

Accounting conservatism in Europe

Insights in the degree of balance sheet conservatism and earnings conservatism in financial statements of European companies during the period 1991-2005

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Executive summary

This study investigates how the degree of accounting conservatism in the financial statements of European companies evolves over time during period 1996-2005. This study concludes that the financial statement information of European companies shows a certain degree of balance sheet conservatism and earnings conservatism during period 1991-2005; this degree of balance sheet conservatism and earnings conservatism evolves over time. The research findings do not indicate that the introduction of IFRS has reduced the differences in the degree of balance sheet conservatism and earnings conservatism between European companies reporting according to IFRS. Finally, the research findings indicate that IAS/IFRS based accounting standards have their own characteristics; this cause that the degree of accounting conservatism in financial statements differ importantly per accounting regulation.

1. Introduction

This study aims to deliver a contribution to the discussion whether IFRS - as a uniform set of accounting standards - harmonizes the degree of accounting conservatism in the financial statement information of European companies. The study has the following research question:

‘How does the degree of accounting conservatism in financial statements of European companies evolve over time during period 1991-2005 and what is the impact of the introduction of IAS/IFRS based accounting standards on the differences in the degree of accounting conservatism between European companies?’

This article presents the result of the study. First, the prior literature is elaborated (section 2). Next, the hypotheses (section 3) and the study’s methodology (section 4) are presented. Third, the results (section 5) and the conclusions are discussed (section 6). Finally, the limitations of the study and three suggestions for further research are elaborated (section 7).

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2. Prior literature

For making investment decisions investors use various types of information. Investors' decision making is generally based on information about a firm's competitive environment and future outlook, and on a firm's financial statement information.

Analysis of the usefulness of the financial statement information is a broad subject in market-based accounting research. The usefulness of the financial statement information can be analyzed through studying the value relevance of financial statement information. Value relevance of financial statement information is in literature defined as the type of research that examines the empirical relationship between particular accounting numbers and stock market values (or changes in values) (Deegan and Unerman 2006, 377; Scott 2006, 170).

The value relevance of financial statement information is affected by conservatism in accounting, since this has a negative effect on the role of financial statement proper in assisting investors in predicting the firm's fundamental value.

Conservatism is an inherent property of accounting (Huijgen and Lubberink 2003). The conservatism principle is defined as the differential verifiability required for recognition of profits versus losses (Basu 1997). In financial reporting bad news tends to be incorporated faster in the financial statements than good news; this asymmetry is called the differential timeliness of earnings. This means that companies recognize bad news much faster in their earnings than good news (Basu 1997). The extreme form of the differential timeliness of earnings is the traditional adage: 'anticipate no profit, but anticipate all losses' (Watts 2003a).

Many empirical studies show evidence that the degree of accounting conservatism in financial statements varies over time (Basu 1997; Givoly and Hayn 2000) and differ per country (Ball et al. 2000; Giner and Rees 2001) and company type (Lubberink and Huijgen 2001). Despite criticism, empirical evidence suggests that conservatism has survived in accounting for many centuries, and appears to have increased in the last 30 years (Watts 2003a).

Watts (2003a) provides four explanations for accounting conservatism:

1. Contracting. According to Watts (2003a) contracting is one of the main explanations for conservatism. Conservatism in accounting is able to reduce the opportunistic behavior of the firm's management, which is a significant risk for the principals of the firm. Problems associated with opportunistic behavior by the firm's management are primarily due to asymmetric information, asymmetric payoffs, limited horizons and limited liability. Conservative accounting can be used as a means of addressing these moral hazard problems (Watts, 2003a).
2. Shareholder litigation. Litigation also produces asymmetric payoffs in that overstating the firm's net assets is more likely to generate litigation costs for the firm than understating net assets. By understating net assets conservatism reduces the firm's expected litigation costs (Watts, 2003a).
3. Taxations. Since taxation and reporting are linked, it can also generate conservatism in financial reporting. Asymmetric recognition of gains and losses enables managers of

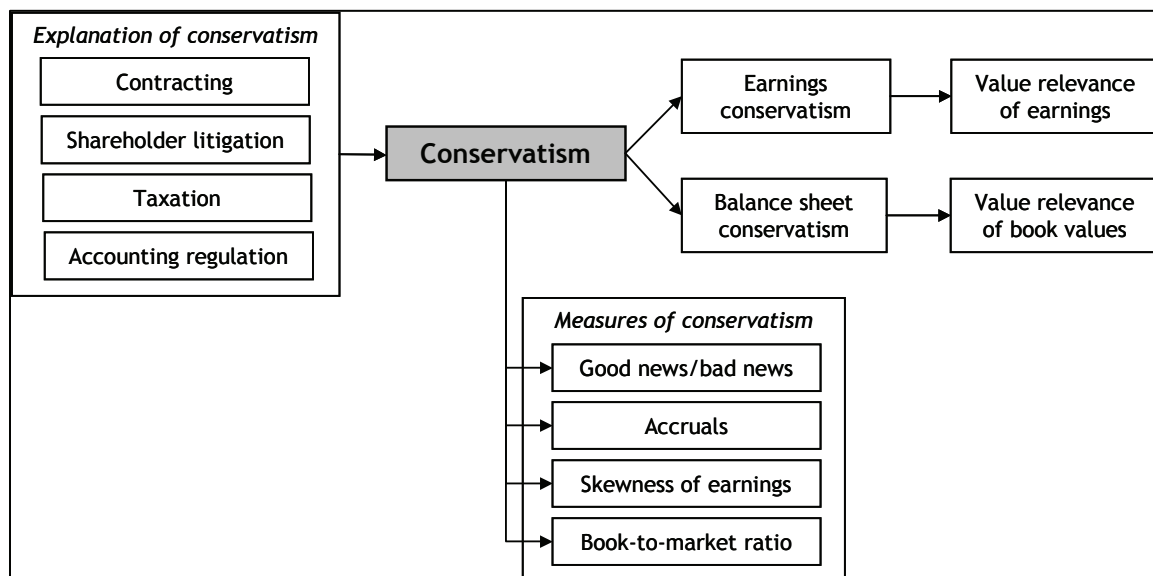
profitable firms to reduce the present value of taxes and increase the value of the firm. Delaying the recognition of revenues and accelerating the recognition of expense defers tax payments (Watts, 2003a).

4. Accounting regulation. Financial reporting standard-setters and regulators have their own incentives to favor conservative accounting and reporting. Just as there is an asymmetry in litigation costs, there is an asymmetry in regulators' costs. Standard-setters and regulators are likely to face more criticism if firms overstate net assets than if they understate net assets. In this way, conservatism in accounting reduces the political costs imposed on standard-setters and regulators (Watts, 2003a).

In literature two types of accounting conservatism are distinguished: balance sheet conservatism and earnings conservatism (García Lara and Mora 2004). Balance sheet conservatism is defined as a persistent understatement of book value of shareholders' equity (Feltham and Ohlson 1995). Balance sheet conservatism can be measured by the market-to-book ratio (Givoly and Hayn 2004). Earnings conservatism is defined as a timelier recognition of bad news in earnings relative to good news (Basu 1997). Earnings conservatism in financial statements can be measured by the accumulation of non-operating accruals, the timeliness of earnings with respect to bad and good news, and the skewness of earnings (Givoly and Hayn 2000; García Lara and Mora 2004).

The outline of factors that are related to accounting conservatism is presented in figure 1.

Figure 1: Outline of factors related to conservatism



Please note that in literature the term 'accounting conservatism' is not generally adopted; in numerous studies the briefer term 'conservatism' is used. In this study the term 'conservatism' will also be used more often in favor of the term 'accounting conservatism', nevertheless the same phenomenon is mentioned.

