

Intangibles and Value Relevance of Accounting Information: Evidence from UK Companies

Kimouche Bilal^{1✉}, Rouabhi Abdenacer²

ABSTRACT

This paper investigates whether intangible items that recognised in financial statements are value relevant in UK context, and whether these items affect the value relevance of other accounting information. Empirical data were collected from a sample of UK listed companies, which included 1440 firm-year observations over 2005 to 2013. Our research design has based on *Ohlson* (1995), in order to develop three models using *Multiple linear regression*, also *Correlation analysis* and *ANOVA* were applied.

The results indicate that intangible items as a whole explain a part of market values variability. While the results of each item alone show that only intangible assets are value relevant, they affect positively the market values of UK companies, unlike goodwill and, amortization and impairment charges of intangibles, which are not value relevant. In addition, intangible items have incremental value relevance, they affect positively and significantly the value relevance of accounting information, through improving their explanatory power.

The results imply that UK accounting standard setter must facilitate capitalizing intangibles as assets, impose the recognition of intangible assets separately from goodwill, and encourage companies to report more information about intangibles. The review of accounting practices for amortization and impairment charges of intangibles is a necessary, in order to enrich financial statements' content and, increase their pertinence.

Keywords: Relative value relevance, Incremental value relevance, Intangible items, Traditional accounting measures, Company valuation, UK listed companies.

INTRODUCTION

The purpose of financial accounting is to satisfy the users' needs of financial information that are helpful in decision making. Therefore, managers prepare and present financial statements, which represent the main source of information. According to IASB (2008), the objective of financial statements is to provide useful information about financial position, performance and

changes in financial position of a firm. The usefulness of accounting information have been constantly expressed in the literature as "*Value relevance*", which measures the utility of accounting items that reported in financial statements from the perspective of company valuation (Beisland, 2009). Watts and Zimmerman (1990) described this concept using the term "*Information perspective*", which views financial statements as the main source of information used as inputs in valuation models.

The value relevance tends to display the main function of accounting, which interest by the providing of useful information, in order to enable investors to value securities. It measures the ability of financial statements to capture and summarize information that is

*The researcher asked about the Appendix.

¹ Lecturer of accounting and finance, Faculty of Economics, Commerce and Management, University of Skikda, Algeria.

✉kimouchebilal@gmail.com

²Senior Lecturer, Faculty of Economics, Commerce and Management, University of Setif 01, Algeria, abrouabhi2005dz@yahoo.fr

Received on 22/6/2015 and Accepted for Publication on 16/12/2015.

reflected in firm's value (Francis and Schipper, 1999). According to Balachandran and Mohanram (2011), the value relevance measures have been interpreted as the total market share, among all information impounded in stock price, attributable to accounting information. This means that accounting information is value relevant when they reflect information used by investors to appreciate firm's value. The objective of value relevance research is to relate financial statement figures with a measure of firm's value and, to assess the relation of such information to the determination of value (Dahmash and Qabajeh, 2012). This requires testing the statistical associations between accounting figures and market values, and measuring the power of those figures to explain market values variability.

According to Lev (1989), most studies that concerned by the value relevance of financial statements have reported a remarkably low statistical association between stock returns and earnings, the explanatory power as measured by R^2 was often below 10%. During the two last decades, several studies indicate that the association between market values and accounting information has declined and financial statements have lost their value relevance over time (Lev and Zarowin, 1999; Brown *et al.*, 1999; Graham *et al.*, 2000; Black and White, 2003; Dontoh *et al.*, 2007). However, other studies found a decreasing value relevance of earnings replaced by an increasing value relevance of equity's book values (Collins *et al.*, 1997; Ely and Waymire, 1999; Hail, 2013; Lam *et al.*, 2013). This means that earnings and book values do not affect stock prices in the same manner; there are some differences between the two parameters over time, either for different industries or different countries (Glezakos *et al.*, 2012). Another group of studies showed a change in different directions when different accounting items are used (Gjerde *et al.*, 2011; Chalmers *et al.*, 2011).

Since the middle of 90's, several studies have interested by the declining value relevance of accounting information over time. Francis and Schipper (1999) suggested that such phenomenon might result either because accounting practices have remained stagnant while business has changed, or because accounting practices have changed in ways that diverge from providing value relevance information. According to Lev and Zarowin (1999), the declining value relevance of accounting information was mainly caused by the increasing pace of change affecting business, and the inadequacy of accounting system to reflect this change. In this context, intangible elements represent changes driver or changes produce. Since economy has shifted from one based on tangible assets and manufacturing to one increasingly based on intangible assets, services and information, accounting has not kept up with these changes (Landsman and Maydew, 2001).

To be useful, financial information must not only represent relevant phenomena, it must also faithfully represent the phenomena that it purports to represent (Nayeri *et al.* 2012; Karğın, 2013). As mentioned by Barth *et al.* (2001), the value relevance requires operationalizing of all qualitative characteristics of financial statements. Nevertheless, the traditional accounting model oriented toward the past, has become incapable to reflect the progressive transformations in economic activities. The value relevance claims that any event likely to affect firm's current financial position or its future performance should be reported in its annual accounts, but that is not the case for intangibles, which are partially recognised in financial statements. The accounting criteria of recognition and measurement do not allow recording the most part of intangibles. As result, accounting information is reliable, but it is not relevant to assess the firm's value, what affects positively the gap between market values of companies

and their book values in financial markets (Eckstein, 2004; Skinner, 2008; Jaafar, 2010; Zéghal and Maaloul, 2011). This gap represents not only a revolutionary change in the process of economic value creation, but also a declining value relevance of traditional financial measures (Cañibano *et al.* 2000).

Today's economy is driven primarily by the creation and manipulation of intangibles (Lev, 2001), which represent a key factor for the development and success of organizations competing in the economic and technological context (Córcoles, 2010). From a managerial approach, intangibles represent strategic assets that give competitive advantages for firms and sustain them. While from an economic approach, intangibles have become the main instigator of value creation and growth (Cohen, 2005; Moore and Craig, 2008). Consequently, IASB has worked hard to develop guidelines for the recognition and disclosure of intangibles in financial statements, in order to improve the usefulness of accounting information. It arises from analysis of various standards published since the early of 80's that IASB attempts adapting financial statements with economic evolutions, it consists facilitating the recognition and reporting of intangible assets separately from goodwill.

This paper aims to investigate the impact of intangible items that recognised in financial statements on the value relevance of traditional accounting measures. Therefore, we measured the common value relevance of both traditional accounting measures and intangible items, and the value relevance of each one alone; in order to measure the incremental value relevance of intangibles. We have concerned by UK companies as a field of our investigation, which are considered among the initiators and the pioneers in creation and management of intangibles. Thence, UK economy has moved into an intangibles-based economy

and, has become an important source of competitiveness and wealth generation. According to Goodridge *et al.* (2012), the nominal total intangible has exceeded tangible investment since 2000 for UK market sector. In order to response to these transformations, UK's accounting practices have been updated repeatedly. The IFRS mandatory adoption since 2005 via EU's implementation process constitutes the major update.

The remainder of this paper is structured as follows; section 2 presents the literature review and the hypotheses. Section 3 lights the research design, while the results are described and discussed in section 4. Finally, section 5 summarizes the conclusions.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Intangibles' value relevance studies have known an important interest by researchers since the early of 90's, as a response to the rising interest given to intellectual capital and knowledge economy in the literature. The early studies in USA have concerned by the R&D expenditures. Sougiannis (1994) concluded that investors place a high value on intangible investments estimating that on average, a one-dollar increase in R&D expenditures produces a five-dollar increase in market value. He distinguished between the indirect effect, when R&D expenditures affect market values through earnings, and the direct effect that reflects new information provided by R&D, he assessed also that on average the indirect effect is more than the direct effect. Aboody and Lev (1998) found that capitalized software amounts provide useful information; they associate with market variables and future earnings.

Seethamraju (2003) showed significant abnormal returns with brands capitalized as a part of businesses combination, and he observed abnormal returns with companies that reported quantitative information more

than with those that reported only qualitative information. This reflects the role of quantitative information in reducing the uncertainty related to companies' future performance. Goodwin and Ahmed (2006) confirmed the indirect effect of intangibles on market values, suggesting that firms capitalizing intangibles have increasing value relevance of earnings. Zhao (2002) showed that the reporting of total R&D costs increases the association of equity prices with earnings and book values, in countries imposing complete expense of R&D costs. While the allocation of R&D costs between capitalization and expense, provides incremental information content over that of total R&D costs, in countries permitting conditional capitalization of R&D costs.

