'Profit, performance, perception': a research into the use of alternative performance measures in the European Union

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2 Discussion of relevant literature

2.1 Introduction

This chapter includes a general discussion of relevant literature in the area of reporting of alternative performance measures. Paragraph 2.2 discusses the regulation that is applicable for the companies that are subject to this research. Paragraph 2.3 describes developments in the relevance of income and alternative performance measures as well as the increased attention for and criticism of the use of alternative performance measures. In paragraph 2.4 the relevant accounting theory is described followed by an analysis of existing research in relation to alternative performance measures in paragraph 2.5, 2.6 and 2.7. A summary is provided in paragraph 2.8 and in paragraph 2.9 an overview is given of the contribution of my research to the literature.

2.2 Applicable regulation for EU companies

In this section, the relevant regulation for the listed EU companies that are subject to this research is discussed. Relevant regulation regarding the financial statements includes the EU Directives and IFRS. In addition, since the director’s report is generally an important source of information, relevant regulation regarding this part of the annual report is also discussed. Furthermore, guidance provided by the Committee of European Securities Regulators is relevant for financial reporting of alternative performance measures in general.

EU Directives

Until 2004, EU companies were subject to local accounting laws and regulation. The national laws regarding financial reporting are based on the 4th and 7th EU directives which contain detailed formats for the presentation of the income statement. According to article 4 of the 4th EU Directive a company must apply one of the mandatory formats for the income statement, including
the line items as indicated (if applicable), and in the prescribed format. The two basic formats
(presentation of expenses by category or by function) contain 19 and 21 line items:

<table>
<thead>
<tr>
<th>4th EU directive article 23</th>
<th>4th EU directive article 25</th>
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<tr>
<td>1. Net turnover</td>
<td>1. Net turnover</td>
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<td>2. Variation in stocks of finished goods and in work in progress</td>
<td>2. Cost of sales (including value adjustments).</td>
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<td>3. Work performed by the undertaking for its own purposes and capitalized</td>
<td>3. Gross profit or loss.</td>
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<td>4. Other operating income</td>
<td>4. Distribution costs (including value adjustments).</td>
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<td>5. (a) Raw materials and consumables and (b) Other external charges.</td>
<td>5. Administrative expenses (including value adjustments).</td>
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<td>6. Staff costs: (a) wages and salaries and (b) social security costs, with a separate indication of those relating to pensions.</td>
<td>6. Other operating income.</td>
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<tr>
<td>7. (a) Value adjustments in respect of formation expenses and of tangible and intangible fixed assets and (b) Value adjustments in respect of current assets, to the extent that they exceed the amount of value adjustments which are normal in the undertaking concerned.</td>
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<td>8. Other operating charges.</td>
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<td>9. Income from participating interests, with a separate indication of that derived from affiliated undertakings.</td>
<td>7. Income from participating interests, with a separate indication of that derived from affiliated undertakings.</td>
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<td>10. Income from other investments and loans forming part of the fixed assets, with a separate indication of that derived from affiliated undertakings.</td>
<td>8. Income from other investments and loans forming part of the fixed assets, with a separate indication of that derived from affiliated undertakings.</td>
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<td>11. Other interest receivable and similar income, with a separate indication of that derived from affiliated undertakings.</td>
<td>9. Other interest receivable and similar income with a separate indication of that derived from affiliated undertakings.</td>
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<td>12. Value adjustments in respect of financial assets and of investments held as current assets.</td>
<td>10. Value adjustments in respect of financial assets and of investments held as current assets.</td>
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<td>13. Interest payable and similar charges, with a separate indication of those concerning affiliated undertakings.</td>
<td>11. Interest payable and similar charges, with a separate indication of those concerning affiliated undertakings.</td>
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<td>14. Tax on profit or loss on ordinary activities.</td>
<td>12. Tax on profit or loss on ordinary activities.</td>
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<td>15. Profit or loss on ordinary activities after taxation.</td>
<td>13. Profit or loss on ordinary activities after taxation.</td>
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<td>17. Extraordinary charges.</td>
<td>15. Extraordinary charges.</td>
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<td>18. Extraordinary profit or loss.</td>
<td>16. Extraordinary profit or loss.</td>
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<td>19. Tax on extraordinary profit or loss.</td>
<td>17. Tax on extraordinary profit or loss.</td>
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<td>20. Other taxes not shown under the above items.</td>
<td>18. Other taxes not shown under the above items.</td>
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<tr>
<td>21. Profit or loss for the financial year.</td>
<td>19. Profit or loss for the financial year.</td>
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Subdivisions may be added, new items may be added when their contents are not covered by any of the items prescribed by the layouts and terminology for certain items can be amended. However, according to article 4 of the 4th EU Directive, the layouts above must be complied with and items must be shown in the order indicated. This limits the possibilities to present alternative performance measures on the face of the income statement for companies that report under national laws in the EU.