3. Hypotheses

This study aims to gain insight into the degree of accounting conservatism in the financial statements of European companies. Empirical evidence of other studies indicates that both balance sheet conservatism and earnings conservatism exists in Europe, and that the degree of accounting conservatism differs per country, per industry, and per company. Literature indicates that several factors affect the degree of accounting conservatism. Based on the results of a conducted literature study this section will present five hypotheses.

Hypothesis 1

The first hypothesis concerns the degree of balance sheet conservatism and earnings conservatism in financial statements. According to Watts (2003a) accounting conservatism is explained by contracting, shareholder litigation, taxation, and accounting regulation. Taking the entire set of factors that drive accounting conservatism into account, one can conclude that it is likely that the financial statements of European companies will have a particular degree of balance sheet conservatism. Furthermore, since empirical evidence of Givoly and Hayn (2000) indicates that the degree of balance sheet conservatism in the financial statements of a large sample of international companies has increased importantly during period 1951-1998, it is reasonable to expect that this also the case in an European setting. Therefore the following hypothesis is stated:

- Hypothesis 1a: The degree of balance sheet conservatism in the financial statements of European companies increases during period 1991-2005.
- Hypothesis 1b: The degree of earnings conservatism in the financial statements of European companies increases during period 1991-2005.

Hypothesis 2

The second hypothesis concerns the impact of country differences on the degree of balance sheet conservatism and earnings conservatism in financial statements of European companies.

Literature indicates that the degree of accounting conservatism in the financial statements of companies differs per country. Empirical evidence of Bushman and Piotroski (2006) indicates that bad news is faster reflected in the financial statement of firms located in countries with high quality judicial systems than firms located in countries with low quality judicial systems. Since the characteristics of the judicial systems differ for each Europe (Bushman and Piotroski 2006), one can expect that the degree of balance sheet conservatism and earnings conservatism the in financial statements of European companies is likely to differ per country in Europe. Therefore the following hypotheses are stated:

- Hypothesis 2a: During period 1991-2005 the degree of balance sheet conservatism in the financial statements of European companies differ significantly per country.

Hypothesis 2b: During period 1991-2005 the degree of earnings conservatism in the financial statements of European companies differ significantly per country.

Hypothesis 3

The third hypothesis concerns the impact of industry differences on the degree of balance sheet conservatism and earnings conservatism in financial statements of European companies.

Since the findings of Pae and Easton (2004) indicate that the degree of both balance sheet conservatism and earnings conservatism in financial statements of European companies differ per industry, the following hypotheses are stated.

Hypothesis 3a: During period 1991-2005 the degree of balance sheet conservatism in the financial statements of European companies differ significantly per industry.

Hypothesis 3b: During period 1991-2005 the degree of earnings conservatism in the financial statements of European companies differ significantly per industry.

Hypothesis 4

The fourth hypothesis concerns the impact of company differences on the degree of balance sheet conservatism and earnings conservatism in financial statements of European companies.

Pae and Easton (2004) examined the differences in the degree of accounting conservatism across samples with different market to book ratios. Pae and Easton (2004) find that accounting tends to be less conservative for firms with negative returns than for firms with non-negative returns, but they find no difference in accounting conservatism between firms reporting profits and firms reporting losses (Pae and Easton 2004). Since these findings indicate that the degree of both balance sheet conservatism and earnings conservatism in financial statements of European companies differ for company's profitability, the following hypotheses are stated.

Hypothesis 4a: During period 1991-2005 the degree of balance sheet conservatism in the financial statements of European companies differ significantly for companies with negative returns on share price and companies with non-negative returns on share price.

Hypothesis 4b: During period 1991-2005 the degree of earnings conservatism in the financial statements of European companies differ significantly for companies with negative returns on share price and companies with non-negative returns on share price.

Empirical evidence of Pae and Easton (2004) indicates also that firm size does not have a significant impact on the degree of balance sheet conservatism and earnings conservatism. Therefore the following hypothesis is stated.

- Hypothesis 4c: During period 1991-2005 the degree of balance sheet conservatism in the financial statements of European companies does not significantly for companies' firm size.
- Hypothesis 4d: During period 1991-2005 the degree of earnings conservatism in the financial statements of European companies does not differ significantly for companies' firm size.

Hypothesis 5

Lastly, the fifth hypothesis concerns the impact of the introduction of IFRS on the degree of balance sheet conservatism and earnings conservatism in financial statements of European companies. Since the introduction of several IAS standards during period 1991 - 2004 and the introduction of IFRS as approved by the European Union in 2005 are expected to harmonize the differences in the degree of accounting conservatism in financial statements of European companies, the following hypotheses are stated.

- Hypothesis 5a: In 2005 the degree of balance sheet conservatism in the financial statements of European companies, which report their financial statements according to IFRS, will reduce significantly.
- Hypothesis 5b: In 2005 the degree of earnings conservatism in the financial statements of European companies, which report their financial statements according to IFRS, will reduce significantly.

4. Methodology

In this section the research design and the research sample are discussed. The research design is discussed in section 4.1 and the research sample is discussed 4.2.

4.1 Research design

To gain insight in how the degree of accounting conservatism in financial statements of European companies evolves over time during period 1991-2005 the research model of Givoly and Hayn (2000) is used.

This model consists of a regression model and four measures of conservatism. These measures are 'accumulation of non-operating accruals', 'differential timeliness of earnings with respect to bad and good news', and 'skewness of the earnings distribution', and 'market-to-book ratio'. With these four measures it is possible to quantify the level of conservatism.

The measures 'accumulation of non-operating accruals', 'differential timeliness of earnings with respect to bad and good news', 'skewness of the earnings distribution' function as

proxy for measuring the degree of earnings conservatism, while the measure ‘market-to-book ratio’ functions as proxy for balance sheet conservatism. The four measures are elucidated in the next four sections.

4.1.1 Accumulation of accruals

The proxy ‘accumulation of accruals’ measures the relationship between the earnings and cash flow from operations. Whereas earnings are affected by accrual accounting², cash flows from operations is unaffected. Therefore, one may ask whether the losses and deterioration in the reported earnings are a reflection of a real fall in the economic performance or whether accounting issues drive them.

Since accrual accounting affects the timeliness of reporting of earnings and cash flows, it is important to focus on the timeliness between earnings and cash flows. Earnings can be recognized more timely than cash flows. This is the case when contractual performance is recorded before cash has been exchanged due to accruals. Then, some discretion exists in estimating the appropriate amounts. (Basu 1997; Collins et al 1997; Givoly and Hayn 2000; Ball and Shivakumar 2005; García Lara and Mora 2004).

4.1.2 Differential timeliness of earnings with respect to bad and good news

The proxy ‘differential timeliness of earnings with respect to bad and good news’ measures the incremental response to bad news relative to good news. Conservatism leads to asymmetric timeliness of earnings with respect to good news and bad news (Basu 1997; Givoly and Hayn 2000). Since accountants anticipate future losses but not future profits, conservatism results in earnings being more timely and more sensitive concurrently to publicly available bad news than good news (Basu 1997). So, financial reporting is conservative since it defers recognition of good news and accelerates the recognition of bad news (Givoly and Hayn 2000).

The timeliness of earnings with respect to good news and bad news is measured by a cross-sectional regression analysis:

$$EPS_{it}/P_{i,t-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 DR_{it} * R_{it} + \varepsilon_{it}$$

Where

- EPS_{it} = earnings per share of firm i in fiscal year t ;
- $P_{i,t-1}$ = price per share at the beginning of the fiscal year;
- R_{it} = return of firm i over the twelve months beginning nine months prior to the end of fiscal year t ;
- DR_{it} = dummy variable set equal to 1 if R_{it} is negative and 0 otherwise.

