
Change in OCI (ΔOCI)	>0	>0	>0	>0	>0	>0	>0	>0	<0	<0
Significance (p-value in %)	<.01	<.01	<.01	<.01	3.30	<.01	0.04	<.01	98.84	45.81
OCI + ΔOCI	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0
Significance (p-value in %)	0.03	0.65	<.01	<.01	69.52	19.79	0.96	0.32	4.17	79.13

Panel B. Distribution of the OLS coefficients' signs of other comprehensive income variables

	Positive signs		Negative signs		Total
	Significant at a 10% level	Non-significant at a 10% level	Significant at a 10% level	Non-significant at a 10% level	
OCI - frequency - in %	1 10%	1 10%	6 60%	2 20%	10* 100%
ΔOCI - frequency - in %	8 80%	0 0%	0 0%	2 20%	10* 100%
OCI + ΔOCI - frequency - in %	7 70%	3 30%	0 0%	0 0%	10* 100%

* derived from multiplying five (countries) by two (different signs).

Panel C. Incremental value-relevance of other comprehensive income variables

	UK		Germany		France		Italy		Spain	
	OLS	Ranking	OLS	Ranking	OLS	Ranking	OLS	Ranking	OLS	Ranking
Incremental value-relevance (Change in adj. R ²)	0.76	0.34	1.95	2.28	0.51	0.97	4.07	4.92	3.00	0.29
	18.45%	3.35%	23.96%	10.79%	3.87%	4.17%	35.03%	19.71%	36.32%	1.79%

**TABLE 9: Number of early adopters of IFRS by country and by year
over the period 1992-2004**

Year	Germany		France		Italy		Spain	
	N	%	N	%	N	%	N	%
2004	381	60.9	52	8.2	23	8.7	8	7.8
2003	372	57.2	45	7.1	22	8.3	8	7.8
2002	361	54.1	41	6.5	21	7.9	8	7.8
2001	286	45.2	36	5.7	20	7.5	8	7.8
2000	257	40.9	31	4.9	20	7.5	8	7.8
1999	131	24.7	31	4.9	19	7.2	6	5.8
1998	81	15.9	30	4.7	16	6.0	5	4.9
1997	45	9.0	29	4.6	13	4.9	4	3.9
1996	20	4.2	22	3.5	11	4.2	4	3.9
1995	13	2.7	19	3.0	10	3.8	3	2.9
1994	9	1.9	17	2.7	6	2.3	3	2.9
1993	8	1.7	12	1.9	6	2.3	3	2.9
1992	7	1.5	11	1.7	5	1.9	3	2.9
Total firm-year observations	1,971	27.6%	376	4.58%	192	5.57%	71	5.30%
	out of 7,130		out of 8,216		out of 3,445		out of 1,339	

TABLE 10: Early Adopters Sensitivity Tests

Conventional OLS Model with CUMRET

Independent variable(s)	N	F-value	Adj. R ²	Intercept	D _t *I _t	D _t *ΔI _t	I _t	ΔI _t	D _t *OCI _t	D _t *ΔOCI _t	OCI _t	ΔOCI _t
GERMANY - Operating Inc. - Net Inc. - Comprehensive Inc. - Net Inc. and OCI	(6a)	46.65***	4.16%+	-0.08***	0.06	0.02	0.15***	0.37***				
	(6b)	98.81***	8.19%+	-0.08***	-0.01	0.19***	0.54***	0.15***				
	(6c)	4.34***	7.59%+	-0.06***	-0.09	0.20***	0.58***	0.06				
	(6d)	32.60***	11.07%+	-0.06***	0.03	0.28***	0.63***	0.11**	-1.02***	0.93***	0.31	-0.34**
FRANCE - Operating Inc. - Net Inc. - Comprehensive Inc. - Net Inc. and OCI	(6a)	131.97***	11.27%-	0.03***	0.02	-0.01	0.80***	0.49***				
	(6b)	149.54***	13.23%+	0.06***	-0.46*	0.03	1.10***	0.34***				
	(6c)	55.67***	9.15%+	0.10***	-0.76***	0.36*	0.89***	0.17***				
	(6d)	43.61***	13.84%+	0.08***	-0.63**	0.34	1.14***	0.37***	0.22	0.29	-0.62***	0.51***
ITALY - Operating Inc. - Net Inc. - Comprehensive Inc. - Net Inc. and OCI	(6a)	29.30***	8.63%-	0.03***	-0.07	0.41	0.53***	0.29***				
	(6b)	40.68***	11.50%-	0.06***	0.04	0.09	0.92***	0.13				
	(6c)	29.48***	11.07%+	0.06***	0.05	0.16	0.78***	0.10				
	(6d)	20.09***	14.63%-	0.05***	-0.07	0.15	1.17***	0.13	-0.37	0.32	-0.05	0.31**
SPAIN - Operating Inc. - Net Inc. - Comprehensive Inc. - Net Inc. and OCI	(6a)	13.09***	6.19%-	0.19***	-0.27	0.73	0.64***	0.48***				
	(6b)	17.44***	8.18%-	0.19***	-0.49	1.31	0.92***	0.40***				
	(6c)	4.65***	4.06%-	0.19***	0.35	0.26	0.59***	0.12				
	(6d)	5.85***	10.25%-	0.13***	0.02	1.06	1.38***	0.32	1.57	-1.00	0.10	0.42