Ciftci *et al.* (2013) investigated whether there is a difference in temporal trend in value relevance of accounting information between INT and non-INT industries, and whether the difference in scale variability between the two groups affects the value relevance of accounting information between them. The study referred that, once controlling for variability of scale, the value relevance for INT industries is substantially lower than that for non-INT industries, and there is a temporal decline in the value relevance only for INT industries. For both groups, a reversal of the time trend in the value relevance has been found after 2000. The study found also that capitalization of intangibles reduces partially the difference in value relevance between the two groups, but does not completely eliminate, suggesting that there are factors other than accounting affecting this difference.

Ji and Lu (2014) examined whether the value reliability of information about intangibles can have an influence on its value relevance, and whether there are any differences in such influence between the pre- and post-adoption periods of IFRS. During 2000 to 2009, the sample included 2314

observations in the pre-adoption period, 1306 observations in the transition period and 2930 observations in the post-adoption period. The study concluded that the value relevance of intangibles has declined since the adoption of IFRS, while intangibles are still more value relevant in firms where reported intangibles are assumed to be more reliable in the post-adoption IFRS period. Oliveira *et al.* (2010) assessed the value relevance of identifiable intangible assets and goodwill that reported in financial statements of all non-financial companies listed on the main market of the Portuguese Stock Exchange from 1998 to 2008. They found that the value relevance of goodwill, R&D and other intangible assets has increased after the adoption of IFRS.

In France, Ding and Stolowy (2003) tested whether the R&D capitalization decision improves the value relevance of accounting numbers. Their analyses do not provide any positive results in this direction. This can attribute to the particularities of financial disclosure and the corporate governance model in France. Cazavan-Jeny and Jeanjean (2003) found that the capitalized R&D is positively associated with stock prices and returns, while the expensed R&D is negatively related to stock prices and returns. They suggested that R&D accounting represents a signal reduces the information asymmetry about R&D projects. Loulou and Triki (2008) denoted that activated R&D constitutes preferred treatment for managers, not only to signal investors about future perspectives, but also to respond opportunely to the contractual stakes, in order to minimize the political costs or smoothing earnings.

Thibierge (2001) interested by intangible assets as a stake of financial reporting. By studying a sample of 261 French and Spanish companies, he indicated that intangible assets did not affect companies' market valuation, but they permitted to liberate from liquidity or debt covenants. Cazavan-Jeny (2003) concerned by the

significant gap between market values and book values, using a sample of 470 French companies, during 1994 to 1999. He found a significant statistical association of market-to-book ratio with capitalized goodwill, while no a significant statistical link has been observed, neither with expensed intangibles, nor with other capitalized intangibles. He suggested that the multitude accounting treatments concerning intangible expenditures may explain why these expenditures are not taken into account by French capital markets when estimating the values of companies.

In the Asian context, Ariff *et al.* (2014) examined the value relevance of voluntary disclosures about intangibles in eight East Asian countries, and the effect of the variation in company and country level of governance on the value relevance of these disclosures. By analyzing the voluntary disclosures of 459 companies, the study found that voluntary disclosures about intangibles are value relevant, over and above the numbers in balance sheet and income statement. The value relevance of these disclosures is conditional on the level of director ownership and the strength of the institutional features of a country.

In UK, the results of previous studies were convergent with the USA context, they reflect the Anglo-American accounting model oriented toward the financial markets, and the corporate governance model based on investors. Kallapur and Kwan (2004) examined the value relevance and reliability of brand assets recognised by 33 UK listed firms during 1985 to 1997. The results showed that brand assets were value relevant; they explained 96% of stock prices variability. AbuGhazaleh *et al.* (2012) assessed the value relevance of goodwill impairment losses following the adoption of IFRS 3. Using a sample of 528 observations drawn from the top 500 UK listed firms over 2005 and 2006, the results revealed a significant negative association

between reported goodwill impairment losses and market values, suggesting that these impairments are perceived by investors to reliably measure a decline in the value of goodwill and incorporated in their firm valuation assessments.

Istrate (2013) analyzed the value relevance of goodwill and other intangible assets in the pre- and post-adoption periods of IFRS, using 350 UK companies over 2002 to 2007. The results showed that goodwill and other intangible assets are value relevant, but their value relevance did not increase in the post-adoption period. Focused on a sample of companies that listed in some European financial markets (UK, France and Spain) during 1993 to 2003, Casta and Ramond (2005) did not find any association between intangibles and market returns, suggesting that investors have a short-term view or "myopic" in constructing of their portfolio, what penalizes companies that reported high intangible investments in their financial statements, which have a long-term view.

Using a sample of 1855 listed companies for ten European countries including UK, Sahut *et al.* (2011) tested the value relevance of intangible assets under IFRS when compared with local GAAP. The study carried out over six-year period, from 2002 to 2004 for local GAAP period, and from 2005 to 2007 for IFRS period. The results indicated that intangible assets have more informative value to explain share prices and stock returns under IFRS than local GAAP. However, goodwill has less value relevance under IFRS than local GAAP. It appears also that identifiable intangible assets provide more value relevance information than goodwill. Based on a sample of UK and Russian companies, Garanina and Pavlova (2011) found a positive correlation between market value of equity and intangible assets.

Tsoligkas and Tsalavoutas (2011) interested by the

value relevance of R&D in UK, after the IFRS mandatory adoption. Based on a sample of 418 firm-year observations during 2005 to 2007, the results showed that the capitalized R&D is significantly and positively related to market values, suggesting that market perceives these items as successful projects with future economic benefits. However, R&D expenses are significantly and negatively related to market values, supporting the proposition that they reflect no future economic benefits and thus they should be expensed. Using a UK sample, Oswald and Zarowin (2007) found that R&D capitalization leads to a higher association between current stock returns and future earnings. This implies that investors are better informed by R&D capitalization.

The previously summarized literature about the value relevance of intangibles provide evidences concerning the nature of relationship between information about intangibles and market values of companies, suggesting a direct or indirect effect of information about intangibles on market values. We can distinguish between the literature that interested by the mandatory disclosures about intangibles in financial statements, and those that interested by the voluntary disclosures about intangibles whether in financial statements or in the other forms of reporting.

The conceptual framework of literature about the value relevance has focused on signalling theory, where information about intangibles represents a stake of financial reporting and signals reduce the information asymmetry. Information about intangibles are used by managers to signal investors about the future perspectives of company and successful projects of R&D (Cazavan-Jeny and Jeanjean, 2003; Tsoligkas and Tsalavoutas, 2011). The literature have also focused on agency theory to describe the indirect effect of intangibles on market values, where the capitalization

(or expense) of intangible items constitutes preferred treatment for managers to respond opportunely to the contractual stakes in order to minimize political costs, to liberate from liquidity and debt covenants, or smoothing earnings, what affects indirectly the market values of companies (Thibierge, 2001; Loulou and Triki, 2008).

The direct effect of information about intangibles on market values of companies measures the power of intangibles to explain market values variability. It concerned by the pertinence of intangibles' amounts that reported in financial statements and information voluntary disclosed to the perspective of companies' valuation, which reflects new information conveyed by intangibles, in order to provide useful information for decision making. This perspective aims exploring whether the capitalization of intangibles and the reporting of voluntary information can better inform investors, or whether investors place a high value on intangibles (Aboody and Lev, 1998; Seethamraju, 2003; Sahut *et al.*, 2011; Tsoligkas and Tsalavoutas, 2011; Istrate, 2013; Ciftci *et al.*, 2013; Ji and Lu, 2014; Ariff *et al.*, 2014). Therefore, we test the following hypothesis:

H1: *Intangible items recognised in financial statements of UK companies are value relevant after the IFRS mandatory adoption.*

The most literatures have examined the relative value relevance of intangibles, which interested by the direct effect of intangibles on market values; there are a few studies that examined the indirect effect of intangibles on market values of companies through other accounting information. This perspective aims exploring whether the capitalization of intangible items and the reporting of voluntary information lead to a higher association between accounting information and market values, in order to measure the increase in value relevance of accounting information due to intangibles. It tends to determine whether intangibles provide incremental

content to accounting information (Sougiannis, 1994; Zhao, 2002; Ding and Stolowy, 2003; Goodwin and Ahmed, 2006; Oswald and Zarowin, 2007). For that, we test the following hypothesis:

H2: *Intangible items recognised in financial statements of UK companies provide incremental value relevance for traditional accounting measures.*

In order to measure the incremental value relevance of intangibles, we measure the value relevance of traditional accounting measures before intangible items, which expressed by the value relevance of book values of equity minus intangible assets and goodwill and, the value relevance of earnings plus amortization and impairment charges of intangibles.