The beta’s (β) from this regression model can be used to measure the relative sensitivity of earnings to bad news compared with their sensitivity to good news. The ratio is measured by the following formula: $(\beta_0 + \beta_1)/\beta_0$. This ratio is expected to be greater than 1 under conservatism (Givoly and Hayn, 2000).

² The net accruals and cash flows sum up to reported earnings.

4.1.3 Skewness of earnings distribution

The proxy 'skewness of earnings' measures the relative explanatory power of the regression in periods of bad news (negative returns) and good news (positive returns). As mentioned in the previous section, the declining profitability is not corresponding with the trend of cash flows (Collins et al 1997; Givoly and Hayn 2000). This results in negatively skewed earnings, compared to cash flows.

The proxy 'skewness of earnings' is defined as $E(x-\mu)^3/\sigma^3$, where x is the ROA, and μ and σ are estimated by the mean and standard deviation of the ROA distribution; the skewness measure of cash flows is defined as $E(x-\mu)^3/\sigma^3$, where x is the CFO/Assets, and μ and σ are estimated by the mean and standard deviation of the CFO/Assets distribution (Givoly and Hayn 2000).

The skewness of earnings distribution can be used to gain insight in the relative change of earnings compared to the relative change in cash flows.

4.1.4 Market-to-book ratio

The proxy 'market-to-book ratio' measures the average downward bias in the earning-to-price ratio due to conservatism. The ratio expresses the difference between the market value and the book value of a firm's equity. The gap between the market value and the book value of equity is a measure of the degree of reporting conservatism (Givoly and Hayn 2000; Watts 2003a; Watts, 2003b; Roychowdhury and Watts 2004; García Lara and Mora 2004). To the extent that equity valuation by investors is based on the present value of future cash flows, the market-to-book ratio as well as the earnings multiples would tend to be higher when accounting measurement is more conservative (Givoly and Hayn 2000).

The market-to-book ratio is calculated by dividing the market value of the firm (expressed by $P_{i,t-1}$ multiplied by the number of shares outstanding) divided by the book value of the firm (expressed by the value of shareholders' equity).

4.2 Research sample

The sample used for the empirical analysis consists of annual financial statement information of European companies, which are listed on a European stock exchange during period 1991-2005. The period 1991-2005 has been chosen, because the data from the Compustat database (2007) consists of data from 1991 till 2005.

The sample is constructed according to the constant sample technique. The sample consists of commercial and industrial firms with financial statement information about the fiscal year 2004. Financial institutions, like banks, insurance companies, and investment funds, are excluded from the sample, because these firms incorporate - on large scale - unrealized stock earnings as earnings in their profit and loss account. The exclusion of financial institutions from the sample is common for accounting conservatism studies.

Outliers, defined as unusual data values or extreme observations, are excluded from the sample, because they may bias the results of the analyses.

The sample corrected for outliers consists of 3.978 companies and contains in total 28.920 firm years.

The financial statement information in the sample is presented in the local currency. To allow for a cross-sectional aggregation all of the flow variables (like earnings and cash flows) are for each year deflated by the total assets at the beginning of that year.

5. Results

This section will present the empirical results of the conducted analyses. Section 3 has presented the hypotheses of this study. This section will discuss whether these stated hypotheses are valid. The section will close with a summary.

5.1 Overview of development in the degree of accounting conservatism in Europe

This section will discuss in general the development of the degree of accounting conservatism in the financial statements of European companies.

Development in the degree of balance sheet conservatism in European companies

Analysis of the development in the market-to-book ratios suggests that the market-to-book ratio has on average a value of 2.4. Next, the analysis shows that the market-to-book ratio is increasing during period 1996 till 1999, sharply decreasing during period 2000 till 2002, and increasing again in period 2002-2005 to its position of 1999. The developments in the market-to-book ratio are displayed in table 5.1 and figure 5.1. The development in the return on share price is displayed in figure 5.2.

Table 5.1. Mean and standard deviation of the market-to-book ratio, by subperiod and year

	Constant Sample		Total Sample	
	Market-to-book-ratio		Market-to-book-ratio	
	Mean	Standard deviation	Mean	Standard deviation
<u>Subperiod</u>				
1991-1995	2,40	4,03	2,48	5,17
1996-2000	3,19	6,80	3,02	6,96
2001-2005	2,43	5,17	2,38	5,22
<u>Year</u>				
1991	2,11	3,13	2,35	4,88
1992	2,17	2,99	2,01	2,74
1993	2,79	4,35	2,74	5,03
1994	2,36	4,00	2,75	6,74
1995	2,47	4,75	2,41	4,95
1996	2,94	6,41	2,65	6,58
1997	3,17	7,00	3,05	7,49
1998	3,47	7,06	3,37	7,58
1999	3,55	8,09	3,35	7,56
2000	2,84	5,41	2,67	5,57
2001	2,30	4,77	2,31	5,05
2002	1,61	3,30	1,58	3,76
2003	2,40	5,71	2,37	5,60
2004	2,73	5,46	2,73	5,46
2005	3,71	6,66	3,71	6,66

Figure 5.1. Development of the average market-to-book ratio (mean market-to-book: 2.67)

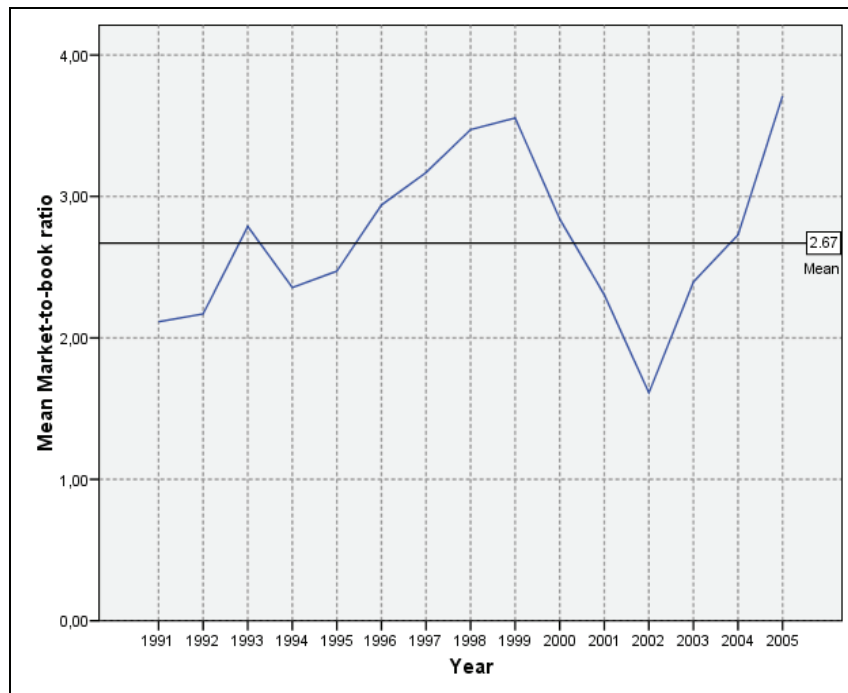
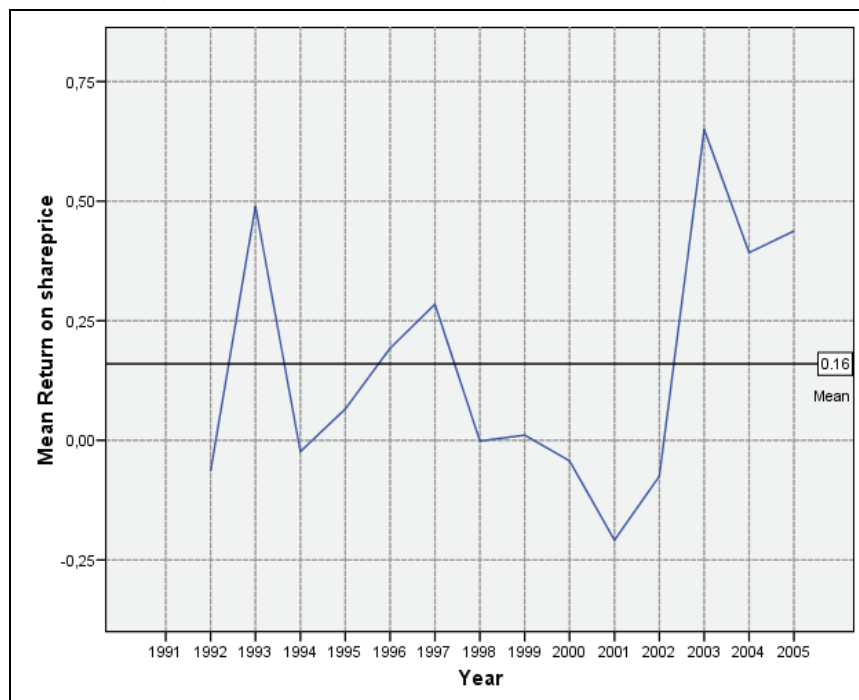


