


## VALUE RELEVANCE OF CONSOLIDATED VERSUS PARENT COMPANY FINANCIAL STATEMENTS: EVIDENCE FROM THE LARGEST THREE EUROPEAN CAPITAL MARKETS

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### ABSTRACT

*Within the European Union, parent companies have to prepare and publish both consolidated and individual financial statements. The objective of financial statements with general purpose is to give information regarding the financial position, performance and changes in financial position of the reporting entity, information that is useful to investors and other users in making economic decisions. In order to be useful, financial information needs to be relevant to the decision-making process of users in general, and investors in particular. Therefore, the following question arises naturally – which of the two sets best serves the information needs of investors (and other categories of users), respectively which of the two sets is more relevant for investors? In our scientific endeavor we set to carry out an empirical association study on the problem of market value relevance of consolidated financial statements and of individual financial statements of the parent company, searching for an answer to the above question. In this sense, we analyze the (absolute and relative) market value relevance of consolidated accounting information of listed companies between 2003-2008 on the largest stock markets in Europe (London, Paris, and Frankfurt). Through this empirical study we intend to contribute to the relatively limited literature on this topic with a comparative time analysis of the absolute and incremental relevance of financial information supplied by the two categories of financial statements (group and individual).*

 *Consolidated Financial Statements, Parent Company Financial Statements,  
Market Value Relevance*

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## **INTRODUCTION**

The objective of financial statements (with general purpose) is to give information regarding the financial position, performance and changes in financial position of the reporting entity, that is useful to a wide range of users in making economic decisions. According to the conceptual framework of IASB (par. 10), considering that investors are suppliers of risk-bearing capital, issuing financial statements that satisfy their information needs allows satisfying the information needs of other categories of users of financial statements, as well. This conception of IASB (as well as of FASB) is maintained in the exposure draft for phase A regarding the improvement of the Conceptual framework, where the two boards consider that the needs of the other members of the primary user group will be in general and essentially the same with the needs of ordinary shareholders (IASB, 2008a: BC 1.20).

Furthermore, in order to be useful, financial information needs to be relevant to the decision-making process of users in general, and investors in particular, meaning that it must have the capacity to influence their economic decisions. Relevance represents, in fact, one of the main characteristics of financial information quality (Francis *et al.*, 2004). It is well known that relevance is now considered (see the stipulations of IASB Conceptual Framework) one of the qualitative characteristics of financial information together with reliability, understandability and comparability. Moreover, in the exposure draft regarding the improvement of the Conceptual framework, IASB and FASB named relevance and faithful representation as the two fundamental qualitative characteristics of financial information (IASB, 2008a: QC2). According to the two boards, relevance is linked to connecting economic phenomena to the decisions of capital suppliers and of other users of financial information (IASB, 2008a: QC12). Therefore, in order to make assessments on the quality of information of financial statements, it is absolutely necessary to quantify this relevance (capacity to influence) of financial information.

A fertile environment to perform such a measurement is the capital market, where investors' decisions (as users of financial information) are reflected directly in the share price of the reporting entity. In this context, market value relevance is measured by the ability of financial information to capture or summarize information that influences share prices (Francis & Schipper, 1999). According to the same authors market value relevance means the existence of a statistical correlation/association between financial information and prices or returns, and also the fact that this information explains market prices to an extensive measure, starting from the presumption of the efficient market in which prices reflect the available information (Francis & Schipper, 1999: 326). This approach presumes that the function of financial information is to reflect economic income represented by stock return and economic value, respectively, represented by market prices (Hellström, 2006: 326).

Financial information is supplied mainly through financial statements of entities (listed on the capital market). In the majority of cases (at least on the large European stock markets) listed companies own one or more subsidiaries, and therefore are obligated (through national accounting legislation as well as stock exchange regulations) to prepare consolidated financial statements for the group they own. At the same time, as legal persons, companies are legally obligated to present individual financial statements. Consequently, parent companies are obligated to a dual reporting materialized in two sets of financial statements – one at individual level, the other at group level. Therefore, the following question arises naturally – which of the two sets best serves the information needs of investors (and other categories of users), respectively which of the two sets is more relevant to substantiating decisions. Of course, the possibility of both sets at the same time best serving the information needs is not ruled out.

Considering all these aspects, in our scientific endeavor we set to carry out an empirical association study on the problem of market value relevance of consolidated financial statements and of individual financial statements of the parent company, searching for an answer to the above question. Market value relevance can be evaluated through event studies in which the market reaction to financial information announcements is analyzed, or through association studies used to measure the explicit connection between indicators of company market value (e.g. stock price) and financial information. This second perspective of evaluation is applied in most market value relevance studies (Hellström, 2006: 328) and has also been approached in our research.

In this sense, we pursued an analysis of (absolute and relative) market value relevance of consolidated and parent company accounting information of listed entities between 2003-2008 on the largest stock markets in Europe (London, Paris, and Frankfurt). We chose a time frame of several years in order to be able to follow the evolution in time of the relevance (absolute and relative) of consolidated financial statements. It must be mentioned, however, that strictly from the point of view of the calendar year relevance is measured for the period 2004-2009, because statistical associations are based on stock prices from April the following year.

The remainder of the paper is organized as follows. The next section (first numbered section) relates our study to previous technical and academic literature. Section 2 explains the research methodology (including sample selection and data sources as well as the development of hypotheses and empirical models). Section 3 reports the descriptive statistics while in section 4 we expose the empirical results obtained. The final section provides a discussion of results and conclusions.

## **1. LITERATURE REVIEW**

The importance and currentness of this problem results, to a great extent, from the recent concerns of IASB and FASB, published in the Discussion paper entitled „Preliminary views on an improved conceptual framework for financial reporting – The Reporting Entity” (IASB, 2008b), in which the problem of dual reporting and the utility of the two categories of financial statements is under discussion, presenting different points of view from the accounting world (for and against dual reporting). This discussion paper was published by IASB in May 2008 and is part of Phase D of the project (unreelied jointly with FASB) of improving the current Conceptual Framework. The preliminary view of the two bodies is that a parent company should always present consolidated financial statements. However, at the same time, the boards consider that through the conceptual framework presenting individual financial statements by the parent company should not be prevented as long as these are included in the same report as the consolidated financial statements (IASB, 2008c: 137-140).

Concerning the empirical research that has tackled this matter, there are only a few studies which could be identified in the international literature. In general, they bring evidence in favor of the superior relevance of consolidated financial statements (ex. Harris *et al.*, 1994, Niskanen *et al.*, 1998; Abad *et al.*, 2000) respectively evidence regarding a lack of relevance increment of individual financial statements of the parent company (Niskanen *et al.*, 1998; Goncharov *et al.*, 2009).

Harris *et al.* (1994) compare the value relevance of accounting measures for U.S. and German firms matched on industry and firm size. One of their conclusions based on their empirical findings states that the explanatory power of accounting data is increasing in the level of consolidation and that unconsolidated data perform poorly relative to the consolidated data. Niskanen *et al.* (1998) examine the information content of consolidated versus parent-only earnings, using accounting and market data from Finnish firms. Their results show that consolidated earnings are a significant incremental explanatory variable for stock returns, while parent-only earnings are not, thus indicating that consolidation improves the information content of earnings, and that the requirement to disclose parent-only earnings should be based on arguments other than their value-relevance to shareholders.

Abad *et al.* (2000) investigate the value relevance of consolidated versus parent company accounting information on a sample of Spanish firms listed on the Madrid Stock Exchange. The authors use the Edwards-Bell-Ohlson valuation framework to generate the results. The empirical findings show that, from this valuation perspective, consolidated information dominated parent company (non-consolidated) information. Finally, Goncharov *et al.* (2009) examine the possibly different economic functions of company (single) and group (consolidated) accounts using a large number of accounting and market-based metrics from a sample of German companies. Their

analysis indicates higher value relevance, predictive ability, and timeliness of group accounts as compared to company accounts. Furthermore, they could not identify an incremental usefulness of single accounts.