This paper aims to make up for the imperfections of previous studies, in order to contribute in the existing literature and ameliorate the debate about intangibles. As well as to the literature about the value relevance of intangibles in the post-adoption period of IFRS, this study uses a very recent available financial data and, interests by the value relevance of all intangible items recognised in financial statements, including book amounts of goodwill, intangible assets and, amortization and impairment charges of intangibles.

RESEARCH DESIGN

Model specification

In order to achieve our objectives, we used regression models based on Ohlson (1995), which expressed the firm's market value as a linear function of its book value, abnormal earnings and other dynamic variables information. First, we focused on model (1) to test the value relevance of traditional accounting measures, which expressed by the book values of equity before intangible items (BV_IN), earnings before amortization and impairment charges of intangibles (E_AIC), and controlled by cash flows (CF).

$$P_{it} = \alpha_0 + \alpha_1 BV_IN_{it} + \alpha_2 E_AIC_{it} + \alpha_3 CF_{it} + \varepsilon_{it} \quad (1)$$

Where P_{it} is the market value of company, measured by its share price after four months since the end of fiscal year; BV_IN_{it} is the book value of equity per share at year-end minus intangible assets and goodwill, it represents the book value if any intangible item has not recognized in balance sheet. E_AIC_{it} is the earning per share at year-end plus amortization and impairment charges of intangibles, it represents the earning if any amount of intangible's amortization and impairment charges has not recognized in income statement. CF_{it} is the free cash flows reported at year-end, including the operating, investment and financial activities during the year. α_0 is a constant represents the market value when all traditional accounting measures take the value zero. $\alpha_1, \alpha_2, \alpha_3$ are constants used to test the associations between market values and traditional accounting measures. ε_{it} is the part of market values that is not interpreted by traditional accounting measures. To measure the value relevance of traditional accounting measures, we used the coefficient of determination (R^2_{TAM}) of model (1), which expresses the volatility of market values that can be imputed to those measures.

Second, we tested the value relevance of intangible items using model (2); intangible items have been expressed by intangible assets (IA), goodwill (GW) and, amortization and impairment charges of intangibles (AIC).

$$P_{it} = \beta_0 + \beta_1 IA_{it} + \beta_2 GW_{it} + \beta_3 AIC_{it} + \mu_{it} \quad (2)$$

Where IA_{it} is the net amount of intangible assets per share at year-end, GW_{it} is the net amount of goodwill per share at year-end. AIC_{it} is the amortization and impairment charges of intangible assets and goodwill per share in the year. β_0 is an estimate of market value when all intangible items in the balance sheets take the value zero. $\beta_1, \beta_2, \beta_3$ are constants used to test the associations between market values and intangible items. μ_{it} is the

part of market values that is not explained by intangible items. The value relevance of intangible items has been measured by the coefficient of determination (R^2_{IN}) of model (2), which measures the volatility of market values that can be explained by intangible items.

Third, we measured the common value relevance of both traditional accounting measures and intangible items, using a mixed regression model. For that, we added intangible assets and goodwill to book values, we subtracted amortization and impairment charges of intangibles from earnings, and also we jointed intangible items as independent variables with traditional accounting measures as shown in model (3).

$$P_{it} = \delta_0 + \delta_1 BV_{it} + \delta_2 E_{it} + \delta_3 CF_{it} + \delta_4 IA_{it} + \delta_5 GW_{it} + \delta_6 AIC_{it} + \epsilon_{it} \quad (3)$$

Where BV_{it} is the book value of equity per share at year-end including intangible assets and goodwill; E_{it} is the earning per share at year-end including amortization and impairment charges of intangibles. Thence the two variables represent the traditional accounting measures after intangibles. δ_0 is an estimate of market value when all traditional accounting measures and intangible items take the value zero. $\delta_1, \delta_2, \delta_3, \delta_4, \delta_5, \delta_6$ are constants used to test the associations between market values and accounting variables. The common value relevance of both traditional accounting measures and intangibles has been measured by the coefficient of determination ($R^2_{TAM,IN}$) of model (3), which expresses the volatility of market values that can be assigned to independent variables.

Finally, as presented in equation (4), we measured the incremental value relevance of intangibles, which measures the increasing value relevance of traditional accounting measures caused by intangibles.

$$R^2_{IN|TAM} = R^2_{TAM,IN} - R^2_{TAM} \quad (4)$$

Where $R^2_{IN|TAM}$ is the incremental value relevance of intangibles; $R^2_{TAM,IN}$ is the common value relevance of both traditional accounting measures and intangible

items; R^2_{TAM} is the relative value relevance of traditional accounting measures.

Sample and data collection

The study has been carried out using a sample of UK listed companies; it covered a nine-year period from 2005 to 2013, after the IFRS mandatory adoption by the EU's listed companies. Starting of *FTSE ALL-SHARE*, a sample of 193 non-financial companies has been randomly selected; the share prices data has been obtained from *Yahoo* data base. While, the data related to independent variables has been collected from companies' financial statements available at their electronic sites, and has been completed from financial data offered at *www.zonebourse.com*. The different data selection process has generated a sample of 1440 firm-year observations, after excluding all observations with incomplete data and eliminating all companies that are not listed over all the period of study.

RESULTS AND DISCUSSION

Descriptive statistics

Figure 1 illustrates the components of market value of UK companies for each year of study and for the period as a whole. Except in 2008 and 2009, it seems clearly that more than 60% of market values of UK companies have not recognised in financial statements, what provokes a considerable gap between market values of companies and their book values. As well as to other factors affecting stock prices, this gap reflects intangible elements that do not meet the criteria of recognition or that are not reliably measurable (e.g. knowledge, information, innovation, research, competencies, competitive advantages and relations... etc.), what can be considered as a failure of accounting in taking into consideration of these elements. Contrariwise, goodwill and intangible assets, which represent the intangible

elements recognised in balance sheets, constitute substantial parts of market values of UK companies over the whole period; it reached almost 19% for goodwill and 8% for intangible assets. As illustrated in Figure 1, the parts of goodwill and intangible assets were attained 16% and 4% (respectively) of market values of UK companies in 2005, and they have not known big change between the beginning and the end of period except in 2009, when they achieved their higher levels during the period (33% and 24% respectively).

These results reflect the rising interest given for intangibles by standard setters and managers during the

last two decades; what affects positively the part of intangibles in financial statements, which have known a remarkable increase between the beginning and the end of period. On the contrary, the part of other assets and liabilities recognised in balance sheets has known a considerable decrease during the period; it attained 37% at the beginning and 28% at the end. These findings confirm the results of ERNST & YOUNG (2008), which assessed that intangible elements represent more than 60% and 63% of market values of European listed companies in 2006 and 2007, respectively.