Figure 5.2. Development of the average return on share price (mean return on share price: 0.16)



The empirical results of the conducted tests indicate that all companies show on average balance sheet conservatism during period 1991-2005; all the companies have on average a market-to-book ratio greater than 1. However the findings do not indicate a trend that the balance sheet conservatism increases over time during period 1991-2005. Therefore, the

empirical findings do not support the hypothesis 1a, which state that the degree of balance sheet conservatism in the financial statements of European companies increases during period 1991-2005.

Development in the degree of earnings conservatism in European companies

This section discusses the development in the degree of earnings conservatism in the financial statements of European companies during 1991-2005. The scores on the measures ‘accumulation of accruals’, ‘differential timeliness of earnings with regard to good news and bad news’, and ‘skewness of earnings’ indicate that the financial reporting of European companies show during period 1991-2005 a certain degree of accounting conservatism. Next, the empirical results indicate that during period 1995-2001 the degree of accounting conservatism is on average at the same level. During period 1995-1997 and period 1999-2003 the scores on the three measures are volatile; this indicates that the degree of earnings conservatism changes over time. Despite of these strong mutations, the scores on the three measures at year 1991 are (on average) equal to the scores at year 2005 (see table 5.2, figure 5.3, figure 5.4, and figure 5.5).

Consequently, the empirical findings do not support hypotheses 1b, which state that the degree of earnings conservatism in the financial statements of European companies increases during period 1991-2005.

Table 5.2 Accumulation of accruals per year

Year	Cash Flow of Operations-to-		Total Accruals-to-Total Assets		Net Income-to-Total Assets	
	Total Assets		Total Assets		Total Assets	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
1991	0.092	0.067	0.011	0.126	0.038	0.060
1992	0.084	0.073	0.013	0.063	0.030	0.066
1993	0.084	0.079	0.019	0.073	0.031	0.075
1994	0.096	0.067	0.019	0.066	0.043	0.063
1995	0.096	0.077	0.016	0.065	0.042	0.073
1996	0.091	0.142	0.016	0.140	0.040	0.138
1997	0.088	0.187	0.013	0.178	0.035	0.202
1998	0.083	0.142	0.014	0.145	0.032	0.138
1999	0.075	0.147	0.023	0.138	0.023	0.144
2000	0.049	0.225	0.021	0.143	-0.004	0.243
2001	-0.008	0.542	0.014	0.225	-0.073	0.556
2002	-0.030	1.033	0.004	0.901	-0.113	1.094
2003	0.019	0.809	0.025	0.683	-0.034	0.541
2004	0.034	0.917	0.013	0.711	-0.024	0.917
2005	0.079	0.118	0.014	0.073	0.038	0.119
Total	0.045	0.582	0.016	0.467	-0.012	0.562

Figure 5.3. Mean of Cash Flow of Operations, Net Income, and Total Accruals (all variables are divided by total assets)

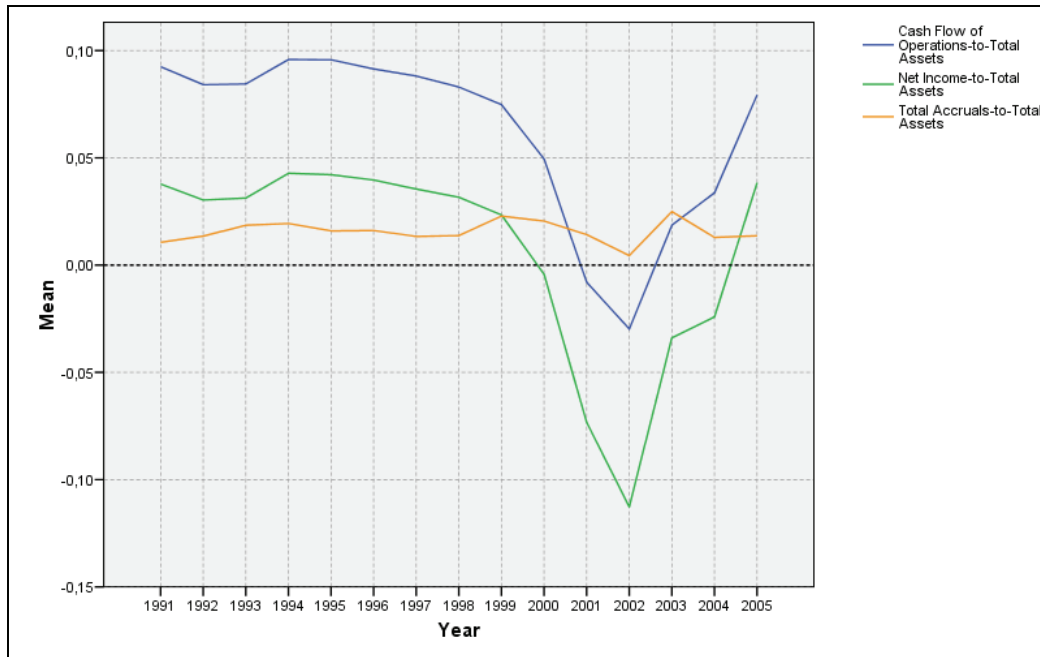
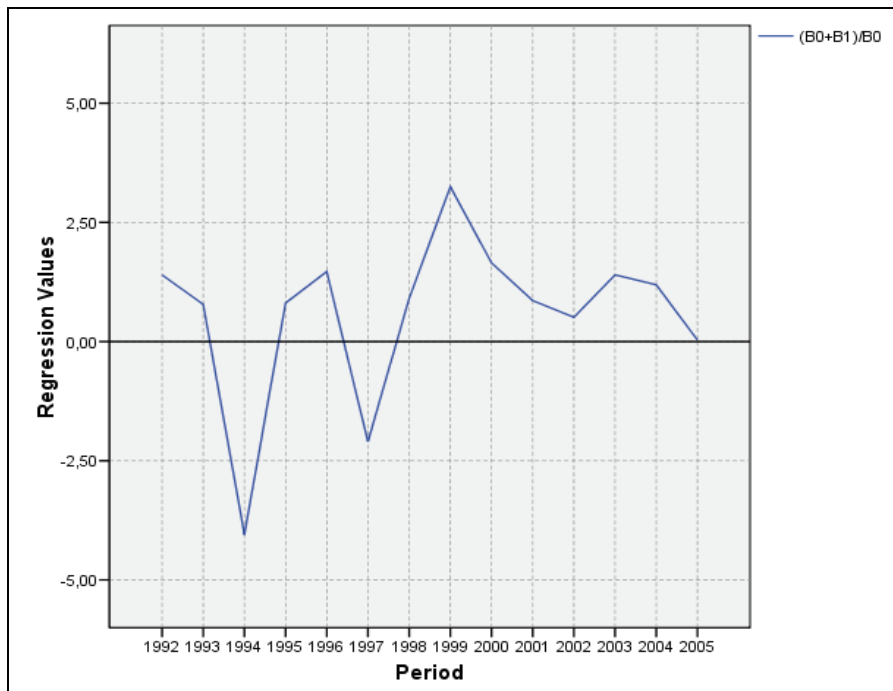
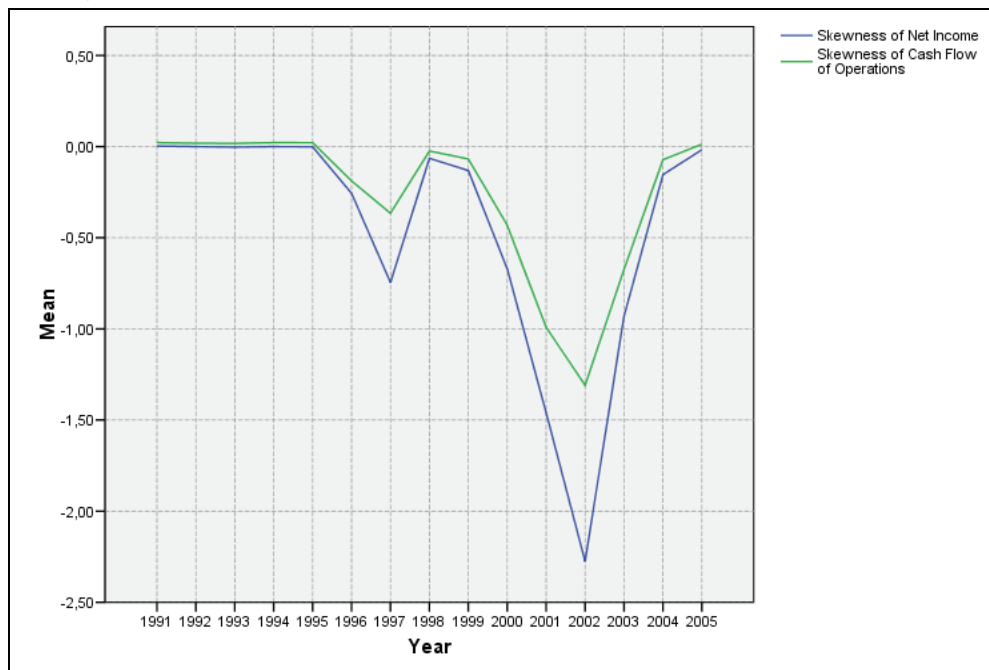