Also regarding the value relevance of consolidated information are empirical studies which investigate the value relevance of consolidated financial statements in the context of the IFRS transition. A series of empirical studies have proven the rise of market value relevance following IFRS adoption (Bartov *et al.*, 2005; Jermakowicz *et al.*, 2007; Barth *et al.*, 2007; Lin and Paananen, 2007). However, there are also studies showing that IFRS has not lead to a rise in the market value relevance of consolidated financial statements (Callao *et al.*, 2007; Hung and Subramanyam, 2007; Gjerde *et al.*, 2008; Paananen, 2008). According to a recent study (Armstrong *et al.*, 2010), the mandatory application of IFRS when presenting consolidated financial statements starting with 2005 determines an improvement of the quality of accounting information as seen by the investors.

## **2. RESEARCH METHODOLOGY**

### **2.1. Sample selection and data sources**

In this empirical research we followed the analysis of market value relevance of consolidated accounting information on companies on the large European stock markets in 2003-2008. The European stock market (monitored by Federation of European Securities Exchanges – FESE) comprises capital markets from EU countries as well as Iceland, Norway and Switzerland. The large European capital markets (which exceed the threshold of 5% of the total European capital market) include, according to *Table 2*: BME Spanish Exchanges, Borsa Italiana, Deutsche Börse, London Stock Exchange, NASDAQ OMX Nordic, NYSE EURONEXT and SIX Swiss Exchange. The criteria chosen to estimate the size of a stock market (and implicitly of selecting it) is market capitalization and the volume of share trading (within and outside of the electronic system) for each year of the analyzed period. In order to form a representative sample of the large European stock markets we decided to include in our sample the top European stock markets that together exceed 50% of the total size of the largest European stock markets and respectively 50% of the total size of the European capital market for each of the six years. Of course, we dare think that such a sample can be considered representative at the level of the European capital market as a whole, since the large European markets – for which the sample is representative – represent over 90% of the total European capital market.

So, as seen in *Table 3*, the largest stock markets are Deutsche Börse, London Stock Exchange and NYSE Euronext, which together exceed the conditions aforementioned in each year of study. On average, for the analyzed period, the three stock exchanges represent 67,5% of the transaction volume, respectively 60,3% of the market capitalization of the European capital market. In fact, these are the only stock markets

that individually exceed 10% of the total market capitalization, respectively of the total volume of share trading on European stock markets for the six years of the analyzed period, which constitutes an additional argument for considering the sample as representative for large European stock markets.

From the four stock exchanges that make up NYSE Euronext we chose Paris Stock Exchange (the largest of the four, accounting for 70% of the companies included in the EURONEXT100 index) and for the German stock market we chose, of course, Frankfurt Stock Exchange (again the largest of the seven component stock exchanges). To continue, the main criteria for selection that we established for each stock exchange is the belonging to the main index which includes the first 100 of the largest and most traded companies on that particular stock exchange. So, for the London stock exchange we chose FTSE 100, for the Parisian stock exchange EURONEXT 100, and for the Frankfurt stock exchange HDAX 110. The HDAX 110 index represents the extended version of DAX 30 and includes companies from the DAX, MDAX and TecDAX. We chose this index since it is the closest as structure and number of included companies to FTSE 100 and EURONEXT 100.

We excluded financial and insurance companies from the sample because their structure and accounting practices differ significantly from those of non-financial companies (Hellström, 2006: 335). As well, to eliminate composition differences of the sample from one year to the other (which would affect comparability of results in time), we excluded companies that have not been listed on the stock exchanges for the whole analyzed period. At the same time, to increase the homogeneity of the sample and to use the same time span (31.03 – 30.04) to determine average share price, companies who close financial years (for financial statement purposes) at a date different from 31.12 were excluded. Therefore, after going through these steps, the final sample is made up of 98 companies, respectively 588 firm-year observations as can be seen in *Table 1*. The sample constitutes, therefore, a two-dimensional balanced panel data noted  $X_{it}$ , which is practically a data set containing observations on the individual characteristics (e.g. equity, income) of the same ( $i = 1, \dots, 98$ ) for a number of year ( $t = 1, \dots, 6$ ).

*Table 1. Final sample composition*

Frankfurt Stock Exchange	London Stock Exchange	Paris Stock Exchange
1 BASF	1 AMEC	1 Accor
2 Bayer	2 Anglo American	2 Air Liquide
3 BB Biotech	3 Antofagasta	3 Bouygues
4 Beiersdorf	4 Astrazeneca	4 Cap Gemini
5 BMW	5 Autonomy	5 Carrefour
6 Celesio	6 Bae Systems	6 Christian Dior
7 Continental	7 Balfour Beatty	7 Ciments Francais
8 Daimler	8 BG Group	8 Danone
9 Deutsche Börse	9 BP	9 EADS
10 Deutsche Lufthansa	10 British American Tobacco	10 Eramet
11 Deutsche Telekom	11 Cairn Energy	11 Essilor International
12 Eon	12 Capita Group	12 Iliad
13 Elring Klinger	13 Centrica	13 Imerys
14 Fuchs Petrolub	14 Cobham	14 Klepierre
15 Gildemeister	15 Foreign&Col Investment	15 L'oreal
16 Heidelbergcement	16 Glaxosmithkline	16 Lagardere
17 Henkel	17 Hammerson	17 Michelin
18 Hochtief	18 Intertek Group	18 Peugeot
19 Hugo Boss	19 International Power	19 PPR
20 Kronos	20 Liberty International	20 Publicis Groupe
21 Leoni	21 Pearson	21 Renault
22 Metro	22 Randgold Resources	22 Saint Gobain
23 MLP	23 Reed Elsevier	23 Sanofi-Aventis
24 Morphosys	24 Rexam	24 Schneider Electric
25 Nordex	25 Rio Tinto	25 Technip
26 Pfeiffer Vacuum Techno	26 Rolls-Royce Group	26 TF1
27 Pfleiderer	27 Segro	27 Total
28 Rheinmetall	28 Serco Group	28 Vallourec
29 Rhön-Klinikum	29 Smith & Nephew	29 Veolia Environ
30 RWE	30 Tullow Oil	30 Vinci (Ex.Sge)
31 Salzgitter	31 Unilever	31 Vivendi
32 SAP	32 Xstrata	
33 United Internet		
34 Volkswagen		
35 Vossloh		
<b>Total companies included in the final sample: 98</b>		
<b>Total number of observations (company-year) included in the final sample: 588</b>		
<b>(98 companies x 6 years)</b>		

Based on this complete sample, throughout the paper we constructed different sub-samples for each year, stock exchange or other sub-samples which have been described in the study at the moment when they were used. It must be mentioned that we did not study comparatively the market value relevance of consolidated (and individual) financial statements for the three stock markets. Creating

sub-samples is only meant to get confirmation (to strengthen) of the empirical results obtained from the complete sample.

Consolidated and individual financial information (group equity, parent company equity, group earnings, parent company earnings, number of shares) was collected manually from the annual reports for the 588 year-observations of the complete sample, after being previously downloaded from the official web-sites of the respective companies. For many German companies using parent company annual reports was necessary because annual group reports did not include parent company financial statements, but only consolidated financial statements.

Share prices for the sampled observations were also collected manually from the finance.yahoo.com database. This database can be accessed without charge and is recommended by Andrei and Bourbonnais (2008: 30). For the development of the study, we computed average closing share prices for 31.03 – 30.04 of each year, making sure that companies have already published the annual reports for the preceding year. We consider that using average closing prices for a certain period of time (as opposed to using the closing price of a certain day – for example 31.03) has the advantage of neutralizing possible daily fluctuations of the prices, caused by factors that are not linked to the financial information published in the annual reports.

A very important aspect for every empirical study based on testing linear regressions is the problem of identifying and eliminating outliers (Martin & Roberts, 2006: 703). In this respect, we established two filters: the first filter (applied by Hellström, 2006) eliminated observations that, in the first stage, exceed five standard deviations from the average value of equity (consolidated and individual, respectively)/share price and net income (consolidated and individual, respectively)/share price and then (after eliminating these ones) the ones that exceed three standard deviations from the average. The second filter (applied by Collins *et al.* 1997; Gu, 2007) eliminates outliers for which residuals have absolute values exceeding 4 standard deviations from zero for consolidated financial statements regressions, respectively for parent company individual financial statements. This methodology was applied for the complete sample (n=588), as well as for each sub-sample used throughout the study. The final dimension of each sample is indicated in the first column of each table, which represents the empirical results for the various regression models employed.