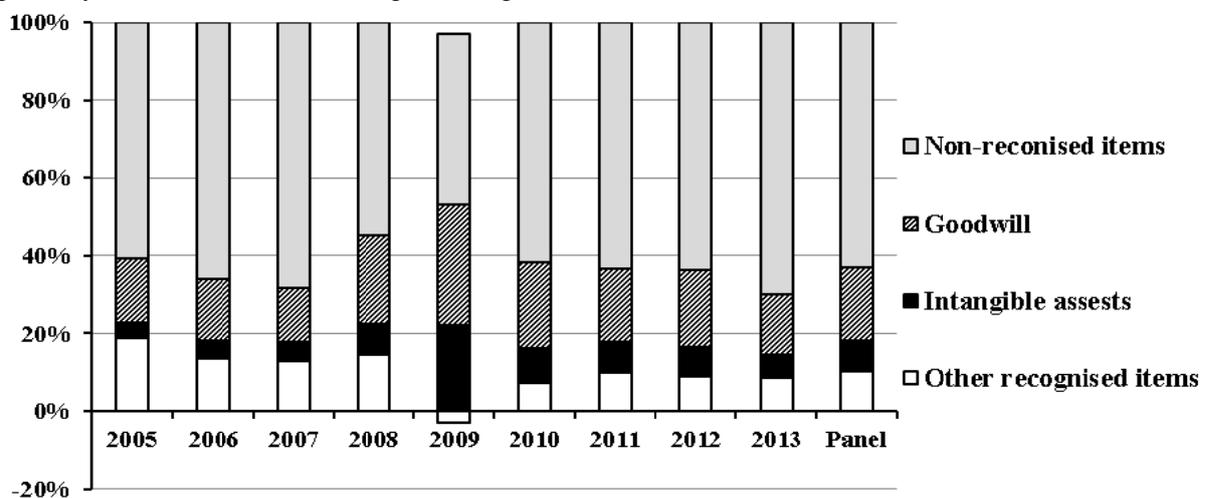


Figure 1: Weight of intangibles in market value of UK companies

In order to achieve more accurate results from statistical analyses, by reaching the normality of data distribution for each variable and ensuring that the residuals are normally distributed, we converted all the above figures into their natural logarithmic counterparts (See: Glezakos *et al.*, 2012). Table 1 summarizes the descriptive statistic of panel data for each converted variables, which concern 1440 firm-year observations for 160 UK listed companies over nine years (2005 to 2013). As presented in Table 1, the conversion of data towards their natural logarithmic counterparts has

permitted to reduce the dispersion of data. When we observe the *Standard deviation*(*Std. Dev.*), the *Range* and the *Coefficient of variance*(*Cov.*), we find that those measures are weak and approximate between the variables, except for cash flow (*CF*) and book value before intangible items (*BV_IN*), which are more dispersal than other variables. Finally, we observe that the means and the medians are very approximate for all variables; there are inconsiderable differences between the two above measures, what signifies that the data are normally distributed for all variables.

Table 1. Descriptive statistic of panel data for converted variables

	<i>P</i>	<i>BV</i>	<i>E</i>	<i>CF</i>	<i>IA</i>	<i>GW</i>	<i>AIC</i>	<i>BV_IN</i>	<i>E_AIC</i>
Obs.	1440	1440	1440	1440	1440	1440	1440	1440	1440
Mean	1.1296	0.2202	0.3463	0.0120	-2.0424	-0.7406	-3.6272	-0.4382	0.4133
Median	1.2179	0.3000	0.2109	0.0113	-1.9000	-0.5130	-3.5529	-0.2305	0.2668
Sum.	1626.61	302.09	498.69	17.25	-2681.63	-1000.52	-4780.61	-404.05	595.17
Std. Dev.	1.1203	1.1012	0.5548	0.7399	1.6970	1.4582	1.4942	10.4999	0.5820
Range	8.43	7.33	9.78	26.79	15.70	9.63	12.93	9.91	10.01
Cov.	0.99	5.00	1.60	61.66	-0.83	-1.97	-0.41	-23.96	1.41

To test the value relevance and the incremental value relevance of intangible items, we estimated the regression coefficients for preceding models (α , β , δ), using *Ordinary Least-Squares (OLS)* and we tested them using *Student test (t)*. The significance of models has been tested by *F-statistics (F-stat.)*. Before estimating the models, we have ensured that they fulfill the *OLS's* criteria. Therefore, we used *Kolmogorov-Smirnov* and *Shapiro-Wilk* for the Data normality test, *Durbin-Watson* to test the Independence of residuals, *Goldfield-Quandt* to test the Homoscedasticity of residuals and *Variance inflation factor (VIF)* to test the Multicollinearity. It arises that all the previous criteria have been fulfilled as shown in appendixes: A, B and C.

Correlation analyses

Table 2 shows the correlation matrix, which summarizes the nature and the level of different associations between variables measured by *Pearson correlation coefficient*. Except cash flows, which do not associate significantly with market values, we see a remarkable and significant ($p < 1\%$) associations between market values of UK companies and different independent variables. However, there are some differences between the levels of these associations. The

correlation of market values with book values of equity, book values before intangibles, earnings and, earnings before amortization and impairment charges of intangibles are significant and medium; the correlation coefficient exceeds 0.50 for each association, it attains 0.615 for the book values of equity. However, the associations of market values with other independent variables are significant and weak, do not exceed 0.36.

As shown in Table 2, market values are more associated with book values than earnings whether before or after intangible items. Also, market values are more associated with intangible assets than goodwill and, amortization and impairment charges of intangibles respectively. Concerning the correlations between different independent variables, it arises that they are medium or weak, do not exceed 0.50, what excludes any substantial effects of these correlations on the relationships between market values and independent variables. The *Variance inflation factors (VIF)* provide the same results, they do not exceed 3. Nevertheless the results summarized in Table 2 are not definitive because they focus on the bivariate correlation analyses, which do not take into consideration the effect of each variable on the relationships between market values of UK companies and other independent variables.

Table 2. Bivariate correlation results

	<i>P</i>	<i>BV</i>	<i>E</i>	<i>CF</i>	<i>IA</i>	<i>GW</i>	<i>AIC</i>	<i>BV_IN</i>	<i>E_AIC</i>
<i>P</i>	1								
<i>BV</i>	0.615**	1							
<i>E</i>	0.526**	0.450**	1						
<i>CF</i>	-0.007	-0.017	0.004	1					
<i>IA</i>	0.351**	0.461**	0.241**	-0.016	1				
<i>GW</i>	0.267**	0.499**	0.229**	0.011	0.461**	1			
<i>AIC</i>	0.239**	0.373**	0.126**	0.013	0.654**	0.458**	1		
<i>BV_IN</i>	0.561**		0.367**	-0.028	0.204**	0.122**	0.212**	1	
<i>E_AIC</i>	0.522**	0.465**		0.007	0.299**	0.274**	0.303**	0.371**	1

** Correlation is significant at the 0.01 level (2-tailed).

Value relevance of traditional accounting measures before intangibles

Table 3 presents model (01) estimated using yearly cross section and pooled data related to UK companies. *F-statistics* demonstrate that the cross sectional regressions in each year and, the pooled regression of panel data are statistically significant at a confidence level of 1%. Every year, the constant's estimates (α_0) are significant and positive at 1%; they refer to the market values of UK companies when all accounting measures before intangible items are nil. The coefficient estimates of book values of equity before intangibles (α_1) and the coefficient estimates of earnings before amortization and impairment charges (α_2) are positive and significant at 1% level for the time period and in each year except in 2006, when the coefficient estimate of earnings before amortization and impairment (α_2) is not significant ($p > 5\%$). These results provide evidence for positive and statistically significant associations between market values of UK companies, on one hand, its book values of equity before intangibles and, earnings before amortization and impairment charges of intangibles, on

the other hand. Therefore, the two above traditional accounting measures are value relevant; they affect market values of UK companies and explain their variability.

On the contrary, the coefficient estimates of cash flows (α_3) are not significant for each year and for the whole period except in 2007. This signifies that market values do not associate with cash flows; consequently cash flows are not value relevant, and thus, they do not explain market values of UK companies. In addition, Table 3 shows that the coefficient (α_2) is more than the coefficient (α_1) for the whole period and in each year, except in 2007 and 2013. This implies that book values of equity before intangibles are more value relevant than earnings before amortization and impairment charges. Finally, the coefficient of determination (R^2_{TAM}) indicates that traditional accounting measures before intangibles as a whole are value relevant; they explain an important part of market values variability, their value relevance has increased between the beginning and the end of period.

