EVIDENCE FROM THE GERMAN CAPITAL MARKET REGARDING THE VALUE RELEVANCE OF CONSOLIDATED VERSUS PARENT COMPANY FINANCIAL STATEMENTS

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Financial statements' main objective is to give information on the financial position, performance and changes in financial position of the reporting entity, which 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. Hence, the following question arises logically – 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? Of course, the possibility of both sets at the same time best serving the information needs should not be ruled out. In our scientific endeavor we conducted 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 on the Frankfurt Stock Exchange (one of the largest three stock markets in the European Union) between 2003 and 2008. 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). The results obtained indicate a statistically significant superiority of the relevance of consolidated statements (in detriment of individual ones). However, we could not statistically prove a superior value relevance of information provided together by consolidated and parent company financial statements as opposed to consolidated information. On the one hand, these results prove the importance (usefulness) of consolidated financial statements especially for investors on the capital market, and on the other hand, they question the necessity of publishing parent company financial statements.

Keywords: Consolidated Financial Statements, Parent Company Financial Statements, German Capital Market, Market Value Relevance

JEL Classification: M40, M41

I. Introduction

Financial statements' main objective is to give information on the financial position, performance and changes in financial position of the reporting entity, which is useful to a wide range of users in making economic decisions. In order to be useful, financial information must 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. In fact, relevance constitutes one of the main characteristics of financial information quality (Francis et al. 2004: 968). 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 (QC2). 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.

An appropriate 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 and Schipper 1999: 325). 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).

Financial information is supplied mainly through financial statements of entities (listed on the capital market). As most listed companies (on the large European stock markets) own one or more subsidiaries, they are obligated (by accounting legislation and stock exchange regulations) to prepare consolidated financial statements for the group they own, besides their individual financial statements. Thus, 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, respectively which of the two sets is more value relevant. Of course, the possibility of both sets at the same time best serving the information needs is not ruled out.

Considering all these aspects, 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 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 Frankfurt Stock Exchange (one of the largest stock markets in Europe).

II. Literature Review

Concerning the empirical research that has approached 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 (Harris et al. 1994, Niskanen et al. 1998, Abad et al. 2000) respectively evidence for the lack of relevance increment of individual financial statements of the parent company (Niskanen et al. 1998, Goncharov et al. 2009).

In their study, 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 and group 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.

III. Research Methodology

In this empirical research we followed the analysis of market value relevance of consolidated and unconsolidated accounting information on companies on the Frankfurt Stock Exchange for the period 2003-2008. The main criterion for the selection of companies is the belonging to the extended version of the main index (DAX 30), which is the HDAX 110. This index includes companies from the DAX, MDAX and TecDAX. 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 exchange 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 with closing dates different from 31.12 were excluded. Therefore, after going through these steps, the final sample is made up of 35 companies, respectively 210 firm-year observations.

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 210 year-observations of the complete sample, after being previously downloaded from the official web-sites of the respective companies. Share prices for the sampled observations were also collected manually from the finance.yahoo.com database. For the development of the study, we computed average closing share prices for 31.03 – 30.04 of each year, thus neutralizing possible daily fluctuations of the prices, caused by factors that are not linked to the financial information published in the annual reports.

For the purpose of this study, we formulated the following two hypotheses concerning the relevance of consolidated and parent company 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.

Hypothesis 2: 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.

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 four econometric valuation models which measure the degree of association between share price and accounting information supplied by financial statements (equity and net income). The basis for this models 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. 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:

Model 1: $Pit = \alpha 0 + \alpha 1 * pBVit + \alpha 2 * pEit + \varepsilon it$ (1)

Model 2: $Pit = \alpha 0 + \alpha 1 * cBVit + \alpha 2 * cEit + \varepsilon it$ (2)

Where

Pit	=	share price of company i in year t
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 we developed a model to include both categories of information:

Model 3: $Pit = \alpha 0 + \alpha 1 * pBVit + \alpha 2 * \Delta cBV\ it + \alpha 3 * pEit + \alpha 4 * \Delta cE\ it + \varepsilon it$ *(3)*

Where

ΔcBVit = difference between group equity and parent company equity/share of company i in year t

ΔcEit = difference between group earnings and parent company earnings/share of company i in year t