## **2.2. Hypotheses development**

For the purpose of this study, we formulated the following four hypotheses related to the „confrontation” on the relevance of consolidated financial statements and parent company individual financial statements.

Hypothesis 1: Information supplied by consolidated financial statements are more value relevant than information supplied by individual financial statements of the parent company. This hypothesis represents the starting point and basis for elaborating and testing the next hypotheses. Naturally, for its development we took into consideration empirical results of previous research, which support the thesis of



consolidated financial statement superiority (Harris *et al.*, 1994; Niskanen *et al.*, 1998; Abad *et al.*, 2000; Goncharov *et al.*, 2009). As mentioned before throughout this scientific endeavor, the capacity of individual financial statements of the parent company to reflect its real economic power is reduced. The information supplied by these statements often appear insufficient, especially for those users of accounting information whose fulfillment of individual goals depends on the activity of more or all of the companies within the group (Theisen, 2000: 494). Therefore, consolidated financial statements, which reflect the economic power of the whole business combination (presenting information on all the resources and activities within the scope of the reporting entity), should supply more relevant information to the stock market investors.

Hypothesis 2: The value relevance of information supplied by consolidated financial statements has been increasing (in the analyzed period of time). At the basis of the development of this hypothesis lies, on one hand, the results of previous studies (Collins *et al.* 1997; Gjerde *et al.*, 2007), which show that the relevance of financial statements has increased over time. On the other hand, we also start from the presumption that the qualitative level of the regulations for presenting consolidated financial statements has increased over time, especially considering the adoption of IFRS in 2005 and their constant improvement in time as a result of IASB concern (together with FASB) to elaborate global standards of high quality.

Hypothesis 3: The value relevance surplus supplied by consolidated financial statements as opposed to individual financial statements of the parent company has an increasing trend (in the analyzed period of time). This hypothesis represents, to a certain extent, a blending of the first two aforementioned hypotheses. For its development, we also took into consideration the fact that the European and national accounting regulations on presenting parent company financial statements generally evolve at a slower pace (compared to international standards), and have not been substantially modified in the analyzed period of time.

Hypothesis 4: Information supplied together by consolidated financial statements and parent company statements are more value relevant as opposite to information supplied only by consolidated financial statements. While consolidated financial statements are meant to offer a true and fair view on the financial position and performance of the economic entity (the group), individual financial statements have not only the role to inform on the financial position and performance of the legal entity (the parent company), but also represent to starting point in determining taxes and computing distributable income (Goncharov *et al.*, 2009: 335). Therefore, it is plausible for information supplied by parent company financial statements to bring a surplus of relevance (market value relevance), beyond consolidated information, which leads to the fact that a dual reporting is superior (from the point of view of relevance) to consolidated reporting.

**Value relevance of consolidated versus parent company financial statements:  
Evidence from the largest three European capital markets**

*Table 2. Evolution of trade volume and market capitalization for the European stock markets in 2004-2009 (percentages)*

Stock exchange / Year	2004		2005		2007		2008		2009	
	Trade vol.	Mk. Cap.	Trade vol.	Mk. Cap.	Trade vol.	Mk. Cap.	Trade vol.	Mk. Cap.	Trade vol.	Mk. Cap.
Athens Exchange	0.35%	1.21%	0.43%	1.28%	0.51%	1.32%	0.55%	1.54%	1.05%	1.59%
BME (Spanish Exch.)	9.59%	9.06%	10.45%	8.48%	8.78%	8.78%	9.74%	10.48%	11.01%	13.75%
Borsa Italiana	7.70%	7.61%	8.72%	7.05%	6.82%	6.82%	7.58%	6.24%	6.06%	3.25%
Bratislava Stock Exch.	0.01%	0.04%	0.00%	0.04%	0.04%	0.04%	0.00%	0.04%	0.06%	0.00%
Bucharest Stock Exch.	0.00%	0.00%	0.00%	0.14%	0.17%	0.17%	0.01%	0.18%	0.10%	0.01%
Bulgarian Stock Exch.	0.00%	0.03%	0.01%	0.04%	0.07%	0.07%	0.02%	0.13%	0.10%	0.00%
CESEEG - Budapest	0.11%	0.28%	0.16%	0.29%	0.25%	0.25%	0.16%	0.27%	0.22%	0.27%
CESEEG - Ljubljana	0.01%	0.09%	0.01%	0.07%	0.10%	0.10%	0.02%	0.17%	0.14%	0.01%
CESEEG - Prague	0.15%	0.28%	0.29%	0.32%	0.30%	0.30%	0.16%	0.41%	0.48%	0.22%
CESEEG - Vienna	0.19%	0.85%	0.31%	1.1%	1.32%	1.32%	0.2%	1.38%	0.89%	0.43%
Cyprus Stock Exchange	0.00%	0.05%	0.00%	0.06%	0.02%	0.1%	0.02%	0.17%	0.09%	0.02%
Deutsche Börse	11.33%	11.13%	12.84%	10.61%	10.87%	10.87%	14.18%	12.25%	12.93%	15.23%
Irish Stock Exchange	0.36%	1.10%	0.45%	1.0%	1.08%	1.08%	0.4%	0.64%	0.57%	0.33%
London Stock Exch.	41.34%	27.13%	38.06%	27.00%	25.19%	25.19%	34.03%	22.42%	21.83%	27.93%
Luxembourg Stock Ex.	0.00%	0.48%	0.00%	0.45%	0.52%	0.52%	0.00%	0.57%	0.77%	0.00%
Mata Stock Exchange	0.00%	0.03%	0.00%	0.04%	0.03%	0.03%	0.00%	0.03%	0.04%	0.00%
NASDAQ OMX Nordic	6.37%	7.10%	6.42%	7.34%	7.46%	7.46%	5.96%	7.23%	6.54%	5.91%
NYSE Euronext	19.79%	23.52%	19.48%	23.90%	24.62%	24.62%	18.43%	24.58%	24.41%	16.87%
Oslo Børs	1.08%	1.36%	1.57%	1.69%	1.86%	1.86%	1.80%	2.06%	1.65%	2.09%
SIX Swiss Exchange	0.48%	7.99%	0.55%	8.26%	8.05%	8.05%	6.17%	7.40%	9.97%	5.66%
Warsaw Stock Exch.	0.13%	0.68%	0.20%	0.83%	0.95%	0.95%	0.29%	1.23%	1.05%	0.48%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

(Source: Federation of European Securities Exchanges [www.fesb.be](http://www.fesb.be) and author's calculations)

Table 3. Evolution of trade volumes and market capitalization for the main European stock markets in 2004-2009 (millions Euro)

Stock Exch./Year	2004		2005		2006		2007		2008		2009	
	Trade vol.	Mk. Cap.	Trade vol.	Mk. Cap.	Trade vol.	Mk. Cap.	Trade vol.	Mk. Cap.	Trade vol.	Mk. Cap.	Trade vol.	Mk. Cap.
Deutsche Börse	1237673	849717	1545795	101917	2164848	1241963	314415	1439955	3223504	797063	1054201	831261
London Stock Exch.	4150660	2071775	4583167	2592623	5990492	2875986	7544970	2634577	4352.9E	1352327	1930754	1794084
NYSE Euronext	1987298	1796036	2345528	2294828	3047587	2812261	408681	2888313	3072516	1508423	1167705	1822159
Other European Stock Exchanges	2664888	2919487	3567367	3695616	5575312	44835.1	7395998	4789169	5250220	2522143	2767820	3055526
TOTAL	100405.9	7637015	12041857	9602238	16778239	11420721	22171930	11752014	1593843E	5179956	6920480	7523030

(Source: Federation of European Securities Exchanges ([www.fese.be](http://www.fese.be)) and author's calculations)