Table 3. Model (1)

Model (1): $P_{it} = \alpha_0 + \alpha_1 BV_IN_{it} + \alpha_2 E_AIC_{it} + \alpha_3 CF_{it} + \varepsilon_{it}$										
Year	Constant		BV_IN		E_AIC		CF		R^2_{TAM}	F-stat.
	α_0	t	α_1	t	α_2	t	α_3	t		
2005	1.009**	10.281	0.254**	5.863	0.586**	3.872	-0.305	-1.303	0.387	25.576
2006	1.242**	12.107	0.325**	5.768	0.471**	3.277	0.203	0.958	0.480	33.676
2007	1.444**	16.377	0.329**	6.624	0.265**	2.652	0.376**	3.309	0.482	34.455
2008	1.152**	11.636	0.296**	5.331	0.334**	2.811	0.382	1.751	0.385	21.668
2009	0.813**	7.582	0.355**	5.050	0.460**	3.919	-0.097	-0.432	0.289	13.350
2010	0.566**	5.130	0.185**	3.291	1.848**	9.013	0.072	0.428	0.584	43.548
2011	0.809**	7.145	0.189**	3.644	1.404**	7.762	-0.398	-1.890	0.589	49.704
2012	0.818**	7.916	0.233**	4.384	1.361**	8.372	-0.024	-0.116	0.597	50.339
2013	2.646**	13.965	0.474**	8.489	0.329**	5.705	0.001	0.045	0.653	53.598
Panel	0.983**	30.429	0.254**	15.608	1.048**	20.964	0.017	0.680	0.571	36.213

** Coefficient is significant at the 0.01 level (2-tailed).

Value relevance of intangibles

Table 4 shows model (02) assessed using yearly cross sectional and pooled data. *F-statistics* suggest that cross sectional regressions for each year and pooled regression for the time period are significant at a level of 1%. As shown in Table 4, the coefficients of determination (R^2_{IN}) indicate that intangible items as a whole are value relevant over the time period; they explain 14.2% of market values variability. In each year, intangible items explain over 16% of market values variability, except in 2007, 2008 and 2009. The constant's estimates (β_0) are positive and significant every year and over the time period, they provide indicators for market values of UK companies if any amount of intangible item has not recognised in financial statements.

As mentioned in Table 4, the coefficient estimates of amortization and impairment charges of intangibles (β_3) are not significant every year and over the whole period. The coefficient estimate of goodwill (β_2) is not

significant in each year, it is only significant at 1% for the whole period, but its value is very weak. These results suggest that goodwill and, amortization and impairment charges of intangibles do not have any effect on market values of UK companies, and they do not explain their variability. This means that the two above items are not value relevant. Contrariwise, the coefficient estimates of intangible assets (β_1) are positive and significant at 1% level every year and over the whole period, except in 2007 and 2008. They indicate that intangible assets have a positive and significant effect on market values of UK companies and, hence, intangible assets are value relevant.

The above results related to the coefficients estimates ($\beta_1, \beta_2, \beta_3$) of model (2) lead to reject the hypothesis H1, which is confirmed only for intangible assets. It arises that β_2 and β_3 are not significant, thence goodwill and, amortization and impairment charges of intangibles are not value relevant. Contrariwise, intangible assets are value relevant because β_1 is significant. As a result, the

explanatory power of model (2) expressed by R^2_{IN} can be assigned only to intangible assets. Finally, comparing R^2_{IN} with R^2_{TAM} suggests that the traditional accounting

measures are more value relevant than intangible items for all period.

Table 4. Model (2)

Model (2): $P_{it} = \beta_0 + \beta_1 IA_{it} + \beta_2 GW_{it} + \beta_3 AIC_{it} + \mu_{it}$										
Year	Constant		IA		GW		AIC		R^2_{IN}	F-stat.
	β_0	t	β_1	t	β_2	T	β_3	t		
2005	1.858**	8.460	0.175**	3.726	-0.011	-0.204	0.073	1.272	0.172	7.876
2006	2.196**	9.883	0.211**	3.997	0.034	0.569	0.097	1.672	0.246	13.863
2007	2.084**	10.357	0.031	0.585	0.129	2.330	0.118	2.106	0.118	7.087
2008	1.838**	7.214	0.092	1.237	0.120	1.788	0.121	1.405	0.137	8.529
2009	0.687**	3.164	0.146*	2.020	0.133	1.844	-0.130	-1.647	0.058	3.976
2010	1.398**	5.630	0.310**	3.599	0.140	1.823	-0.079	-0.868	0.170	10.563
2011	1.524**	5.612	0.326**	3.858	0.140	1.691	-0.090	-0.944	0.168	10.452
2012	1.813**	6.931	0.277**	3.428	0.097	1.289	0.030	0.324	0.176	11.153
2013	2.094**	7.946	0.380**	5.125	0.082	1.134	0.004	0.039	0.268	18.429
Panel	1.668**	21.730	0.189**	8.433	0.082**	3.539	0.018	0.704	0.142	10.214

** Coefficient is significant at the 0.01 level (2-tailed).

* Coefficient is significant at the 0.05 level (2-tailed).

The common value relevance of traditional accounting measures and intangibles

Table 5 summarizes the results of model (3), which relates market values of UK companies with traditional accounting measures and intangible items. *F-statistics* demonstrate the significance of model (3) for every year and for the whole period. The coefficients of determination ($R^2_{TAM,IN}$) indicate that traditional accounting measures and intangibles as a whole are value relevant, they explain more than 45% of market values variability every year and over the period except in 2009; their value relevance have remarkably increased between the beginning and the end of period. The constant's estimates (δ_0) are positive and significant at 1%; they represent the market values of UK companies when all traditional accounting measures and intangible

items take the value zero.

The coefficient estimates of book values (δ_1) and the coefficient estimates of earnings (δ_2) are positive and significant at 1% level in each year and over the whole period. Thence, traditional accounting measures affect positively the markets values of UK companies. On the contrary, cash flows do not have any effect on the markets values during the time period; the coefficients estimates of cash flows (δ_3) are not significant and approach from zero in each year and for the period. Regarding intangible items, we see that the coefficients estimates of all intangible items (δ_4 , δ_5 and δ_6) are not significant in the most years, while they are significant when they estimated using panel data.

In order to determine the effect of intangibles on the associations of market values of UK companies with

traditional accounting measures, we compare the coefficients estimates of each item in Table 3 with those that in Table 5. For book values, the comparison suggests that the association between market values and book values in model (3) is more than that in model (1) for every year and for the whole period except in 2005. For earnings, it arises that the association between market values of UK companies and earnings in model

(3) is more than that in model (1) every year and over the whole period except in 2010, 2011 and 2012. Finally, the association between market values of UK companies and cash flows are not significant whether in model (1) or in model (3). These results indicate that intangible items affect positively the association of market values with book values and earnings, while they do not affect the association of market values with cash flows.

Table 5. Model (3)

Model (3): $P_{it} = \delta_0 + \delta_1 BV_{it} + \delta_2 E_{it} + \delta_3 CF_{it} + \delta_4 IA_{it} + \delta_5 GW_{it} + \delta_6 AIC_{it} + \epsilon_{it}$										
Year		Constant	BV	E	CF	IA	GW	AIC	$R^2_{TAM,IN}$	F-stat.
2005	δ	1.128**	0.249**	1.218**	-0.928**	0.077	-0.109*	0.053	0.449	14.450
	t	5.180	3.566	4.892	-3.542	1.870	-2.185	1.107		
2006	δ	1.398**	.352**	0.840**	-0.052	0.097*	-0.059	0.039	0.543	23.223
	t	7.764	4.826	4.813	-.231	2.397	-1.276	0.947		
2007	δ	1.272**	0.487**	0.456**	0.356**	-0.008	-0.092	0.052	0.486	21.455
	t	7.490	6.518	3.648	2.765	-0.196	-1.880	1.196		
2008	δ	0.952**	0.371**	0.868**	0.018	0.009	0.004	0.064	0.495	23.233
	t	4.274	4.123	4.939	0.100	0.141	0.081	0.899		
2009	δ	0.736**	0.550**	0.692**	-0.076	0.081	-0.180*	0.052	0.413	16.719
	t	3.861	6.614	5.275	-0.420	1.220	-2.429	0.717		
2010	δ	0.772**	0.281**	1.737**	0.054	0.080	-0.051	0.049	0.623	37.602
	t	4.271	3.947	9.243	0.341	1.148	-0.862	0.736		
2011	δ	0.811**	0.445**	1.346**	-0.571**	0.104	-0.078	0.024	0.675	48.051
	t	4.389	5.760	8.853	-3.229	1.747	-1.374	0.382		
2012	δ	0.981**	0.480**	1.198**	0.004	0.058	-0.089	0.103	0.718	59.687
	t	5.787	6.705	9.072	0.021	1.187	-1.871	1.802		
2013	δ	1.382**	0.491**	1.022**	0.006	0.141**	-0.124**	0.121*	0.758	72.182
	t	8.475	7.473	8.766	0.249	3.092	-2.765	2.095		
Panel	δ	0.938**	0.389**	1.138**	-0.004	0.042*	-0.066**	0.044*	0.593	35.178
	t	15.933	15.634	21.854	-0.150	2.548	-3.816	2.418		

** Coefficient is significant at the 0.01 level (2-tailed).

* Coefficient is significant at the 0.05 level (2-tailed).