Figure 5.4. Scores on the measure ‘differential timeliness of earnings’ with regard to good news and bad news



* The $(\beta_0 + \beta_1)/\beta_0$ values from regression analysis $EPS_{it}/P_{i,t-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 DR_{it} * R_{it} + \varepsilon_{it}$ are used to measure the relative sensitivity of earnings to bad news compared with their sensitivity to good news.

Figure 5.5. Skewness of Net Income and Cash Flow from Operations (variables are ratios)



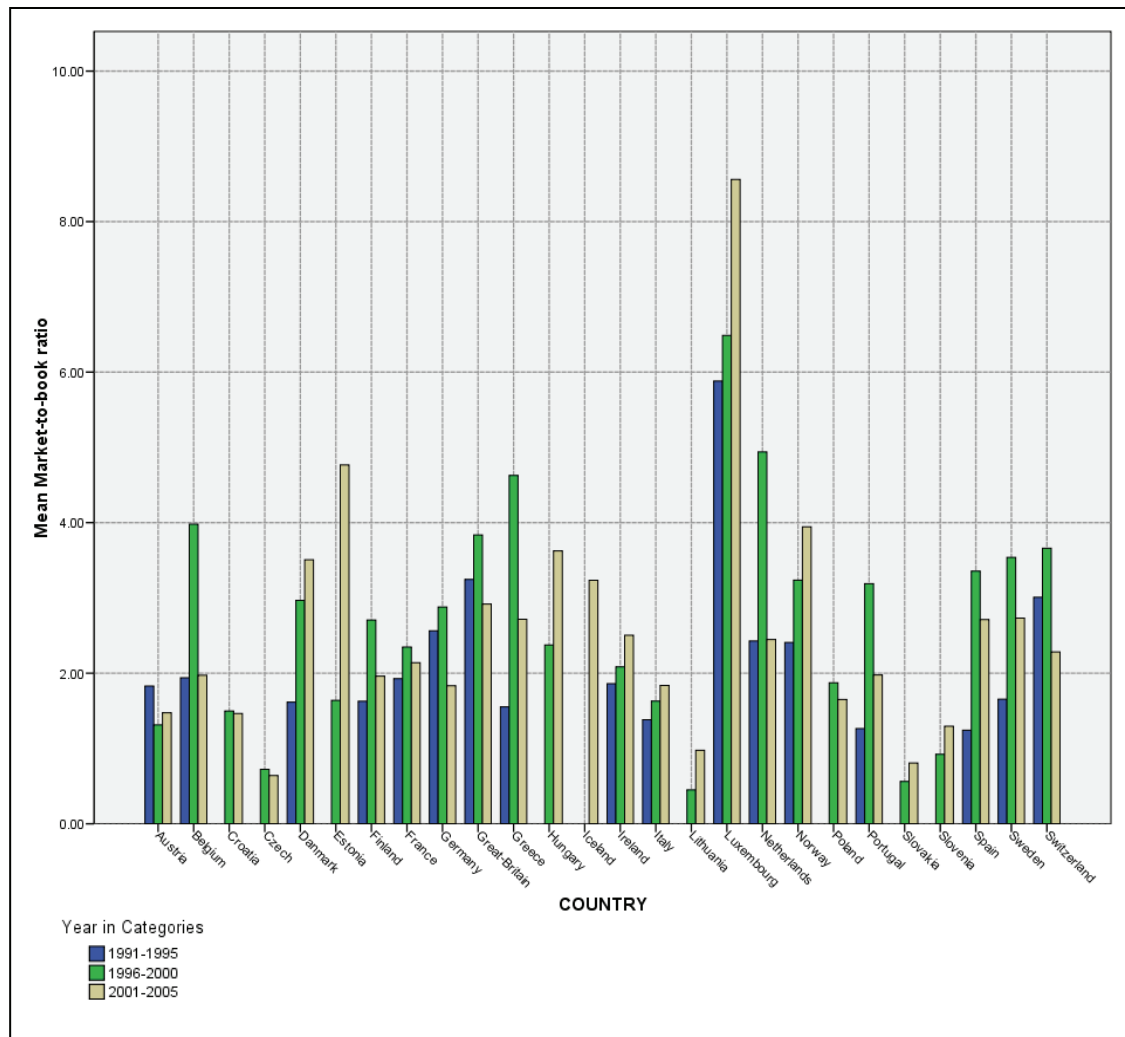
5.2 The impact of country differences on the degree of accounting conservatism

This section will discuss to what extent the development in the degree of accounting conservatism in the financial statements of European companies differs per country.