### **2.3 Development of empirical models and description of the variables involved**

In order to empirically test the research hypotheses on the market value relevance of information supplied by consolidated and parent company financial statements, we developed a series of econometric valuation models which measure the degree of association between share price and accounting information supplied by financial statements (equity and net income). The starting point in developing these models was the following linear regression (whose parameters are to be estimated using ordinary least square - OLS):

$$\text{Initial model: } Pit = \alpha_0 + \alpha_1 * Cpit + \alpha_2 * Rezit + \epsilon_{it} \quad (1)$$

Where

Pit	=	share price of company i in year t
Cpit	=	equity/share of company i in year t
Rezit	=	net income/share of company i in year t
$\epsilon_{it}$	=	residual value (error term) for company i in year t

This regression model in which the dependent variable is the share price level (price level regression), has the advantage that it is affected in a small amount by an eventual inefficiency of the market, since price level regressions reflect information accumulated since the establishment of the companies (concentrated for example in net assets) (Aboody *et al.*, 2002: 978). At the same time, another advantage of this model is that it can be decomposed, so that the two explanatory variables (equity and net income) are broken down to their components. The basis for this is the Ohlson (1995) valuation model, which expresses share price as a function of current accounting value of equity plus discounted value of future (abnormal) results. The model was initially proposed by Preinreich in 1938, later used by Edwards and Bell (1961), Edey (1962) and Peasnell (1982), but it was restored and popularised in accounting literature through papers written by Ohlson and respectively Feltham and Ohlson in 1995 (see Abad *et al.*, 2000: 165).

To compare relevance in absolute values of information supplied by consolidated financial statements, respectively by parent company financial statements, the following empirical models were elaborated:

$$\text{Model 1: } Pit = \alpha_0 + \alpha_1 * pBVit + \alpha_2 * pEit + \epsilon_{it} \quad (2)$$

$$\text{Model 2: } Pit = \alpha_0 + \alpha_1 * cBVit + \alpha_2 * cEit + \epsilon_{it} \quad (3)$$

Where

pBVit	=	book value of parent company equity/share of company i in year t
pEit	=	parent company net income/share of company i in year t
cBVit	=	book value of group equity/share of company i in year t
cEit	=	group earnings/share of company i in year t

In order to make inferences regarding incremental utility of information supplied by consolidated financial statements (considering that both sets of financial statements are published by the sampled companies) we developed a model to include both categories of information:

$$\text{Model 3: } Pit = \alpha_0 + \alpha_1 * pBVit + \alpha_2 * \Delta cBVit + \alpha_3 * pEit + \alpha_4 * \Delta cEit + \epsilon_{it} \quad (4)$$

Where

$\Delta cBVit$  = difference between group equity and parent company equity/share of company i in year t

$\Delta cEit$  = difference between group earnings and parent company earnings/share of company i in year t

These three empirical models will be used to test the first three hypotheses. Therefore, in order to confirm hypothesis 1 regarding consolidated information relevance superiority, explanation power of model 2 quantified by adjusted R<sup>2</sup> must be greater than the explanation power of model 1. Since R<sup>2</sup> coefficient of determination increases with the introduction of new exogenous variables (and thus not being adequate to make comparisons between models with a different number of explanatory variables), we use coefficient of determination corrected with the number of degrees of freedom (or adjusted R<sup>2</sup>).

In order to test if an eventual relevance difference (that is relevance increment  $\Delta$  Adj. R<sup>2</sup>) is statistically significant, we use models 1 and 3, checking the level of R<sup>2</sup> change of model 1, after introducing supplementary variables from model 3 (corresponding to consolidated information). As well, to confirm/refute hypothesis 3, we verify if the difference between explanatory power of model 3 and explanatory power of model 1 follow an increasing trend in the analyzed period of time. About hypothesis 2, we will of course follow the evolution in time of explanatory power of model 2.

A fourth empirical model was developed to verify hypothesis 4, regarding the market value relevance superiority of information supplied (together) by consolidated and parent company financial statements as opposed to consolidated information. This is based on model 2 (based on consolidated information) and also includes information supplied by parent company financial statements:

$$\text{Model 4: } Pit = \alpha_0 + \alpha_1 * cBVit + \alpha_2 * \Delta pBVit + \alpha_3 * cEit + \alpha_4 * \Delta pEit + \epsilon_{it} \quad (5)$$

Where

$\Delta pBVit$  = difference between parent company equity and group equity/share of company i in year t

$\Delta pEit$  = difference between parent company earnings and group earnings/share of company i in year t

To confirm hypothesis 4, the explanatory power of model 4 must be superior to the explanatory power of model 2 and the change in explanatory power, as a result of introducing the two variables which represent information regarding the parent company, must be statistically significant.

### **3. DESCRIPTIVE STATISTICS**

From the descriptive statistics analysis presented in *Table 4* (absolute values) and *Table 6* (values per share) there are more relevant conclusions that can be extracted regarding the variables considered in this study. To begin with, an increasing trend of the average share price and total market capitalization can be noticed (for the companies of the sample) until 2006, followed by a slight decrease in 2007 and a more steep one in 2008, due to the economic-financial global crisis, of course. A similar evolution can be noticed for consolidated equity, consolidated income and parent company income (expressed in values per share). However, a clear trend cannot be identified for parent company equity. Worthwhile to remark is the increase (up until the beginning of the crisis) in the difference between group equity and parent company equity, respectively between group earnings and parent company earnings, indicating an increase in time of the contribution of subsidiaries to consolidated equity, respectively to consolidated earnings.

If we concentrate the analysis on the three stock exchanges (that form the sample), what stands out is the fact that the average of all variables is very low compared for the companies listed at the London Stock Exchange compared to those listed on Frankfurt or Paris Stock Exchange, which is due especially to the high average number of shares issued by English companies (1.814 million shares/company) compared to German companies (341 million shares/company) and French (332 million shares/company). This state of facts is based on the long tradition in financing of the big companies on the Great Britain stock market (country with an Anglo-Saxon economy). By analyzing absolute values results that companies listed on Paris Stock Exchange (and included in the sample) have, on average, the highest market capitalization and the highest consolidated equity. The market capitalization average values for the three sub-samples are situated in the same size range (tenths of billion Euros) deviating from the average of the complete sample (13.9 billion Euro) with 14% at the most, indicating a relatively homogenous complete sample (from the point of view of company size).

Regarding the existent associations between the variables employed in the econometric models (see Pearson correlation matrix in *Table 5*), it can be seen that there are strong significant correlations between the dependent variable (share price) and the explanatory variables (equity, respectively earnings per share, at consolidated and individual level), which signals the relevance of these accounting values to explain the market value of companies. Correlations between share price and consolidated accounting values are higher, suggesting the possibility (or even the

probability) of superiority (from the market value relevance point of view) of consolidated financial statements as opposed to parent company financial statements. Of course, this supposition is to be confirmed or refuted by statistical inferences (econometric models).

*Table 4. Statistical synthesis of variables (absolute average values in mil. Euro)*

Period/Sample	Variables						
	No. Shares	Average price	Average Mk. cap.	cBV	cE	pBV	pE
<b>2003-2008 (n=588)</b>	819.2	36.0	13886.0	7620.8	1231.7	6034.0	865.0
<b>2003 (n=98)</b>	799.1	25.3	10505.2	6156.2	668.5	5339.6	652.9
<b>2004 (n=98)</b>	803.6	27.5	11677.4	6721.2	964.1	5561.8	600.4
<b>2005 (n=98)</b>	781.7	40.4	14746.4	7731.5	1425.9	5985.4	874.2
<b>2006 (n=98)</b>	824.8	48.9	17643.8	8328.3	1600.2	6173.9	904.7
<b>2007 (n=98)</b>	827.9	46.7	16831.9	8590.4	1594.9	6698.8	1374.6
<b>2008 (n=98)</b>	878.1	26.8	11911.4	8197.5	1136.8	6444.3	783.0
<b>Frankfurt St. Ex. (n=35)</b>	341.1	41.5	11596.9	7396.5	869.4	4740.4	617.2
<b>London St. Ex. (n=32)</b>	1814.2	9.3	14950.4	6464.5	1554.1	5277.7	1202.0
<b>Paris St. Ex. (n=31)</b>	331.9	57.3	15371.8	9067.8	1308.0	8275.1	796.8

*Table 5. Correlation matrix of variables*

Pearson Correlation							
	Price	cBV	cE	pBV	pE	$\Delta$ cBV	$\Delta$ cE
<b>Price</b>	1.000						
<b>cBV</b>	0.776	1.000					
<b>cE</b>	0.781	0.788	1.000				
<b>pBV</b>	0.679	0.784	0.598	1.000			
<b>pE</b>	0.620	0.407	0.404	0.510	1.000		
<b><math>\Delta</math>cBV</b>	0.552	0.729	0.601	0.146	0.099	1.000	
<b><math>\Delta</math>cE</b>	0.534	0.481	0.709	0.251	-0.329	0.489	1.000

\*All correlations are significant at 0.01.