The incremental value relevance of intangibles

Table 6 shows the incremental value relevance of intangible items ($R^2_{IN|TAM}$) in each year and over the whole period, which displays the impact of intangible items on the explanatory power of traditional accounting measures. $R^2_{IN|TAM}$ measures the increase of value relevance of the latest variables caused by intangibles as a translation of the role of intangibles in improving the informational content of accounting information.

Through providing information that confirm an earlier information or events, or through providing new information that are unknown previously, which complete the information conducted by traditional accounting measures. $R^2_{IN|TAM}$ has measured via the difference between the coefficients of determination of model (03) ($R^2_{TAM,IN}$) and the coefficients of determination of model (01) (R^2_{TAM}) (See: Landsman and Maydew, 2001; Dumontier, 1999).

Table 6. The incremental value relevance of intangibles

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	Panel
$R^2_{TAM,IN}$	0.449	0.543	0.486	0.495	0.413	0.623	0.675	0.718	0.758	0.593
R^2_{TAM}	0.387	0.480	0.482	0.385	0.289	0.584	0.589	0.597	0.653	0.571
Obs.	117	112	130	136	134	133	136	138	136	1146
$R^2_{IN TAM}$	0.062	0.063	0.004	0.110	0.124	0.039	0.086	0.121	0.105	0.022
F^*	4.126	4.825	0.319	9.366	8.943	4.345	11.378	18.736	18.657	20.523
F at 5%	2.680									2.60
<p>F^* is the F-value calculated using the following equation:</p> $F^* = \frac{Obs. - k3 - 1}{k3 - k1} \times \frac{R^2_{TAM,IN} - R^2_{TAM}}{1 - R^2_{TAM,IN}}$ <p>$k1$ is the number of explanatory variables in model (1); $k3$ is the number of explanatory variables in model (3).</p> <p>F at 5% is the $F(k3 - k1; Obs. - k3 - 1)$ value from Fisher distribution at 5% level:</p> <p>$P(F^* > F_{(k3 - k1; Obs. - k3 - 1)}) = 0.05$</p> <p>$k3 - k1 = 3$; $Obs. - k3 - 1$ is close to 120 for all years, therefore we used $F(3; 120) = 2.680$ and $F(3; \infty) = 2.60$</p>										

Table 6 suggests that even if the traditional accounting measures before intangible items (BV_{IN} and E_{AIC}) explain a large part of market values of UK companies, their explanatory power are less than their explanatory power after intangible items (BV and E) for each year and for the period as a whole. This means that the addition of intangible items is bound to increase R^2 . Therefore, the incremental value relevance of intangible

items is positive, and it has increased slightly between the beginning and the end of period, but has this incremental value relevance any significance? The answer lies in setting up an ANOVA table and, calculating F -value based on the coefficients of determination of model (1) and model (3) (See: Cooper and Weekes, 1983). The test aims to determine whether a substantial increase in the explanatory power of

traditional accounting measures has happened, and whether it can be assigned to real factors or to the coincidence.

As shown in Table 6, we observe that *F-value* calculated (F^*) is more than *F-value* from Fisher distribution (F at 5%) in each year and for the whole period, except in 2007, where F^* is less than F at 5%. As a result, the difference between $R^2_{TAM,IN}$ and R^2_{TAM} is statistically significant and, hence, the increase in the explanatory power of traditional accounting measures is substantial and can be assigned to intangible items. This means that intangible items recognised in financial statements of UK companies provide incremental value relevance for traditional accounting measures, through improving their power to explain market values of companies, what confirms the hypothesis H2.

CONCLUSION

The paper aims to explore whether intangible items that recognised in financial statements are value relevant to investors in the UK context, and whether those items affect the value relevance of accounting information. The intangible items have been expressed by intangible assets, goodwill, and amortization and impairment charges of intangibles. While, the accounting information have been expressed by book value of equity, earnings and cash flows. Our assumptions started from the results of previous studies that found a persistent decline in the value relevance of accounting information, measured by the value relevance of equity's book values and earnings. The explanations given for this phenomenon consented that the rising role of intangibles accompanying the economic changes and, companies' needs to create and manage intangibles were the main causes that aggravate the declining value relevance of accounting information.

In order to confirm or disclaim the aforesaid conclusions of previous studies, we attempted to test the relative value relevance and the incremental value relevance of intangibles. The adopted methodology focused on displaying the role of intangibles in explaining the market values of companies and, verifying the impact of intangibles on the power of traditional accounting measures to explain market values variability. For that, the associations of market values of companies with intangible items and traditional accounting measures have been examined.

The study has interested by UK listed companies during 2005 to 2013, after the IFRS mandatory adoption by EU listed companies. Generally, the study has followed the methodical procedures of several prior studies (Sougiannis, 1994; Aboody and Lev, 1998; Zhao, 2002; Seethamraju, 2003; Goodwin and Ahmed, 2006). Using a sample of 1440 firm-year observations, our research design has based on *Multiple linear regression*, in order to test the relative and the incremental association of intangibles in a regression of market values on accounting information. Starting of Ohlson (1995), we developed three models, which have been estimated for each year and for the whole period using *Ordinary Least-Squares*, after ensuring that *OLS*'s criteria have been fulfilled. Hereafter, making sure the significance of models using *F-statistic*, we verified the associations of market values of companies with independent variables using *Student test* and, measured the value relevance of accounting variables via the *Coefficients of determination*. The significance of the incremental value relevance of intangibles has been tested via *ANOVA*.

The results indicate that intangible items as a whole are value relevant. However, goodwill and, amortization and impairment charges of intangibles do not affect the market values, unlike intangible assets, which affect

positively and substantially the market values of UK companies. Our evidence suggests that traditional accounting measures as a whole are value relevant, the book values and earnings affect positively and significantly the market values of UK companies, the effect of earnings is more than the effect of book values. Whereas the cash flows do not have any significant effect on the market values of UK companies. Finally, we find that intangibles have incremental value relevance, the traditional accounting measures and intangible items jointly are shown to be more value relevant than traditional accounting measures alone. This means that intangibles have improved the value relevance of accounting information.

Our study shows that only intangible assets are value relevant, which reflected by the role of intangible assets in explaining market values of companies. The study shows also that intangible items as a whole have incremental value relevance; this means that intangible items improve the explanatory power of other accounting information. These results confirm the importance of accounting information about intangibles in the valuation of companies and, support the findings of several studies (Sougiannis, 1994; Aboody and Lev, 1998; Zhao, 2002; Seethamraju, 2003; Cazavan-Jeny and Jeanjean, 2003; Kallapur and Kwan, 2004; Goodwin and Ahmed, 2006; Oswald and Zarowin, 2007; Loulou and Triki, 2008; Garanina and Pavlova, 2011; Tsoligkas and Tsalavoutas, 2011; Istrate, 2013).

Our results differ from several studies, which did not find any direct or indirect effect of intangible assets on market values of companies (Thibierge, 2001; Ding and Stolowy, 2003; Cazavan-Jeny, 2003; Casta and Ramond, 2005). They also differ from some studies, which shown that amortization and impairment charges of intangibles are value relevant (AbuGhazaleh *et al.*, 2012), or which found a significant effect of goodwill on market values

of companies (Istrate, 2013). Unlike Ding and Stolowy (2003), we found that intangibles have improved the value relevance of accounting information.