A fourth empirical model was developed to verify the second hypothesis, 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 and also includes information supplied by parent company financial statements:

Model 4: $Pit = \alpha 0 + \alpha 1 * cBVit + \alpha 2 * \Delta pBV\ it + \alpha 3 * cEit + \alpha 4 * \Delta pE\ it + \varepsilon it$ *(4)*

Where

ΔpBVit = difference between parent company equity and group equity/share of company i in year t

ΔpEit = difference between parent company earnings and group earnings/share of company i in year t

We statistically measured the explanation power of these models quantified by adjusted R2. As a general rule, the greater the explanation power, the higher the value relevance for the accounting information associated to the particular empirical model.

IV. Results

In order to test the hypothesis regarding the superior value relevance of consolidated financial statements (as opposed to parent company financial statements), we firstly compared the absolute value relevance of information supplied by the two types of financial statements, based on two regression models (Table no. 1 and Table no. 2). By comparing the explanatory power (Adj. R2) of the two models for the whole analyzed period (2004-2008), 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) at 0,001 level. 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.

Table no. 1: Empirical results for model 1

Sample		**Characteristics MODEL 1**				
		α0	**pBV**	**pE**	**F**	**Adj. R^2**
Frankfurt n= 192	**Alfa t**	22.105 6.561****	0.772 3.841****	3.784 4.554****	26.758	22.50%
	VIF	-	1.13	1.13		

Made by the author

Table no. 2: Empirical results for model 2

Sample		Characteristics MODEL 2				
		α0	pBV	pE	F	Adj. R^2
Frankfurt n= 192	Alfa	18.682	0.34	4.282	93.017	50.30%
	t	8.262****	3.252****	7.459****		
	VIF	-	1.873	1.873		

Made by the author

In the second stage we considered testing the relevance difference between group financial statements and parent company financial statements (that is incremental Δ Adj. R2) to see if it is statistically significant. Therefore, based on models 1 and 3 (Table no. 3) 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 (Table no. 4). Consequently, the first hypothesis regarding the superiority in terms of relevance of consolidated financial statements is statistically confirmed.

Table no. 3: Empirical results for model 3

Sample		Characteristics MODEL 3						
		α0	pBV	ΔcBV	pE	ΔcE	F	Adj R^2
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		

Made by the author

Table no. 4: Comparison between explanatory power of model 1 and model 3

Adj. R2	**Model 1 PFS**	22.50%
Adj. R2	**Model 3 CFS***	50.90%
Δ Adj. R2	**(M3-M1)**	28.40%
Sig.		0.000

Made by the author

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 (Table no.5).

Table no. 5: Empirical results for model 4

Sample		Characteristics MODEL 4						
		α0	cBV	ΔpBV	cE	ΔpE	F	Adj. R2
Frankfurt n= 192	Alfa	17.099	0.356	0.76	5.347	1.287	48.063	50.80%
	t	6.411****	2.207**	0.382	6.844****	1.931*		
	VIF	-	4.504	3.97	3.508	2.342		

This is based on model 2 (consolidated information) and also includes information offered by parent company financial statements. The comparison between the explanatory power of the two models (Table no. 6) reveals a superiority of model 4 (based on dual information) of 0,5% for the whole sample. However, this difference is not statistically significant at least at 0,1 level. This result does not allow, in our opinion, a confirmation of the second hypothesis regarding the superior relevance of dual reporting as opposed to consolidated financial reporting.

Table no. 6: Comparison between explanatory power of model 2 and model 4

Adj. R2	**Model 2 SFC**	50.30%
Adj. R2	**Model 4 Dual**	50.80%
Δ Adj. R2	**(M4-M2)**	0.50%
Sig.		0.133

Made by the author

V. 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 Frankfurt Stock Exchange. For this purpose we focused on the „confrontation" regarding the value relevance between consolidated 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 a statistically significant superiority of the relevance of consolidated statements (in detriment of individual ones). Moreover, we could not prove from a statistical point of view a superior value relevance of information provided (together) by consolidated and parent company financial statements as opposed to consolidated information. These results prove, of course, the importance (usefulness) of consolidated financial statements especially for investors on the capital market. They also 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. 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, Romania, Bulgaria).

In the end, 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 German capital markets. 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).

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