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*Table 6. Descriptive statistics for variables (expressed in values per share)*

Period/Sample		Variables (per share)						
		Price	cBV	pBV	ΔcBV	cE	pE	ΔcE
<b>2003-2008</b> <b>n= 548</b>	Average	35.971	19.848	13.978	5.833	3.039	1.770	1.201
	Median	27.775	13.560	10.780	1.490	1.985	1.065	0.560
	Std. deviation	39.356	21.656	13.872	13.363	3.714	2.133	2.937
<b>2003</b> <b>n= 88</b>	Average	25.312	17.305	13.450	3.656	1.964	1.395	0.433
	Median	20.930	11.920	10.010	1.105	1.210	0.710	0.175
	Std. deviation	25.528	18.009	13.092	11.183	2.177	1.899	1.857
<b>2004</b> <b>n= 86</b>	Average	27.543	18.987	14.160	4.828	2.622	1.412	1.161
	Median	24.240	14.100	11.230	1.835	1.435	0.940	0.520
	Std. deviation	21.315	19.074	12.960	11.189	3.110	1.447	2.406
<b>2005</b> <b>n= 88</b>	Average	40.372	19.477	13.567	5.910	3.137	1.685	1.531
	Median	35.315	12.640	10.650	1.600	2.020	1.110	0.620
	Std. deviation	33.977	20.823	13.065	11.713	3.613	1.773	2.620
<b>2006</b> <b>n= 83</b>	Average	48.908	20.784	14.813	5.970	3.247	1.723	1.608
	Median	46.410	14.940	11.510	1.190	2.420	1.170	0.820
	Std. deviation	41.670	22.312	14.736	13.050	3.408	1.844	2.225
<b>2007</b> <b>n= 87</b>	Average	46.694	20.326	13.513	6.812	3.672	2.174	1.509
	Median	34.535	14.640	10.220	1.500	2.780	1.120	0.580
	Std. deviation	61.331	22.894	13.573	14.913	3.893	2.329	2.873
<b>2008</b> <b>n= 89</b>	Average	26.771	19.766	13.206	6.560	3.168	1.750	1.433
	Median	20.605	13.350	9.230	1.640	1.875	1.225	0.560
	Std. deviation	32.389	24.231	13.029	16.773	4.605	2.083	3.565
<b>Frankfurt Stock Exchange</b> <b>n= 192</b>	Average	41.481	23.021	14.597	8.424	3.458	2.136	1.287
	Median	34.070	17.925	12.465	4.220	2.870	1.545	0.725
	Std. deviation	32.489	17.834	9.213	13.410	3.232	2.212	3.123
<b>London Stock Exchange</b> <b>n= 174</b>	Average	9.291	3.112	2.427	0.666	0.683	0.431	0.228
	Median	6.220	1.640	1.610	0.075	0.370	0.205	0.120
	Std. deviation	8.551	3.285	2.411	2.220	0.894	0.634	0.695
<b>Paris Stock Exchange</b> <b>n= 171</b>	Average	57.290	34.610	26.199	8.411	5.337	2.749	2.596
	Median	48.000	25.550	21.850	3.610	3.370	2.060	1.310
	Std. deviation	49.157	26.072	15.897	19.113	6.422	2.408	5.879

It must be mentioned, as well, the existence of significant correlations between some explanatory variables used in the same econometric models. We are referring especially to group equity and group earnings (per share). These correlations, which indicate the existence of multicollinearity between variables are, however, common to such studies, since they are present in numerous empirical research (see Collins *et al.*, 1997; Rees, 1997; Abad *et al.*, 2000; Hevas *et al.*, 2000; Aboody *et al.*, 2002; Naceur & Goaid, 2004).

To examine if multicollinearity generates instability of empirical results, we computed, for each coefficient of the explanatory variables from the econometric models, the variance inflation factor (VIF), which quantifies to what extent the



variance for a coefficient is increased due to collinearity (Andrei & Bourbonnais, 2008: 274). When variables are not correlated, the variance inflation factor is 1. VIF values of more than 5 (see Jermakowicz *et al.*, 2007) or even 10 (see Kutner *et al.*, 2004) are regarded in the specialty literature as indication of (serious) autocorrelation problems between independent variables.

#### **4. EMPIRICAL RESULTS**

As we mentioned when we described the empirical models developed, in order to test the hypothesis regarding the superior value relevance of consolidated financial statements (as opposed to parent company financial statements), in the first stage we compared the absolute value relevance of information supplied by the two types of financial statements, based on two regression models. The empirical results regarding the two models are presented in *Table 7* and illustrated graphically in *Figure 1*. By comparing the explanatory power (Adj. R2) of the two models for the whole analyzed period (2004-2008) as well as for each year and each stock exchange included in the sample, the superiority of the value relevance of information provided by consolidated financial statements clearly stands out. Concerning the coefficients of the two regressions, they are significant (and positive) for each sub-sample and for the complete sample, usually at 0.001 level (at least at 0.05 level for model 2 related to consolidated reporting, respectively at 0.1 for model 2 related to individual reporting).

At the same time, the estimated coefficients have values of variance inflation factor (VIF) under 5, indicating the fact that there are no worrying aspect regarding the effects of multicollinearity between explanatory variables of the model. In the second stage we considered testing the relevance difference between group statements and parent company financial statements (that is incremental  $\Delta$  Adj. R2) to see if it is statistically significant. Therefore, based on models 1 and 3 (see *Table 8* respectively *Figure 2*) we checked the level of statistical significance of changing the explanatory power of model 1 after introducing supplementary variables corresponding to consolidated information from model 3, and concluded that the relevance surplus is statistically significant at 0.001 level. Consequently, the first hypothesis regarding the superiority in terms of relevance of consolidated financial statements (as opposed to information provided by parent company statements) is statistically confirmed.

At the same time, from the analysis of the empirical results obtained (see *Table 7* and *Figure 1*) we clearly observe the increasing trend of relevance (market value relevance) of consolidated financial statements, starting with a value (of the explanatory power of model 2 Adj. R2) of 64.7% in 2003 and reaching 77.9% in 2008. The slight decrease of the power of explanation from 2007 against 2006 is singular, and can be credited, of course, to the financial-economic crisis and does not affect, in our opinion, the increasing trend of the analyzed period. Therefore, this statistical evidence permits to confirm the second hypothesis regarding the increase in time of the relevance of consolidated financial statements.