Several prior studies found a declining value relevance of accounting information over time (Lev and Zarowin, 1999; Brown *et al.*, 1999; Graham *et al.*, 2000; Black and White, 2003; Dontoh *et al.*, 2007). However, we have observed an increasing value relevance of intangible assets and other traditional accounting measures except for cash flows. Concerning the post-adoption period of IFRS, the mostly studies have indicated a decline in the value relevance of intangible assets (Sahut *et al.* 2011; Istrate, 2013; Ciftci *et al.*, 2013; Ji and Lu, 2014), what differs from our results, which support the findings of Oliveira *et al.* (2010) and AbuGhazaleh *et al.* (2012) about the increase of value relevance of intangible assets after the adoption of IFRS.

We can address some differences between our study and the prior research, these differences can consider as contributions of the study in the literature about the value relevance of intangibles. First, the study is one of the few that carried out in the post-adoption period of IFRS in Europe, using a recent available financial data. Second, we have converted the accounting amounts obtained from financial statements into their natural logarithmic counterparts. Third, we have improved the measure of incremental value relevance via measuring the value relevance of accounting information after eliminating the effect of intangible items. For that, we subtracted intangible assets and goodwill from book values of equity and, added the amortization and impairment charges of intangibles to earnings.

The findings of this study are expected to help accounting standards setters and managers to appreciate the role of accounting information about intangibles in companies' valuation and, to understand their importance; they are also expected to provide some

lights about the investors' needs of information. The results imply that UK's accounting standards setter must facilitate capitalizing intangibles as assets (R&D, internal generated software... est.), impose the recognition of intangible assets separately from goodwill, and encourage companies to report more information about intangibles. The review of accounting practices for amortization and impairment charges of intangibles is a necessary, in order to increase their pertinence and, enrich financial statements' content. These perspectives are the same as those that adopted by

IASB in IAS 38 and IFRS 3. Concerning the verification of accounting information, auditors must give more attention for intangibles' examination process, in order to certify the amounts related to intangible assets and, hence, enrich their reliability, what provides adequate guarantees for investors to use them in decisions making. Finally, UK companies must develop models for reporting about intangibles, in order to make up for the failure of financial statements to recognise several intangible items.

REFERENCES

- Aboody, D. and Lev, B. 1998. The value relevance of intangibles: The case of Software capitalization, *Journal of Accounting Research*, 36: 161-191.
- AbuGhazaleh, N.M., Al-Hares, O.M. and Haddad, E.A. 2012. The Value Relevance of goodwill impairments: UK Evidence, *International Journal of Economics and Finance*, 4 (4): 206-216.
- Ariff, A.M., Cahan, S.F. and Emanuel, D.M. 2014. Institutional Environment, Ownership, and Disclosure of Intangibles: Evidence from East Asia, *Journal of International Accounting Research*, 13 (1): 33-59.
- Balachandran, S. and Mohanram, P. 2011. Is the decline in the value relevance of accounting driven by increased conservatism?, *Review of Accounting Studies*, 16 (2): 272-301.
- Barth, M.E., Beaver, W.H. and Landsman, W.R. 2001. The relevance of the value relevance literature for financial accounting standard setting: another view, *Journal of Accounting and Economics*, 31: 77-104.
- Beisland, L.A. 2009. A Review of the Value Relevance Literature, *The Open Business Journal*, 2: 7-27.
- Black, E.L. and White, J.J. 2003. An international comparison of income statement and balance sheet information: Germany, Japan and the US, *European Accounting Review*, 12 (1): 29-46.
- Brown, S., Lo, K. and Lys, T. 1999. Use of R² in accounting research: Measuring changes in value relevance over the last four decades, *Journal of Accounting and Economics*, 28: 83-115.
- Cañibano, L., García-Ayuso, M. and Sánchez, P. 2000. Accounting for Intangibles: A literature review, *Journal of Accounting Literature*, 19: 102-130.
- Casta, J.F. and Ramond, O. (2005), Investissement en capital immatériel et utilité de l'information comptable: Étude comparative des marchés financiers britannique, espagnol et français, *Cahier de recherche 2005-07*, CEREG, Université Paris-Dauphine, France.
- Cazavan-Jeny, A. 2003. Value-relevance of expensed and capitalized intangibles - Empirical evidence from France, *Working Paper: DR 03022*, ESSEC, France.
- Cazavan-Jeny, A. and Jeanjean, T. 2003. Value Relevance of R&D reporting: a Signalling Interpretation, *Working paper 2003-12*, CEREG, University Paris Dauphine, France.
- Chalmers, K., Clinch, G. and Godfrey, J.M. 2011. Changes in value relevance of accounting information upon IFRS adoption: Evidence from Australia, *Australian Journal of Management*, 36 (2): 151-173.
- Ciftci, M., Darrough, M. and Mashruwala, R. 2013. Value relevance of accounting information for Intangible-

- intensive industries and the impact of scale: the US evidence, *European Accounting Review*, 23 (2): 199-226.
- Cohen, J.A. 2005. *Intangible Assets Valuation and Economic Benefit*, John Wiley & Sons, New Jersey, USA.
- Collins, D.W., Maydew, E.L. and Weiss, I.S. 1997. Changes in the value-relevance of earnings and book values over the past forty years, *Journal of Accounting and Economics*, 24: 39-67.
- Cooper, R.A. and Weekes, A.J. 1983. *Data, Models and Statistical Analysis*, 1st edition, BARNES & NOBLE BOOKS, New Jersey, USA.
- Córcoles, Y.R. 2010. Towards the convergence of accounting treatment for intangible assets, *Intangible Capital*, 6 (2): 185-201.
- Dahmash, F.N. and Qabajeh, M. 2012. Value Relevance of Ohlson Model with Jordanian Data, *Interdisciplinary Journal of Contemporary Research in Business*, 3 (11): 551-560.
- Ding, Y. and Stolowy, H. 2003. Capitalisation des frais de R&D en France: déterminants et pertinence, *24^e congrès de l'AFC-Identification et maîtrise des risques: enjeux pour l'audit, la comptabilité et le contrôle de gestion*, France.
- Dontoh, A., Radhakrishnan, S. and Ronen, J. 2007. Is stock price a good measure for assessing value-relevance of earnings? An empirical test, *Review of Managerial Science*, 1 (1): 03-45.
- Dumontier, P. 1999. Information comptable et création de valeur : le cours de bourse ne suffit pas, *Revue Française de Gestion*, 99-105.
- Eckstein, C. 2004. The measurement and recognition of intangible assets: then and now, *Accounting Forum*, 28: 139-158.
- Ely, K. and Waymire, G. 1999. Intangible Assets and Stock Prices in the Pre-SEC Era, *Journal of Accounting Research*, 37: 16-44.
- Ernst & Young. 2008. *Capital immatériel, son importance se confirme*, available at: [http://www.ey.com/Publication/vwLUAssets/0108_Etude_Capital_Immateriel/\\$file/0108_Etude_Capital_Immateriel.pdf](http://www.ey.com/Publication/vwLUAssets/0108_Etude_Capital_Immateriel/$file/0108_Etude_Capital_Immateriel.pdf) (accessed 17 may 2014).
- Francis, J. and Schipper, K. 1999. Have Financial Statements Lost their Relevance?, *Journal of Accounting Research*, 37 (2): 319-352.
- Garanina, T. and Pavlova, Y. 2011. Intangible Assets and Value Creation of a Company: Russian and UK Evidence, *Reseedings of the European Conference on Intellectual Capital*, 165-175.
- Gjerde, Ø., Knivslå, K. and Sættem, F. 2011. The value relevance of financial reporting in Norway 1965-2004, *Scandinavian Journal of Management*, 27: 113-128.
- Glezakos, M., Mylonakis, J. and Kafouros, C. 2012. The Impact of Accounting Information on Stock Prices: Evidence from the Athens Stock Exchange, *International Journal of Economics and Finance*, 4 (2): 56-68.
- Goodridge, P., Haskel, J. and Wallis, G. 2012. UK Innovation Index: productivity and growth in UK industries, *Discussion paper 2012/07*, Imperial College Business School, London.
- Goodwin, J. and Ahmed, K. (2006), Longitudinal value relevance of earnings and intangible assets: Evidence from Australian firms, *Journal of International Accounting, Auditing and Taxation*, 15: 72-91.
- Graham, R., King, R. and Bailes, J. 2000. The Value of Accounting: Information during a Financial Crisis: Thailand and the 1997 Decline in the Value of the Baht, *Journal of International Financial Management and Accounting*, 11 (2): 84-107.
- Hail, L. 2003. Financial Reporting and Firm Valuation: Relevance Lost or Relevance Regained?, *Accounting and Business Research*, 43 (4): 329-358.
- IASB. 2008. *International Financial Reporting Standards (IFRSs) 2008*, Framework for the Preparation and Presentation of Financial Statements, IASCF Publications Department, London.