**International Financial Reporting Standards (IFRS)**

For the EU listed companies that have adopted IFRS in 2005, the national laws that are based on the EU requirements are no longer applicable for their consolidated financial statements. IFRS does not give a detailed format for the presentation of the income statement. IAS 1 (‘Presentation of Financial Statements’), paragraph 81, only requires that the income statement contains the following six line items:

(a) revenue  
(b) finance costs  
(c) share of the profit or loss of associates and joint ventures accounted for using the equity method  
(d) tax expense  
(e) a single amount comprising the total of (i) the post-tax profit or loss of discontinued operations and (ii) the post-tax gain or loss recognised on the measurement to fair value less costs to sell or on the disposal of the assets or disposal group(s) constituting the discontinued operation  
(f) profit or loss

In addition, IAS 1, paragraph 83, states that additional line items, headings and subtotals shall be presented on the face of the income statement when such presentation is relevant to an understanding of the company’s financial performance. This is supplemented with two example
formats and one restriction: a company shall not present any items of income and expense as extraordinary items, either on the face of the income statement or in the notes. The relative freedom under IFRS gives management the possibility to provide understandable, relevant and reliable information to their stakeholders based on their company specific situation. However, it also creates an opportunity to present the financial information, and additional performance measures, in such a way that a more positive picture is drawn of the company’s performance than would be appropriate under the circumstances.

*Director’s report*

A large portion of the financial information that is communicated to the market through the financial statements is included in parts other than the income statement itself. Generally, the narrative review sections (like the director’s report, also referred to as Management’s Discussion and Analysis or Operating and Financial Review, and key financial data) are used by management to further explain the development of their results and performance and the drivers behind these developments. Bryan (1997) analyzes the information content of the Management’s Discussion and Analysis (MD&A) and finds that certain MD&A disclosures are relevant in explaining short-term future performance. Clatworthy and Jones (2006) note that accounting narratives are an increasingly important component of the annual report, are a significant indicator of financial performance, useful for the prediction of future financial performance and shown to influence investors’ decision making. Schleicher et al. (2007) find that for loss making companies stock returns better anticipate next period’s earnings changes when the annual report narratives contain a large number of earnings predictions. They do not find this relationship for profitable companies and conclude that annual report narratives are a particularly useful source of information for loss making companies. More generally interpreted, additional voluntary disclosures are useful for
investors’ decision making in situations that the current year’s income are poor indicators for a company’s future income generating potential.

Until recently, IFRS did not provide guidance with regard to these narrative review sections. In December 2010, the IASB issued a practice statement Management Commentary (IASB, 2010). Companies reporting under IFRS are however not required to comply with the practice statement. The content of these narrative parts was and is therefore subject to local legislation which is generally limited. The 4th EU Directive only requires that the narrative section gives a fair review of the development of the company’s business and of its position and an indication of any important events that have occurred since the end of the financial year, the company's likely future development and activities in the field of research and development. The analysis shall include both financial and non-financial key performance indicators relevant to the particular business.

In addition, the narrative sections outside the audited financial statements are generally not subject to audit requirements. As a result, companies have a large degree of freedom in the presentation of their performance in these sections. Many companies report alternative performance measures in these sections and these alternative measures seem to become increasingly important (see for example Brouwer, 2007a).

**The Committee of European Securities Regulators**

The Committee of European Securities Regulators (CESR), currently known as the European Securities and Markets Authority (ESMA), acknowledged that the implementation of IFRS would result in greater freedom in reporting alternative performance measures. Therefore, in October 2005, CESR issued a recommendation with proposals to encourage European listed companies which provide the financial markets with alternative performance measures to do so in a way that
is appropriate and useful for investor’s decision making. The objective of the recommendation is to ensure that investors are not misled through the use of alternative performance measures. CESR recommended amongst others that alternative performance measures are clearly defined, used consistently, reconciled to defined measures and that companies explain why alternative performance measures are presented and how they are used internally. The recommendation does not prescribe or forbid the use of certain performance measures.

Summary

Until 2004, EU companies generally applied local laws and local GAAP in their financial statements. The EU Directives prescribe a mandatory format for the income statement from which limited deviation is possible. As of 2005, EU companies prepare their consolidated financial statements based on IFRS which provides more flexibility in the presentation of the income statement. Companies furthermore have a large degree of freedom in the reporting of alternative performance measures in the narrative review sections that accompany the financial statements.