Impact of country differences on the degree of balance sheet conservatism

The market-to-book ratio scores indicate that the degree of balance sheet conservatism in the financial statements of European companies differs more than 10% from each other. Companies in more developed countries, like West-European countries, have a higher market-to-book ratio than companies in less developed countries, like the East-European countries (see figure 5.6).

Figure 5.6 Average market-to-book ratio per sub period per country



These findings do support hypothesis 2a, which states that during period 1991-2005 the degree of balance sheet conservatism in the financial statements of European companies differ significantly per country.

Impact of country differences on the degree of earnings conservatism

The research results regarding the measure ‘differential timeliness of earnings with respect to the recognition of good news and bad news’ does not indicate that country differences do have an influence on the differential timeliness of earning with respect to the recognition of good news and bad news. However the two other measures ‘accumulation of accruals’ and ‘the skewness of earnings’ indicate an important impact of country differences on the degree of earnings conservatism (see table 5.4, and table 5.5).

Table 5.4 Accumulation of accruals per industry

Industry	Cash Flow of Operations-to- Total Assets		Total Accruals-to-Total Assets		Net Income-to-Total Assets	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Agriculture	0.033	0.133	0.000	0.126	0.013	0.136
Mining and Construction	0.035	0.740	0.018	0.464	-0.006	0.785
Food	0.096	0.071	0.018	0.051	0.040	0.066
Textiles and Printing	0.081	0.105	0.021	0.071	0.025	0.108
Chemicals	0.100	0.132	0.031	0.120	0.034	0.073
Pharmaceuticals	-0.009	0.289	0.022	0.089	-0.054	0.291
Extractive Industries	0.069	0.211	0.009	0.189	0.015	0.210
Durable Manufactures	0.066	0.631	0.009	0.564	0.011	0.632
Computers	-0.052	0.737	0.024	0.668	-0.127	0.543
Transportation	0.077	0.142	0.032	0.129	0.010	0.142
Retail	0.065	0.177	0.008	0.078	0.020	0.183
Insurance and Real Estate	-0.061	0.557	0.000	0.361	-0.089	0.619
Services	0.048	0.271	0.031	0.164	-0.024	0.287
Others	-0.006	1.472	-0.024	1.069	-0.056	1.469
Total	0.045	0.582	0.016	0.467	-0.012	0.562

Table 5.5. Difference in skewness of earnings by industry

Country	Skewness of Net Income (NI)		Skewness of Cash Flow of Operations (CFO)		Difference in Skewness between NI and CFO	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Agriculture	-0.06	0.61	-0.03	0.46	-0.02	0.14
Mining and Construction	-0.09	1.60	-0.12	2.63	0.03	-1.03
Food	0.00	0.03	0.02	0.04	-0.02	0.00
Textiles and Printing	-0.03	0.67	0.00	0.44	-0.03	0.22
Chemicals	0.00	0.06	0.22	5.48	-0.22	-5.42
Pharmaceuticals	-0.60	6.14	-0.44	5.21	-0.17	0.93
Extractive Industries	-0.35	4.72	-0.27	3.96	-0.09	0.76
Durable Manufactures	-0.12	3.26	-0.06	2.35	-0.06	0.91
Computers	-3.47	38.00	-2.53	33.29	-0.94	4.70
Transportation	-0.10	2.22	-0.04	1.89	-0.06	0.33
Retail	-0.47	13.41	-0.35	11.59	-0.12	1.81
Insurance and Real Estate	-5.21	51.44	-5.94	53.06	0.73	-1.62
Services	-0.56	11.19	-0.32	7.82	-0.24	3.37
Others	-0.47	11.23	-0.38	9.84	-0.09	1.39
Total	-0.69	16.04	-0.52	14.42	-0.17	1.61

These findings support hypothesis 2b, which states that during period 1991-2005 the degree of balance sheet conservatism in the financial statements of European companies differ significantly from each other.

5.3 The impact of industry differences on the degree of accounting conservatism

This section discusses to which extent the degree of accounting conservatism in financial statements of European countries differ per industry.

Impact of industry differences on the degree of balance sheet conservatism

Analysis of the average market-to-book ratio for period 1991-2005 indicates that the market-to-book ratio differs importantly per industry. The difference in market-to-ratios between industries is in many cases more than 10%. Companies operating in the pharmaceutical industry, computer industry, and service industry have the highest scores on balance sheet conservatism (see table 5.6).

Table 5.6 Market-to-book ratio by industry

Industry	Market-to-book ratio	
	Mean	Standard Deviation
Agriculture	2.32	6.58
Mining and Construction	1.76	2.26
Food	2.08	3.56
Textiles and Printing	2.22	5.44
Chemicals	2.67	6.72
Pharmaceuticals	4.59	9.37
Extractive Industries	2.69	4.58
Durable Manufactures	2.38	4.39
Computers	3.55	7.49
Transportation	2.82	4.60
Retail	2.48	4.84
Insurance and Real Estate	2.31	3.88
Services	3.38	7.95
Others	2.78	5.62
Total	2.69	5.68

These findings support hypothesis 3a, which states that during period 1991-2005 the degree of balance sheet conservatism in the financial statements of European companies differ significantly per industry.

Impact of industry differences on the degree of earnings conservatism

The scores with regard to the measure ‘accumulation of accruals’ and ‘the skewness of earnings’ indicate an important impact of country differences on the degree of earnings conservatism. However, the measure ‘differential timeliness of earnings with respect to the recognition of good news and bad news’ does not indicate that country differences have influence on the differential timeliness of earning with respect to the recognition of good news and bad news.

The findings indicate that the differences between industries with respect to the degree of earnings conservatism in financial statements of European companies differ more than 10%. An interesting finding is that the financial statements of European companies operating in the computer industry and the pharmaceutical industry have, in comparison with other industries, a relative high degree of earnings conservatism. The findings support hypothesis 3b, which states that during period 1991-2005 the degree of earnings conservatism in the financial statements of European companies differ significantly per industry.

5.4 The impact of company differences on the degree of accounting conservatism

This section discusses the impact of company differences on the degree of accounting conservatism in the financial statement of European companies. First, the impact of a firm’s profitability level on the degree of balance sheet conservatism and earnings conservatism is discussed (section 5.4.1). Next, the impact of a firm’s size on the degree of earnings conservatism is discussed (section 5.4.2).

5.4.1 Impact of company’s profitability level on the degree of accounting conservatism

This section discusses the impact of a company’s profitability level on the degree of accounting conservatism in financial statement information.

Impact of company's profitability level on the degree of balance sheet conservatism

The market-to-book ratios indicate that the financial statement information of companies with a positive return on share price has a lower degree of balance sheet conservatism than companies with a negative return on share price (see table 5.7).

Table 5.7. Market-to-book ratio per profitability level

Profitability	Market-to-book ratio	
	Mean	Standard Deviation
Profit	3.03	5.94
Loss	2.20	5.20
Total	2.63	5.60

This finding supports hypothesis 4a, which states that during period 1991-2005 the degree of balance sheet conservatism in the financial statements of European companies differ significantly for companies with negative returns on share price and companies with non-negative returns on share price.

Impact of company's profitability level on the degree of earnings conservatism

The measure 'accumulation of accruals' and 'the skewness of earnings' indicate that the degree of earnings conservatism differ importantly for profitable companies and non-profitable companies. The findings indicate that companies with an average positive return on share price have a higher degree of earnings conservatism in their financial statements than companies with on average a negative return on share price. The difference between profitable companies and non-profitable companies in the accumulation of accruals ratio and the skewness of earnings ratio is larger than 10%.

The measure 'differential timeliness of earnings with respect to the recognition of good news and bad news' does not provide insight in the impact of the positive or negative returns, since the regression model has not the required number of cases for performing a valid regression analysis.