The following notations are used: *p<.1; **p<.05; ***p<.01. + (-) indicates greater (smaller) R-squared values in comparison with the models without early adopter interaction terms;

TABLE 11: Price Relevance of Net Income (results from *non-early adopters*)

Table 11 exhibits the empirical results from the following OLS regression:

$$RET_t = \beta_0 + \beta_1 \frac{NI_t}{P_{t-1}} + \beta_2 \frac{\Delta NI_t}{P_{t-1}} + u_t \quad (6b)$$

Where RET_t is the firm's raw share return, NI_t is net income per share and ΔNI_t is the change in net income per share for each accounting period t . RET_t is calculated here as the average of cumulated share return for 16, 17 and 18 months, from 12 months prior through 4, 5 and 6 months after the fiscal year end month (month 0). All variables except RET_t are deflated by last financial period end firm's cum-dividend share price P_{t-1} . Panel A presents the coefficients and t -statistics from conventional OLS regressions for each country sample. Following Abarbanell and Bushee (1998), we calculated the scale decile rank for each independent variable used in equation (6b) by ranking the values of the variables into ten portfolios (with ranks 0-9). The decile numbers obtained were then deflated by nine so that the constructed independent variable ranges on a positive unitary standardized interval. Panel B exhibits the coefficients and t -statistics obtained from ranking OLS regressions. The following notations are used across panels: * $p < .1$; ** $p < .05$; *** $p < .01$.

N.B.: All early adopters have been dropped out from the sample

Panel A. Conventional OLS Model

	GERMANY	FRANCE	ITALY	SPAIN
β_0	-0.07*** (-6.28)	0.05*** (6.30)	0.03** (2.43)	0.15*** (7.83)
β_1	0.68*** (16.86)	1.15*** (19.60)	1.12*** (11.70)	1.11*** (7.10)
β_2	0.11*** (3.65)	0.35*** (6.35)	0.09 (0.91)	0.51*** (3.76)
N	2,807	3,292	991	612
Adjusted R ²	10.50%	14.21%	14.41%	11.03%
F-statistic	165.61***	273.60***	84.42***	38.93***

Panel B. Ranking OLS model

	GERMANY	FRANCE	ITALY	SPAIN
β_0	-0.57*** (-26.23)	-0.32*** (-21.89)	-0.36*** (-14.47)	-0.07** (-2.14)
β_1	0.81*** (23.50)	0.56*** (22.55)	0.66*** (16.31)	0.40*** (7.10)
β_2	0.19*** (5.61)	0.28*** (11.28)	0.15*** (3.66)	0.20*** (3.64)
N	2,807	3,292	991	612
Adj. R ²	22.22%	24.63%	28.51%	16.20%
F-statistic	401.97***	538.77***	198.58***	60.16***

TABLE 12: Incremental Price Relevance of Other comprehensive income (results from non-early adopters)