2.3 Reporting performance

Central to this paragraph are the various ways in which the performance of a company can be measured and reported. After a general discussion of the objectives of the financial statements, this section addresses the relevance of the net income number and the relevance of non-financial information, after which the primary subject of this research, the use of various financial performance measures, is discussed including current developments and views on this matter.

Objectives of the financial statements

One of the objectives of general purpose financial statements is to provide information about the performance of the company (Framework for the Preparation and Presentation of Financial
Statements, CON 1 - Objectives of Financial Reporting by Business Enterprises). According to the Framework (par. 17), this information is important for:

- assessing potential changes in the economic resources that the entity is likely to control in the future;
- predicting the capacity of the entity to generate cash flows from its existing resource base; and
- forming judgements about the effectiveness with which the entity might employ additional resources.

According to paragraph 19 of the Framework, information about performance is primarily provided in the income statement. The International Accounting Standards Board (IASB) notes that profit is frequently used as a measure of performance or as the basis for other measures, such as return on investment or earnings per share. The Financial Accounting Standards Board (FASB) states in CON 1 that the primary focus of financial reporting is information about an enterprise's performance provided by measures of earnings and its components.

**Relevance of the net income number**

A widely debated question is what the basis for measuring performance should be, and whether this can be derived from the financial statements of a company at all. Many have researched the question whether accounting income is relevant for investor decision making by investigating the relation between income (unexpected income or income levels) and security prices or returns in both longer interval association studies and short interval event studies. This has resulted in a number of very important papers in accounting literature. Examples are Ball and Brown (1968); Beaver (1968); Easton and Zmijewski (1989); Collins and Kothari (1989); Easton and Harris

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1 It is noted that in 2007, in a new version of IAS 1, the IASB has introduced the statement of comprehensive income which includes all gains and losses, including those that are recognized directly in equity.
(1991); Easton et al. (1992); Ali and Zarowin (1992); and Beaver et al. (1997). The general conclusion from these studies is that reported income is relevant for investor decision making. However, the strength of the relation between income, prices and returns that has been found in these studies is generally low, especially for shorter intervals. In addition, specific issues such as non-linearity and weak(er) relations for loss making companies, high-growth and high-tech companies have affected the results. Moreover, some argue that the relevance of income information is declining. For example, Francis and Schipper (1999) find that the explanatory power of bottom-line income has significantly decreased between 1952 and 1994. This may be due to deficiencies in generally accepted accounting principles to give a relevant reflection of the performance of companies in certain industries. Givoly and Hayn (2000) ascribe this finding to increased conservatism of accounting income which they find based on data over the period 1950-1998. Francis et al. (2002) however note that abnormal stock returns or abnormal trading volumes around earnings announcement dates have increased overtime. Their findings provide evidence that this increased usefulness of earnings announcements is caused by additional relevant concurrent disclosures about components of income (full income statement information) as well as operating information and information about nonrecurring items which are increasingly included in the earnings announcements. This is consistent with Lundholm and Myers (2002) who find, in both cross-sectional and time-series tests, that for companies with more informative disclosures, as measured by AIMR (Association for Investment Management and Research) ratings, the current returns reflect more future earnings news. The results are more pronounced for industries with relatively long accounting recognition lags, e.g. companies that are most affected by conservatism in accounting. In other words, the more conservative accounting income is, the more relevant informative disclosures, and less relevant current income, are for investors to value a company’s shares. In addition, Lang and Lundholm (1996) find that companies with more informative disclosures have more accurate analyst forecasts, less dispersion among them and less volatility in
forecast revisions which indicates that more informative disclosures help analysts better predicting the company’s future performance.

**Non-financial information**

The findings above may also explain increased attention for non-financial information that is reported by many companies. Amir and Lev (1996) for example investigate the value relevance of accounting income and non-financial information in the wireless communications industry. Due to the nature of the industry, significant expenditures are required for developing a business which are to a large extent expensed and thus result in significantly negative results. They find that non-financial information does a better job in explaining the valuation of these companies than accounting income, consistent with their notion that investors are cognizant of the deficiencies in accounting standards to capture the underlying economic performance of these companies and therefore rely primarily on non-financial information. Hughes (2000) finds a significant relation between air pollution data and share price valuation for electric utility companies that are expected to be most affected (financially) by environmental legislation.