The empirical findings regarding the relationship between the return on share price and the degree of earnings conservatism supports hypothesis 4b, which states that during period 1991-2005 the degree of earnings conservatism in the financial statements of European companies differs significantly for companies with negative returns on share price and companies with non-negative returns on share price.

5.4.2 Impact of firm size on the degree of accounting conservatism

This section discusses the impact of a company's size on the degree of accounting conservatism in financial statement information.

Impact of firm size on the degree of balance sheet conservatism

The scores on the measure 'market-to-book ratio' indicate that the market-to-book ratios differ importantly for firm size (see table 5.8).

Table 5.8. Market-to-book ratio per firm size category

Scale	Market-to-book ratio	
	Mean	Standard Deviation
1	2,65	5,55
2	6,43	12,64
Total	2,69	5,68

Explanation of used abbreviations:

1	Category of companies with a total assets value between 0 and 1 million.
2	Category of companies with a total assets value between 1 million and 1 billion.

The differences in market-to-book ratio between small companies and large companies indicate that the differences in the degree of balance sheet conservatism between large companies and small companies are larger than 10%. This finding does not support hypothesis 4c, which states that during period 1991-2005 the degree of balance sheet conservatism in the financial statements of European companies does not differ significantly for companies' firm size.

Impact of firm size on the degree of earnings conservatism

The scores on the measures 'accumulation of accruals' and 'skewness of earnings' indicate an important impact of firm size on the degree of earnings conservatism (see table 5.9 and table 5.10). However, the scores on the measure 'differential timeliness of earnings with respect to the recognition of good news and bad news' does not indicate that firm size influence the differential timeliness of earning with respect to the recognition of good news and bad news.

Table 5.9. Accumulation of accruals per firm size category

Code	Cash Flow of Operations-to-Total Assets		Total Accruals-to-Total Assets		Net Income-to-Total Assets	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
1	0,044	0,592	0,015	0,475	-0,014	0,572
2	0,073	0,080	0,024	0,068	0,022	0,073
Total	0,045	0,582	0,016	0,467	-0,012	0,562

Explanation of used abbreviations:

1	Category of companies with a total assets value between 0 and 1 million.
2	Category of companies with a total assets value between 1 million and 1 billion.

Table 5.10. Difference in skewness of earnings per firm size category

Scale	Skewness of Net Income (NI)		Skewness of Cash Flow of Operations (CFO)		Difference in Skewness between NI and CFO	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
1	0,72-	16,31	0,54-	14,67	0,18-	1,64
2	0,01-	0,11	0,01	0,08	0,02-	0,03
Total	0,69-	16,04	0,52-	14,42	0,17-	1,61

Explanation of used abbreviations:

1	Category of companies with a total assets value between 0 and 1 million.
2	Category of companies with a total assets value between 1 million and 1 billion.

Based on the findings of the proxies ‘accumulation of accruals’ and ‘the skewness of earnings’, one can conclude that firm size influence the degree of earnings conservatism. This finding does not support hypothesis 4d, which state that during period 1991-2005 the degree of earnings conservatism in the financial statements of European companies does not differ significantly for companies’ firm size.

5.5 The impact of the introduction of IFRS on the degree of accounting conservatism

This section discusses to which extend the degree of balance sheet conservatism and earnings conservatism in financial statements of European countries is affected by the introduction of IFRS.

Impact of the introduction of IFRS on the degree of balance sheet conservatism

The market-to-book ratios indicate that the accounting standards which are in accordance with IAS/IFRS, have on average a lower market-to-book ratio than accounting standards based on US GAAP (see table 5.11). However, the market-to-book ratios indicate also that the domestic standards which are not based on IAS/IFRS or US GAAP show on average a lower market-to-book ratio than accounting standards, which are in accordance with IAS/IFRS.

Table 5.11. Difference in market-to-book ratio between different accounting standards

Code	Description	Market-to-book ratio	
		Mean	Standard Deviation
DA	Domestic standards generally in accordance with International Accounting Standards Committee (IASC) and Organization for Economic Cooperation and Development (OECD) guidelines	2.97	4.27
DI	Domestic standards generally in accordance with IASC guidelines	3.11	6.76
DO	Domestic standards generally in accordance with OECD guidelines	2.12	0.94
DS	Domestic standards	2.56	5.35
DT	Domestic standards in accordance with principles generally accepted in the in the United States	2.86	3.92
DU	Domestic Standards generally in accordance with United States GAAP	3.67	7.73
US	United States’ standards	3.38	6.68
Total		2.69	5.68

Source: Compustat Database (2007)

Based on these findings, one can conclude that that introduction of IFRS - as an accounting standard introduced by IAS/IFRS - has not significantly reduced the differences in the degree of balance sheet conservatism in financial statement information of European companies. Next, the analysis does not indicate that the difference in the degree of balance sheet conservatism between European companies reporting under IFRS is reduced in 2005 with more than 10%. Consequently, the findings do not support hypothesis 5a, which states that in 2005 the degree of balance sheet conservatism in the financial statements of European companies, which report their financial statements according to IFRS, will reduce significantly.

Impact of the introduction of IFRS on the degree of earnings conservatism

The scores on the measures ‘accumulation of accruals’ and ‘skewness of earnings’ indicates an important impact of accounting methods and accounting standards on the degree of earnings conservatism (see table 5.12, and table 5.13)

Table 5.12. Accumulation of accruals per accounting standard

Code	Cash Flow of Operations-to-Total Assets		Total Accruals-to-Total Assets		Net Income-to-Total Assets	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
DA	0,0624	0,0622	0,0278	0,0438	0,0193	0,0439
DI	0,0587	0,1924	0,0278	0,1093	-0,0003	0,2150
DO	0,0908	0,0421	0,0406	0,1101	0,0168	0,0713
DS	0,0444	0,6456	0,0121	0,5213	-0,0117	0,6189
DT	0,1071	0,0544	0,0476	0,0723	0,0366	0,0782
DU	0,0690	0,1058	0,0245	0,0836	0,0104	0,1121
US	-0,0467	0,3895	0,0387	0,2395	-0,1311	0,4685
Total	0,0449	0,5823	0,0157	0,4667	-0,0124	0,5621

Explanation of used abbreviations:

DA	Domestic standards generally in accordance with International Accounting Standards Committee (IASC) and Organization for Economic Cooperation and Development (OECD) guidelines.
DI	Domestic standards generally in accordance with IASC guidelines.
DO	Domestic standards generally in accordance with OECD guidelines
DS	Domestic standards.
DT	Domestic standards in accordance with principles generally accepted in the in the United States.
DU	Domestic Standards generally in accordance with United States GAAP.
US	United States’ standards.

Source: Compustat Database (2007)

Table 5.13. The difference in skewness of earnings between accounting standards

Code	Description	Skewness of Net Income (NI)		Skewness of Cash Flow of Operations (CFO)	
		Mean	Standard Deviation	Mean	Standard Deviation
DA	Domestic standards generally in accordance with International Accounting Standards Committee (IASC) and Organization for Economic Cooperation and Development (OECD) guidelines	0.00	0.00	0.01	0.01
DI	Domestic standards generally in accordance with IASC guidelines	-0.42	8.52	-0.21	5.35
DO	Domestic standards generally in accordance with OECD guidelines	0.00	0.01	0.02	0.02
DS	Domestic standards	-0.66	15.64	-0.55	15.44
DT	Domestic standards in accordance with principles generally accepted in the in the United States	0.00	0.02	0.02	0.03
DU	Domestic Standards generally in accordance with United States GAAP	-0.01	0.09	0.02	0.08
US	United States’ standards	-3.95	44.35	-1.83	24.06
Total		-0.69	16.04	-0.52	14.42

Source: Compustat Database (2007)

The measure ‘differential timeliness of earnings with respect to the recognition of good news and bad news’ was not able to provide insight in the relationship between the independent variable return on share price and the dependent variables accounting methods and accounting standards.