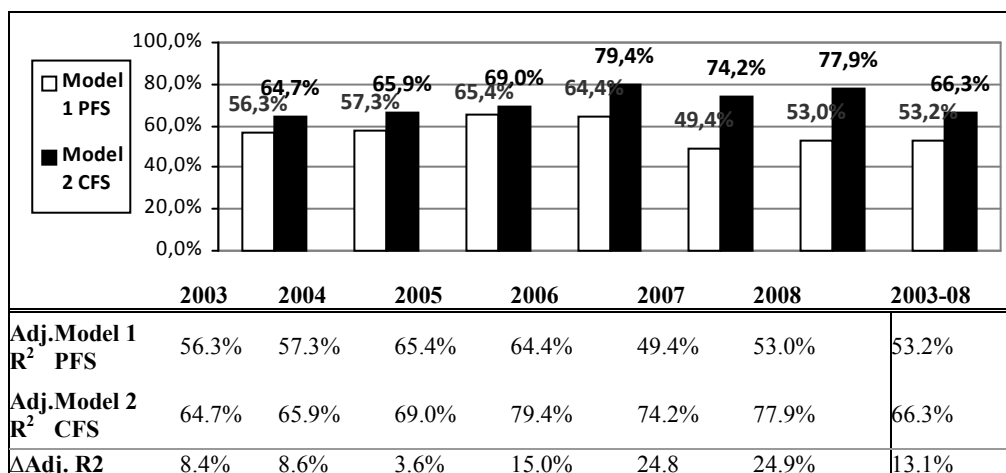
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*Table 7. Empirical results for regression models 1 and 2*

Period/ Sample	Characteristics MODEL 1					Characteristics MODEL 2				
	$\alpha 0$	pBV	pE	F	Adj. R <sup>2</sup>	$\alpha 0$	cBV	cE	F	Adj. R <sup>2</sup>
2003-2008 n= 548	Alfa	11.827	1.064	5.138	285.405	53.20%	12.634	0.578	3.802	
	t	8.375***	12.629***	9.244***			11.504***	9.185***	10.252***	507.106
	VIF	-	1.502	1.502			-	2.959	2.959	66.30%
2003 n= 88	Alfa	9.687	0.851	2.986	49.948	56.30%	10.071	0.492	3.465	
	t	4.439***	5.725***	3.027***			5.327***	3.996***	3.317***	69.862
	VIF	-	1.586	1.586			-	2.887	2.887	64.70%
2004 n= 86	Alfa	10.049	0.784	5.545	53.302	57.30%	11.815	0.443	3.237	
	t	4.064***	4.311***	3.370***			6.022***	3.808***	4.517***	79.142
	VIF	-	2.093	2.093			-	2.562	2.562	65.90%
2005 n= 88	Alfa	12.083	1.272	6.631	76.733	65.40%	14.827	0.958	1.98	
	t	3.834***	6.103***	4.284***			5.649***	5.984***	2.140**	95.703
	VIF	-	1.717	1.717			-	3.113	3.113	69.00%
2006 n= 84	Alfa	18.379	0.987	9.245	71.492	64.40%	16.339	0.856	4.418	
	t	5.095***	3.27***	3.789***			6.252***	4.62***	3.638***	156.771
	VIF	-	3.142	3.142			-	4.858	4.858	79.40%
2007 n= 87	Alfa	15.339	0.935	7.301	41.05	49.40%	13.269	0.346	6.237	
	t	3.574***	3.910***	5.179***			4.771***	1.953**	5.922***	121.515
	VIF	-	1.322	1.322			-	4.118	4.118	74.20%
2008 n= 89	Alfa	5.249	0.978	4.706	45.564	53.00%	10.508	0.198	3.877	
	t	1.757*	5.862***	4.517***			6.258***	1.981**	7.269***	147.698
	VIF	-	1.196	1.196			-	3.634	3.634	77.90%
Frankfurt n= 192	Alfa	22.105	0.772	3.784	26.758	22.50%	18.682	0.34	4.282	
	t	6.561***	3.841***	4.554***			8.262***	3.252***	7.459***	93.017
	VIF	-	1.13	1.13			-	1.873	1.873	50.30%
London n= 174	Alfa	4.702	0.871	4.98	44.862	36.10%	4.597	0.355	4.891	
	t	6.829***	4.106***	5.980***			8.277***	1.997**	7.497***	87.796
	VIF	-	1.221	1.221			-	2.14	2.14	52.20%
Paris n= 171	Alfa	25.197	0.747	4.889	39.611	32.30%	28.228	0.434	2.609	
	t	5.667***	4.760***	4.670***			9.479***	4.168***	6.115***	111.331
	VIF	-	1.238	1.238			-	2.379	2.379	57.10%

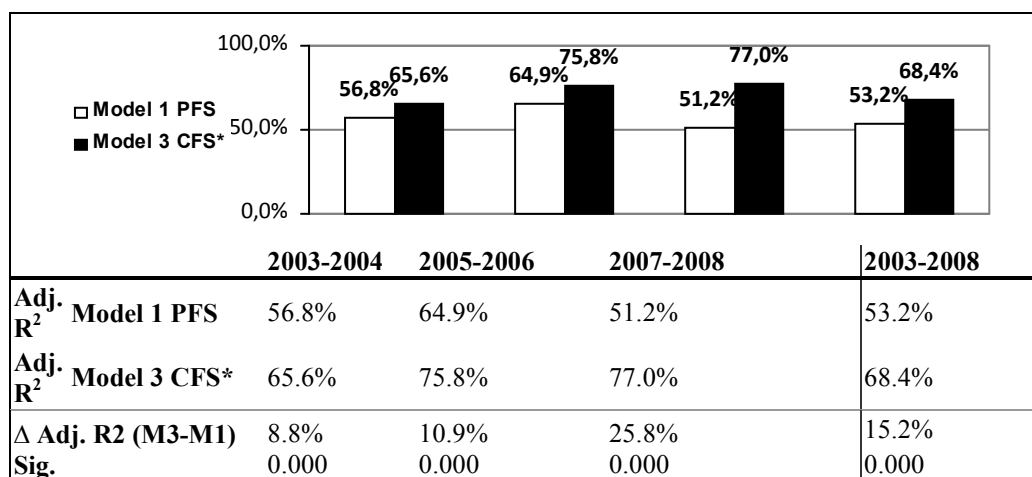
\*\*\* significant at 0.001; \*\* significant at 0.01; \* significant at 0.05; \* significant at 0.1

Figure 1. Evolution of value relevance (in absolute terms) of consolidated financial statements (CFS) and parent company financial statements (PFS)



In order to test hypothesis 3 regarding the increase in time of the relevance variance between the two categories of financial statements, we verified if there is a trend over the analyzed period for the difference measure between the coefficient of determination of model 3 (corresponding to consolidated financial statements) and the coefficient of determination of model 1 (corresponding to individual financial statements). In this respect, to better delineate the trend, we split the analyzed period (2003-2008) in three sub-periods of two years, computing for each sub-period the average explanatory power for the corresponding years (see Figure 2).

Figure 2. Evolution of value relevance increment of CFS relative to PFS



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From the conducted analysis results an increase in time of the difference between the two coefficients of determination, from 8.8% (for 2003-2004) to 25.8% (for 2007-2008). Considering the statistical significance of the respective difference certified by statistic tests applied to verify hypothesis 1 (at 0.001 level), we can conclude that the third hypothesis, as well, regarding the increasing trend of the relevance surplus provided by consolidated information is statistically confirmed.