- Istrate, R. 2013. *IFRS adoption and the value relevance of goodwill and other intangible assets: U.K. empirical evidence*, MSc Accountancy and Control, Amsterdam Business School, University of Amsterdam, Netherlands.
- Jaafar, H. 2010. Accounting Choice, Firm Life-Cycle and the Value-Relevance of Intangible Assets, *Global Review of Accounting and Finance*, 1 (1): 18-40.
- Ji, X.D. and Lu, W. 2014. The value relevance and reliability of intangible assets: evidence from Australia before and after adopting IFRS, *Asian Review of Accounting*, 22 (3): 182-216.
- Kallapur, S. and Sabrina, Y.S.K. 2004. The value relevance and reliability of brand assets recognized by U.K. firms, *The Accounting Review*, 79 (1): 151-172.
- Karğın, S. 2013. The Impact of IFRS on the Value Relevance of Accounting Information: Evidence from Turkish Firms, *International Journal of Economics and Finance*, 5 (4): 71-80.
- Lam, K.C.K., Sami, H. and Zhou, H. 2013. *Changes in the value relevance of accounting information over time: Evidence from the emerging market of China*, available at: <http://dx.doi.org/10.1016/j.jcae.2013.06.001> (accessed 01 March 2014).
- Landsman, W.R. and Maydew, E.L. 2001. *Beaver (1968) Revisited: Has the Information Content of Quarterly Earnings Announcements Declined in the Past Three Decades?*, available at: <http://dx.doi.org/10.2139/ssrn.204068>(accessed 01 March 2014).
- Lev, B. 1989. On the usefulness of earnings and earnings research: Lessons and directions from two decades of empirical research, *Journal Accounting Research*, 27: 153-192.
- Lev, B. 2001. *Intangibles: Management, Measurement, and Reporting*, Brookings Institution, Washington.
- Lev, B. and Zarowin, P. 1999. The Boundaries of Financial Reporting and How to Extend Them, *Journal of Applied Corporate Finance*, 37 (2): 353-385.
- Loulou, S. and Triki, M. 2008. Déterminants et pertinence de l'activation des dépenses de recherche and développement dans le contexte des entreprises françaises, *29^e congrès de l'AFC - La comptabilité, le contrôle et l'audit entre changement et stabilité*, France.
- Moore, L. and Craig, L. 2008. *Intellectual Capital in Enterprise Success: Strategy Revisited*, John Wiley & Sons, New Jersey, USA.
- Nayeri, M.D., Ghayoumi, A.F. and Bidari, M.A. 2012. Factors Affecting the Value Relevance of Accounting Information, *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 2 (2): 76-84.
- Ohlson, J.A. 1995. Earnings, Book Values, and Dividends in Equity Valuation, *Contemporary Accounting Research*, 11 (2): 661-687.
- Oliveira, L., Rodrigues, L.L. and Craig, R. 2010. Intangible assets and value relevance: Evidence from the Portuguese stock exchange, *The British Accounting Review*, 42: 241-252.
- Oswald, D. and Zarowin, P. 2007. Capitalization of R&D and the Informativeness of Stock Prices, *European Accounting Review*, 16 (4): 703-726.
- Sahut, J.M., Boulerne, S. and Frédéric, T. 2011. Do IFRS provide better information about intangibles in Europe, *Review of Accounting and Finance*, 10 (3): 267-290.
- Seethamraju, C. 2003. *The value relevance of trademarks*, in Lev, B. and Hand, J., Intangible assets: values, measures and risks, Oxford University Press, NY, 228-247.
- Skinner, D.J. 2008. Accounting for intangibles - a critical review of policy recommendations, *Accounting and Business Research*, 38 (3): 191-204.
- Sougiannis, T. 1994. The accounting based valuation of corporate R&D, *The Accounting Review*, 69 (1): 44-68.
- Thibierge, C. 2001. Actifs immatériels, valorisation boursière et contrainte d'endettement : étude empirique sur les marchés français et espagnol, *18^e Journées*

Internationales de l'Association Française de Finance (AFFI), Belgium.

- Tsoligkas, F. and Tsalavoutas, I. 2011. The value relevance of R&D in the UK after IFRS mandatory implementation, *Applied Financial Economics*, 21 (13): 957-967.
- Watts, R.L. and Zimmerman, J.L. 1990. Positive Accounting Theory: A Ten Year Perspective, *The Accounting Review*, 65 (1): 131-156.
- Zéghal, D. and Maaloul, A. 2011. The accounting treatment of intangibles - A critical review of the Literature, *Accounting Forum*, 35: 262-274.
- Zhao, R. 2002. Relative Value Relevance of R&D Reporting: An International Comparison, *Journal of International Financial Management and Accounting*, 13 (2): 153-174.

الأصول غير الملموسة وملاءمة المعلومات المحاسبية: دليل من المملكة المتحدة

كيموش بلال¹، روابحي عبد الناصر²

ملخص

حاولت الدراسة فحص مدى ملاءمة البنود غير الملموسة المعترف بها في القوائم المالية للمؤسسات البريطانية، ومدى تأثير هذه البنود على ملاءمة المعلومات المحاسبية الأخرى؛ ومن أجل ذلك تم جمع البيانات الضرورية بالاعتماد على عينة من المؤسسات المدرجة في بورصة لندن، حيث شملت 1440 مشاهدة بين 2005 و2013. بالنسبة لتصميم البحث، فقد تم الانطلاق من نموذج (Ohlson, 1995)، بغرض تصميم ثلاث نماذج بالاعتماد على الانحدار الخطي المتعدد، كما تم الاعتماد على الارتباط، واستخدام أسلوب (ANOVA).

تشير النتائج إلى أن البنود غير الملموسة مجتمعة تساهم في تفسير جزء من التغيرات التي مست القيم السوقية للمؤسسات البريطانية؛ غير أن النتائج المتعلقة بكل بند على حده، أثبت أن الأصول غير الملموسة فقط كانت ملائمة للتقييم، حيث أثرت بشكل إيجابي في القيم السوقية للمؤسسات البريطانية، وذلك بخلاف الشهرة ومصاريف الاهتلاكات وخسائر القيمة عن العناصر غير الملموسة، التي كانت غير ملائمة. إضافة إلى ذلك، تشير النتائج إلى أن العناصر غير الملموسة ساهمت في زيادة قدرة المعلومات المحاسبية على تفسير القيم السوقية للمؤسسات البريطانية.

انطلاقاً من هذه النتائج، يتضح حاجة المعايير المحاسبية البريطانية للمراجعة، بما يتيح تسهيل رسملة العناصر غير الملموسة ضمن الميزانية، والاعتراف بالأصول غير الملموسة بشكل منفصل عن الشهرة قدر الإمكان، وبما يشجع المؤسسات على الإفصاح أكثر عن المعلومات المتعلقة بالبنود غير الملموسة. أما مراجعة الممارسات المحاسبية المتعلقة بمصاريف الاهتلاكات وخسائر القيمة عن العناصر غير الملموسة، فقد أصبحت ضرورة، وذلك بهدف إثراء محتوى القوائم المالية وزيادة ملاءمتها.

الكلمات الدالة: الملاءمة النسبية، الملاءمة الإضافية، البنود غير الملموسة، المقاييس المحاسبية التقليدية، تقييم المؤسسة، المؤسسات البريطانية المدرجة في السوق المالي.

1 أستاذ المحاسبة والمالية، كلية العلوم الاقتصادية والتجارية وعلوم التسيير، جامعة 20 أوت 1955، سكيكدة، الجزائر .

2 أستاذ محاضر، كلية العلوم الاقتصادية والتجارية وعلوم التسيير، جامعة سطيف 01، الجزائر .

تاريخ استلام البحث 2015/6/22، وتاريخ قبوله 2015/12/16.