Based on the findings of the proxies ‘accumulation of accruals’ and ‘the skewness of earnings’, one can conclude that both accounting method and accounting standards influence the degree of earnings conservatism. However, the findings do not provide insight in whether the introduction of IFRS harmonizes the differences in the degree of earnings conservatism between European companies reporting under IFRS. As a consequence, the findings do not support hypothesis 5b, which states that due to the introduction of IFRS the difference in the degree of earnings conservatism between European companies reporting under IFRS will reduce importantly in 2005.

6. Analysis and conclusions

The previous section discussed the research findings about how the degree of accounting conservatism in Europe differs for country characteristics, industry characteristics, company characteristics, and accounting regulation characteristics. This section presents an analysis of the research findings. The section closes with an overview of the main conclusions of the study.

6.1 General developments in the degree of accounting conservatism in Europe

With regard to the development in the degree of accounting conservatism in the financial statements of European companies, the analysis indicate that the financial statements of all companies in the sample show on average a certain degree of accounting conservatism during period 1991-2005. Next, the empirical results indicate that during period 1995-2001 the degree of accounting conservatism is on average at the same level. This is in contrast with the findings of Givoly and Hayn (2000), which indicates an increase in conservatism. Givoly and Hayn (2000) noted an increase of the market-to-book ratio since the mid 1980’s, heading to a ratio of 3.5 in the late 1990’s.

The empirical results indicate an increase of the market-to-book ratio during period 1990-1999; in 1999 the average market-to-book ratio is 3.5. However during period 1999-2003 the market-to-book ratio declined sharply, followed by strong increase of the market-to-book ratio during period 2002-2005.

6.2 The impact of country differences on the degree of accounting conservatism

The research findings indicate that the degree of balance sheet conservatism and earnings conservatism differ per country. The differences in the degree of balance sheet conservatism and earnings conservatism between countries are explained by accounting regulation differences that exists between countries, and external economical factors. Country differences like the quality of the national judicial systems, the degree of development of national capital markets, the quality and the quantity of information are likely to affect the market value of listed firms. These factors do influence the market-to-book ratio scores, and therefore influence the results of the analysis of the difference between countries in the degree of balance sheet conservatism in financial statement information of European companies.

Next, the research findings indicate that differences in disclosure policies per country might affect the usefulness of financial statement information.

6.3 The impact of industry differences on the degree of earnings conservatism

The research findings indicate that the degree of balance sheet conservatism and earnings conservatism differ not only per country but also per industry. With regard to the differences in the degree of balance sheet conservatism, the empirical findings indicate that companies operating in the pharmaceutical industry, computer industry, and service industry have the highest scores on balance sheet conservatism. These findings are in accordance with the findings of Pae and Easton (2004). This high degree of balance sheet conservatism is likely to be caused by the factor 'non-recognition of intangible assets'. Companies operating in the pharmaceutical industry, the computer industry, and the service industry are characterized by major investments in R&D in order to develop new products and services. Accounting regulation has strict regulation for recognizing intangible assets; this can cause the non-recognition of intangible assets, which can widen the gap between a firm's market value and the book value of equity.

The differences in the degree of balance sheet conservatism and earnings conservatism between industries are likely to be primarily influenced by accounting regulation, which impacts the degree in accounting conservatism differently per industry - since each specific industry has its own characteristics. An example of the impact of accounting regulation on the differences in the degree of balance sheet conservatism in financial statements are the differences in reporting accounting regulation, which result in an asset understatement. Givoly, Hayn and Natarajan (2007) state that balance sheet conservatism through assets understatement can easily be caused by choosing to expense investments in certain assets (e.g. R&D) or accelerate the recognition of certain costs (e.g. through use of accelerated depreciation or LIFO).

6.4 The impact of company differences on the degree of accounting conservatism

With regard to the impact of company's profitability level on the degree of accounting conservatism, the research findings indicate that financial statement information of companies with a positive return on share price has a lower degree of balance sheet conservatism than companies with a negative return on share price. Next, the research findings indicate that companies with an average positive return on share price have a higher degree of earnings conservatism in their financial statements than companies with on average a negative return on share price.

Regarding the impact of firm size on the degree of accounting conservatism, the results of conducted analysis indicate that the degree of balance sheet conservatism is greater for large companies than for small companies. Next, the research findings indicate that firm size impacts also the degree of earnings conservatism in financial statements.

These findings are in contrast with the findings of Pae and Easton (2004), who find in their study that company size has not a strong influence on the degree of balance sheet conservatism and earnings conservatism in financial statement information.

6.5 Impact of the introduction of IFRS on the degree of accounting conservatism

The research findings do not indicate that the introduction of IFRS reduces importantly the difference in the degree of balance sheet conservatism and earnings conservatism between European companies reporting under IFRS. These findings are not in accordance with the expectations of Van der Tas (2006) and Vergoossen (2006), who expected IFRS to harmonize the differences in financial reporting in Europe.

Regarding the investigation of the impact of the introduction of IFRS on the degree of accounting conservatism in the financial statements, one have to consider that the impact of the introduction of IFRS on the degree of accounting conservatism might not be properly measurable by the applied four measures of Givoly and Hayn (2000). The explanation for the failure of the measure to detect accounting conservatism is caused by the interference of other external economical factors, like technological breakthroughs, or national or international political developments.

6.6 Conclusion

The main conclusion of this study is that the research findings indicate that the financial statement information of European companies have during period 1991-2005 a certain degree of balance sheet conservatism and earnings conservatism. The research findings indicate that the degree of both balance sheet conservatism and earnings conservatism evolves over time. However, the research findings do not indicate that the degree of balance sheet conservatism or earnings conservatism increase over time.

Next, the research findings reveal that country characteristics, industry characteristics, company characteristics and accounting regulation characteristics have a significant impact on the degree of accounting conservatism.

Finally, the research findings do not indicate that the introduction of IFRS or other IAS/IFRS based accounting standards have reduced the difference in the degree of balance sheet conservatism and earnings conservatism between European companies reporting under IFRS.

7. Discussion

This section discusses the limitations of this study and presents three suggestions for further research.

7.1 Limitations

This study has two important limitations. The first limitation of this study is that the time period is limited to 1991-2005. This restricts the potential insight into the impact of the introduction of IFRS on the degree of balance sheet conservatism and earnings conservatism. Next, the study is also limited by the accuracy of the four measures of Givoly and Hayn (2000) in measuring accounting conservatism. Since the four measures are influenced by external economical factors, they only give indications for the degree of both earnings conservatism and balance sheet conservatism in financial statements.

7.2 Suggestions for further research

Analysis of the study results identified three new suggestions for further research. First, it is interesting to study in more detail which particular country characteristics, industry characteristics, company characteristics and accounting regulation characteristics have the strongest influence on the degree of accounting conservatism in financial statement information.

Next, it is also interesting to investigate how the introduction of IFRS will impact the degree of accounting conservatism in financial reporting over time. From a standards setting perspective it is relevant to gain insight in whether IFRS will harmonize the differences in the degree of accounting conservatism.

Finally, from a scientific point of view it is also relevant to study how accounting conservatism can be measured more accurately. Since a large set of factors influence the relation between return on share price and financial statement information, one can question to which extent we are measuring the developments in the degree of accounting conservatism in a proper way. More empirical insight regarding measuring the degree of accounting conservatism in financial statement information is welcome.

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