*Table 8. Empirical results for regression model 3*

Period/ Sample		Characteristics MODEL 3					F	Adj R <sup>2</sup>
		$\alpha_0$	pBV	$\Delta$ cBV	pE	$\Delta$ cE		
2003-2008 n= 548	Alfa	10.343	0.725	0.386	5.167	3.139	272.155	68.40%
	t	8.885****	9.493****	4.885****	10.051****	8.682****		
	VIF	-	1.83	1.865	1.905	1.881		
2003 n= 88	Alfa	9.072	0.629	0.374	3.714	2.197	37.159	65.60%
	t	4.663****	3.761****	2.599****	2.996****	2.306**		
	VIF	-	2.545	1.452	3.177	1.994		
2004 n= 86	Alfa	9.34	0.572	0.449	5.433	1.336	38.119	65.60%
	t	4.173****	3.166****	2.957****	3.624****	1.731*		
	VIF	-	2.562	1.338	2.156	1.656		
2005 n= 88	Alfa	12.484	1.095	0.615	4.344	1.415	51.127	71.50%
	t	4.354****	5.151****	2.802****	2.681****	1.475*		
	VIF	-	2.165	1.959	2.28	1.816		
2006 n= 84	Alfa	15.198	0.882	0.612	5.634	4.506	79.46	80.10%
	t	5.542****	3.589****	2.683****	2.817****	3.335****		
	VIF	-	2.295	2.198	2.343	2.209		
2007 n= 87	Alfa	12.184	0.383	0.433	7.369	4.82	60.571	74.40%
	t	3.926****	1.943**	1.743*	6.241****	3.651****		
	VIF	-	1.777	3.451	1.833	3.62		
2008 n= 89	Alfa	8.54	0.371	0.041	4.052	4.078	78.3	79.60%
	t	4.245****	2.881****	3.17****	5.572****	6.303****		
	VIF	-	1.643	2.988	1.345	3.404		
Frankfurt n= 192	Alfa	17.465	0.355	0.408	5.012	3.523	46.899	50.90%
	t	6.418****	2.137**	3.335****	6.485****	6.491****		
	VIF	-	1.22	1.496	1.543	1.581		
London n= 174	Alfa	4.376	0.634	0.423	5.029	2.964	35.461	47.10%
	t	6.894****	3.008****	1.875*	6.100****	4.172****		
	VIF	-	1.449	1.33	1.446	1.341		
Paris n= 171	Alfa	24.288	0.395	0.282	5.216	2.507	59.001	58.90%
	t	6.963****	2.934****	2.133**	5.779****	5.876****		
	VIF	-	1.505	2.018	1.516	2.109		

\*\*\*\* significant at 0.001; \*\*\* sig. at 0.01; \*\* sig. at 0.05; \* sig. at 0.1

\*\*\*\* significant at 0.001; \*\*\* sig. at 0.01; \*\* sig. at 0.05; \* sig. at 0.1

To continue, we tested regression model 4, developed to verify the hypothesis regarding the superiority for the capital market of information provided (together) by consolidated financial statements and parent company statements as opposed to consolidated information. The empirical results are synthesized in *Table 9*.

Table 9. Empirical results for regression model 4

Period / Sample		Characteristics MODEL 4					F	Adj. R2
		$\alpha 0$	cBV	$\Delta pBV$	cE	$\Delta pE$		
2003-08 n= 548	Alfa t	10.279 9.093****	0.692 9.220****	0.381 4.049****	5.384 10.640****	1.845 3.862****	282.185	68.60%
	VIF	-	4.525	2.75	5.916	3.247		
2003 n= 88	Alfa t	9.266 4.739****	0.58 3.211****	0.211 1.08	3.954 3.023****	1.341 1.455	36.676	65.50%
	VIF	-	6.361	2.628	4.631	1.588		
2004 n= 86	Alfa t	10.02 4.932****	0.57 3.536****	0.284 1.447	4.565 3.533****	2.123 1.526	43.689	67.80%
	VIF	-	5.223	2.715	8.844	5.786		
2005 n= 88	Alfa t	12.334 4.585****	1.042 5.064****	0.444 1.646*	4.946 3.248****	3.688 2.382**	54.156	71.40%
	VIF	-	2.165	1.959	2.28	1.816		
2006 n= 84	Alfa t	14.847 5.456****	1.039 4.698****	0.422 1.737*	4.298 2.523**	-0.36 -0.204	80.453	79.70%
	VIF	-	7.03	2.93	9.714	4.457		
2007 n= 87	Alfa t	11.779 3.948****	0.4 2.042**	-0.51 -0.196	7.403 6.349****	2.702 2.124**	64.171	75.10%
	VIF	-	5.211	3.864	5.228	3.386		
2008 n= 89	Alfa t	8.933 4.597****	0.346 2.770****	0.289 1.962*	4.036 5.670****	-0.004 -0.005	76.529	78.40%
	VIF	-	5.82	3.959	6.621	5.279		
Frankfurt n= 192	Alfa t	17.099 6.411****	0.356 2.207**	0.76 0.382	5.347 6.844****	1.287 1.931*	48.063	50.80%
	VIF	-	4.504	3.97	3.508	2.342		
London n= 174	Alfa t	4.384 7.464****	0.471 2.175**	0.16 0.667	5.275 6.964****	0.992 1.091	44.292	52.30%
	VIF	-	3.145	1.875	2.881	2.099		
Paris n= 171	Alfa t	23.66 6.972****	0.385 2.917****	0.117 0.755	5.385 6.165****	2.803 3.481**	63.212	60.00%
	VIF	-	4.099	2.983	10.7	7.699		

\*\*\*\* significant at 0.001; \*\*\* sig. at 0.01; \*\* sig. at 0.05; \* sig. at 0.1

\*\*\*\* significant at 0.001; \*\*\* sig. at 0.01; \*\* sig. at 0.05; \* sig. at 0.1

As mentioned before, this has the starting point in model 2 (based on consolidated information) and also includes information offered by parent company financial statements. The comparison between the explanatory power of the two models (see Table 10) reveals a superiority (statistically significant) of model 4 (based on dual information) of 2.3% for the whole sample.

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*Table 10. Empirical results regarding the difference of value relevance between models 2 and 4*

		2003	2004	2005	2006	2007	2008	2003-08
Adj. R2	Model 2 SFC	64.70%	65.90%	69.00%	79.40%	74.20%	77.90%	66.30%
Adj. R2	Model 4 Dual	65.50%	67.80%	71.40%	79.70%	75.10%	78.40%	68.60%
$\Delta$ Adj. R2	(M4-M2)	0.80%	1.90%	2.40%	0.30%	0.90%	0.50%	2.30%
Sig.		0.164	0.038	0.014	0.202	0.091	0.151	0.000
		<b>Frankfurt</b>			<b>London</b>			<b>Paris</b>
Adj. R2	Model 2 SFC	50.30%			52.20%			57.10%
Adj. R2	Model 4 Dual	50.80%			52.30%			60.00%
$\Delta$ Adj. R2	(M4-M2)	0.50%			0.10%			2.90%
Sig.		0.133			0.409			0.001

However, bringing the analysis at the level of each year, respectively of each stock exchange (from the sample), there is a fluctuation of the difference (between the explanatory power of the two models) in the interval 0.3% - 2.4%, respectively 0.1% - 2.9%. From the six years, only for 2004 (1.9%) and 2005 (2.4%) the difference is significant (at the 0.05 level). As well, only for the French stock exchange (2.9%) there is a statistically significant value (at the 0.001 level). These „mixed” results allow, in our opinion, only a partial confirmation of the fourth hypothesis regarding the superior relevance of dual reporting as opposed to consolidated financial reporting.

## CONCLUSIONS

In this study we investigated using econometric regression models the absolute and relative market value relevance of consolidated financial statements for companies listed during 2003-2008 on the largest stock markets in Europe (London, Paris, and Frankfurt stock exchanges). For this purpose we focused on the „confrontation” regarding the value relevance between consolidated financial statements and parent company financial statements. As expected (and in accord with previous empirical studies, for example Harris *et al.*, 1994; Niskanen *et al.*, 1998; Abad *et al.*, 2000; Goncharov *et al.*, 2009), the results have shown an increase in superiority (statistically significant) of the relevance of consolidated statements (in the detriment of individual ones). While in the analyzed period, consolidated financial statements have seen a positive trend of relevance, individual statements have had an oscillating relevance (inside some limits).

These results prove, of course, the importance (usefulness) of consolidated financial statements especially for investors on the capital market. Therewith, they question the necessity of publishing parent company financial statements (according to national regulations) as long as they present consolidated financial statements. As a matter of fact, in the USA the obligation to publish parent company financial statements was eliminated since 1982, following the issuing of Accounting Series Release no. 302.

(Francis, 1986: 394). We consider that these conclusions are valid not only for large European capital markets, but also for emerging capital markets (such as the one in Hungary, Poland, Romania, Bulgaria).