Table 12 exhibits the empirical results from the following OLS regression:

$$RET_t = \beta_0 + \beta_1 \frac{NI_t}{P_{t-1}} + \beta_2 \frac{\Delta NI_t}{P_{t-1}} + \beta_3 \frac{OCI_t}{P_{t-1}} + \beta_4 \frac{\Delta OCI_t}{P_{t-1}} + u_t \quad (6d)$$

Where RET_t is the firm's raw share return, NI_t is net income per share, ΔNI_t is the change in net income per share, OCI_t is other comprehensive income per share, and ΔOCI_t is the change in other comprehensive income per share for each accounting period t . RET_t is calculated here as the average of cumulated share return for 16, 17 and 18 months, from 12 months prior through 4, 5 and 6 months after the fiscal year end month (month 0). All variables except RET_t are deflated by last financial period end firm's cum-dividend share price P_{t-1} . Panel A presents the coefficients and t -statistics from conventional OLS regressions for each country sample. Following Abarbanell and Bushee (1998), we calculated the scale decile rank for each independent variable used in equation (6b) by ranking the values of the variables into ten portfolios (with ranks 0-9). The decile numbers obtained were then deflated by nine so that the constructed independent variable ranges on a positive unitary standardized interval. Panel B exhibits the coefficients and t -statistics obtained from ranking OLS regressions. The following notations are used across panels: * $p < .1$; ** $p < .05$; *** $p < .01$.

N.B.: All early adopters have been dropped out from the sample

Panel A. Conventional OLS Model

	GERMANY	FRANCE	ITALY	SPAIN
β_0	-0.06*** (-5.57)	0.05*** (6.48)	0.04*** (2.70)	0.14*** (7.62)
β_1	0.66*** (15.74)	1.13*** (19.14)	1.12*** (11.49)	1.09*** (6.96)
β_2	0.13*** (4.13)	0.36*** (6.41)	0.05 (0.56)	0.50*** (3.68)
β_3	-0.20** (-2.21)	-0.23* (-1.75)	-0.20 (-1.37)	0.18 (1.41)
β_4	0.32*** (5.39)	0.17** (1.96)	0.36*** (3.34)	-0.01 (-0.10)
N	2,807	3,292	991	612
Adj. R^2	11.36%	14.27%	15.31%	11.16%
F-statistic	90.91***	138.04***	45.77***	20.23***
$\beta_3 + \beta_4$	0.13*** (3.61)	0.02 (0.47)	0.13** (2.58)	0.08 (1.49)

Panel B. Ranking OLS Model

	GERMANY	FRANCE	ITALY	SPAIN
β_0	-0.60*** (-20.25)	-0.34*** (-17.12)	-0.38*** (-12.07)	-0.10** (-2.35)
β_1	0.78*** (22.23)	0.55*** (22.26)	0.65*** (16.27)	0.40*** (7.14)
β_2	0.21*** (6.15)	0.28*** (11.46)	0.14*** (3.53)	0.20*** (3.58)
β_3	-0.13*** (-3.45)	-0.08*** (-3.10)	-0.15*** (-3.70)	0.10* (1.67)
β_4	0.20*** (5.45)	0.11*** (4.28)	0.22*** (5.16)	-0.04 (-0.62)
N	2,807	3,292	991	612
Adj. R^2	23.00%	25.02%	30.37%	16.33%
F-statistic	210.64***	275.64***	109.06***	30.85***
$\beta_3 + \beta_4$	0.11*** (3.58)	0.02 (1.07)	0.08** (2.40)	0.01 (0.14)

Panel C. Incremental value-relevance of other comprehensive income variables

		UK		Germany		France		Italy		Spain	
		OLS	Ranking	OLS	Ranking	OLS	Ranking	OLS	Ranking	OLS	Ranking
After excluding early adopters											
Incremental value-relevance	Absolute value*	0.76	0.34	0.86	0.78	0.06	0.37	0.9	1.86	0.13	0.13
	Relative value %	18.45	3.35	8.19	3.51	0.3	1.50	6.24	6.52	1.18	0.80
*Change in adj. R^2											
Before excluding early adopters											
Incremental value-relevance	Absolute value*	0.76	0.34	1.95	2.28	0.51	0.97	4.07	4.92	3.00	0.29
	Relative value %	18.45	3.35	23.96	10.79	3.87	4.17	35.03	19.71	36.32	1.79
*Change in adj. R^2											