Finally, some aspects regarding the limitations of this study should be mentioned, as well as the perspectives of future empirical research. First, it is possible to raise the problem of sample representativeness (and implicitly of the results obtained) for the large European capital markets and respectively for the whole European capital market. In this respect, future research could extend the analysis (and the sample) to other capital markets in Europe, as well as to companies that are not included in the main index of the stock market they are listed on. Second, the obtained results are based only on testing linear price level regression models. Future research could employ nonlinear models, for example logarithmic models (see Hellström, 2006) respectively return regression models (see Bartov *et al.*, 2005). And third, the present study investigates relevance and therefore usefulness for decision making of consolidated financial statements only from the point of view of the investors on capital market. So, a future research theme less approached until now (see Goncharov *et al.*, 2009) would be to investigate the relevance of financial statements from the perspective of other categories of users (for example financial institutions in their role as creditors).

#### **ACKNOWLEDGEMENTS**

This paper is part of the research project POSDRU/89/1.5/S/59184 'Performance and excellence in postdoctoral research within the field of economic sciences in Romania', Babeş-Bolyai University, Cluj-Napoca being a partner within the project.

#### **REFERENCES**

- Abad, C., Laffarga, J., Garcia-Borbolla, A., Larrdn, M., Pinero, J. M. and Garrod, N. (2000) „An Evaluation of the Value Relevance of Consolidated versus Unconsolidated Accounting Information: Evidence from Quoted Spanish Firms”, *Journal of International Financial Management and Accounting* , vol. 11, no. 3: 156-177
- Aboody, D., Hughes, J. and Liu, J (2002) „Measuring Value Relevance in a (Possibly) Inefficient Market”, *Journal of Accounting Research*, vol. 40, no. 4: 965-986
- Andrei, T. & Bourbonnais, R. (2008) *Econometrie [Econometrics]*, Bucureşti: Economică
- Armstrong, C. (2010) „Market Reaction to the Adoption of IFRS in Europe”, *The Accounting Review*, vol. 85, no. 1: 31-61
- Barth, M. E., Landsman, W.R. and Lang, M.H. (2007) „International Accounting Standards and Accounting Quality”, Working Paper
- Bartov, E., Goldberg, S.R. & Kim, M. (2005) „Comparative Value Relevance Among German, U.S., and International Accounting Standards: A German Stock Market Perspective”, *Journal of Accounting, Auditing & Finance*, vol. 20, no. 2: 95-119

- Callao, S., Jarne, J.I. & Lainez, J.A. (2007) „Adoption of IFRS in Spain: Effect on the comparability and relevance of financial reporting”, *Journal of International Accounting, Auditing and Taxation*, vol. 16, no. 2: 148-178
- Collins, D. W., Maydew, E.L & Weiss, I.S. (1997) „Changes in the value-relevance of earnings and book values over the past forty years”, *Journal of Accounting and Economics*, vol. 24, no. 1: 39-67
- Edey, H. (1962) „Business Valuation, Gooswill and the Super-profit Method”, *Studies in Accounting Theory*, in Baxter, W. & Davidson, S. (eds), Sweet and Maxwell, London
- Edwards, E.O. & Bell, P. W. (1961) „The Theory of Measurement of Business Income”, *The Accounting Review*, vol. 37, no. 3: 596-597
- Epstein, B. J. & Jermakowicz, E. K. (2007) *IFRS 2007 Interpretation and Application of International Financial Reporting Standards*, New Jersey: John Wiley & Sons
- Feltham, G.A. & Ohlson, J.A. (1995) „Valuation and Clean Surplus Accounting for Operating and Financial Activities”, *Contemporary Accounting Research*, vol. 11: 689-731
- Francis, J. & Schipper, K. (1999) „Have Financial Statements Lost Their Relevance?”, *Journal of Accounting Research*, vol. 37, no. 2: 319-352
- Francis, J., LaFond, R., Olsson, P.M. & Schipper, K. (2004) „Costs of Equity and Earnings Attributes”, *The Accounting Review*, vol. 79, no. 4: 967-1010
- Francis, J.R. (1986) „Debt Reporting by Parent Companies: Parent-Only versus Consolidated Statements”, *Journal of Business Finance & Accounting*, vol. 13, no. 3: 393-403
- Gjerde, O., Knivsfly, K. & Sættem, F. (2007) „The Value-Relevance of Financial Reporting in Norway 1965-2004”, Working Paper
- Gjerde, O., Knivsfly, K. & Sættem, F. (2008) „The value-relevance of adopting IFRS: Evidence from 145 NGAAP restatements”, *Journal of International Accounting, Auditing and Taxation*, vol. 17, no. 2: 92-112
- Goncharov, I., Werner, J.R. & Zimmermann, J. (2009) „Legislative demands and economic realities: Company and group accounts compared”, *The International Journal of Accounting*, vol. 44, no. 4: 334-362
- Gu, Z. (2007) „Across-sample Incomparability of R2s and Additional Evidence on Value Relevance Changes Over Time”, *Journal of Business, Finance & Accounting*, vol. 34, no. 7&8: 1073-1098
- Harris, T.S., Lang, M. & Moller, H.P. (1994) „The Value Relevance of German Accounting Measures: An Empirical Analysis”, *Journal of Accounting Research*, vol. 32, no. 2: 187-209
- Hellström, K. (2006) „The Value Relevance of Financial Accounting Information in a Transition Economy: The Case of the Czech Republic”, *European Accounting Review*, vol. 15, no. 3: 325-349
- Hevas, D.L., Karathanassis, G. & Iriotis, N. (2000) „An empirical examination of the value relevance of consolidated earnings figures under a cost of acquisition regime”, *Applied Financial Economics*, vol. 10, no. 6: 645-653



- Hung, M. & Subramanyam, K.R. (2007) „Financial statement effects of adopting international accounting standards: the case of Germany”, *Rev Acc Stud*, vol. 12, no. 4: 623-657
- IASB (2008a) „Guidance on implementing IAS 27 Consolidated and Separate Financial Statements, IAS 28 Investments in Associates and IAS 31 Interests in Joint Ventures”
- IASB (2008b) „Discussion Paper: Preliminary Views on an improved Conceptual Framework for Financial Reporting. The Reporting Entity”
- IASB (2008c) „Staff Draft ED International Financial Reporting Standard X Consolidated Financial Statements”
- Jermakowicz, E. K. (2007) „The Value Relevance of Accounting Income Reported by DAX-30 German Companies”, *Journal of International Financial Management and Accounting*, vol. 18, no. 3: 151-191
- Kutner, R. & Switala, F. (2004) „Remarks on the possible universal mechanism of the non-linear autocorrelations in financial-series”, *Physica A: Statistical Mechanics and its Applications*, vol. 344, no. 1-2: 244-251
- Lin, H. & Paananen, M. (2007) „The Development of Value Relevance of IAS and IFRS over Time: The Case of Germany”, Working Paper
- Martin, M.A. & Roberts, S. (2006) „An Evaluation of Bootstrap Methods for Outlier Detection in Least Squares Regression”, *Journal of Applied Statistics*, vo. 33, no. 7: 703-720
- Naceur, S. M. & Goaid, M. (2004) „The value relevance of accounting and financial information: panel data evidence”, *Applied Financial Economics*, vol. 14: 1219-1224
- Niskanen, J., Kinnunen, J. & Kasanen, E. (1998) „A note on the information content of parent company versus consolidated earnings in Finland”, *The European Accounting Review*, vol. 7, no. 1: 31-40
- Ohlson, J.A. (1995) „Earnings, book values, and dividends in security valuation”, *Contemporary Accounting Research*, vol. 11, no. 2: 661-687
- Paananen, M. (2008) „The IFRS Adoption’s Effect on Accounting Quality in Sweden”, Working Paper
- Peasnell, K. (1982) „Some Formal Connections between Economic Values and Yields and Accounting Numbers”, *Journal of Business Finance and Accounting*, vol. 9: 361-381
- Preinreich, G.A.D. (1938) „The Principles of Public-Utility Depreciation”, *The Accounting Review*, vol. 13, no. 2: 149-165
- Rees, W.P. (1997) „The Impact of Dividends, Debt and Investment on Valuation Models”, *Journal of Business Finance & Accounting*, vol. 24, no. 7&8: 1111-1140
- Theisen, M.R. (2000) *Der Konzern. Betriebswirtschaftliche und rechtliche Grundlagen der Konzernunternehmung*, 2. Auflage, Stuttgart: Schäffer-Poeschel.