Entwistle (1999) analyses R&D disclosures and concludes that companies with relatively high R&D expenditures significantly increase R&D disclosures, potentially to compensate for conservatism in the accounting for R&D expenditures (“expensing bias”). Narayanan et al. (2000) find that qualitative information regarding government approval, managerial intentions and beliefs which is voluntarily disclosed in R&D announcements significantly affect investors’ decision making on the stock market.

Ittner and Larcker (1998) examine the value relevance of customer satisfaction data at different levels for different types of companies. In their analysis of customer purchase behavior for a
telecommunications company, they find a positive relation between customer satisfaction and their purchase behavior. In their business-unit level analysis, they find a positive relation between customer satisfaction measures and future accounting performance for branches of a retail bank. Finally, using company-level data, the public release of customer satisfaction data (American Satisfaction Index), is found to be associated with excess stock market returns which provides some evidence that such disclosures are considered relevant by investors for estimating future cash flows. For all three tests, they identify that the relationship is not linear and threshold values apply both at the lower end and the upper end of the range. Banker et al. (2000) also find a positive relationship between customer satisfaction and future financial performance. In addition, they find that inclusion of such non-financial performance measures in incentive plans improves both the company’s non-financial and financial performance, indicating that active monitoring based on these measures improves decision making in the long run from a financial perspective as well. Said et al. (2003) find similar results in that companies that use a combination of financial and nonfinancial measures have significantly higher return on assets and stock market performance. They also conclude that the association is dependent on whether the use of nonfinancial measures matches the company’s characteristics. Thus, active monitoring based on these alternative measures appears to be relevant for internal management decision making. If this is the case, one could argue that this will likely also be the case for shareholders’ decision making, thus justifying reporting these measures externally as well.

It is noted however that, as with the disclosure of alternative performance measures which is the subject of my research, most non-financial disclosures are not mandatory, but up to management’s discretion. Brown and Kim (1993) investigate the impact of this discretion and find that discretionary disclosure of non-earnings information by small companies tend to be positive news disclosures (associated with significant stock price increases) which may indicate strategic
disclosure behavior. As will be shown later in this thesis, this conflict between the potential of these measures to inform the company’s shareholders and the potential to mislead them (through strategic management reporting behavior) is a key conflict which is also the basic issue underlying much of the pro forma literature.

**Measuring financial performance**

The financial performance of a company can be measured in various ways and different users may use different measures to assess a company’s performance. The IASB and FASB do not explicitly state how they define performance other than stating that information about performance is primarily provided in the income statement. After publication of the reports ‘Reporting Financial Performance: Current Developments and Future Directions’ and ‘Reporting Financial Performance: proposals for change’ (G4+1, 1999) in 1998 and 1999, the IASB started its ‘Performance Reporting’ project in 2001 which was combined with a similar FASB project in 2004. However, this project has not yet resulted in a clear definition of performance and the project currently mainly focuses on the presentation of the income statement which is illustrated by the change of the name of the project into ‘Financial statement presentation’. The objective of this joint project is to establish standards for the presentation of information in annual accounts that improves the usefulness of that information in assessing the financial performance of a business entity. Those standards will address what makes up a complete set of annual accounts; whether to require presentation of comparative financial information; and how financial information should be classified, aggregated and displayed on the face of the basic annual accounts. The project will not address financial reporting in the director’s report and other information.
Currently, only in the United Kingdom (UK) a specific standard refers explicitly to the reporting of performance in the financial statements: Financial Reporting Standard (FRS) 3 ‘Reporting Financial Performance’ (Accounting Standards Board, (ASB), 1992). However, this standard does not define performance either. The objective of FRS 3 as stated by the ASB is to require companies to highlight a range of important components of financial performance to aid users in understanding the performance achieved by a reporting entity in a period and to assist them in forming a basis for their assessment of future results and cash flows. These presentation requirements should aid the user of the financial statements in constructing a performance measure that he believes is relevant for his decision making.

Barker (2004) states that ‘this lack of conceptual clarity is of growing practical importance’ since current developments in accounting make the concept of income increasingly difficult to interpret. Newberry (2003) attributes the current difficulties in defining and interpreting performance to internal incoherence of the conceptual framework and political involvement in the standard-setting process. These issues are not likely to be solved in the short term since the IASB project to redevelop the conceptual framework is likely to take considerable time and the political involvement in the IFRS standard-setting process has only increased over the last few years with for example the EU-endorsement process. Dekker (2005) also notes that the lack of a clear definition of performance causes many issues for standard setters in developing consistent and clear standards. According to Whittington (2005) the issue of performance reporting is a very controversial issue amongst preparers and users since there is little consensus on the changes that are needed and one of the more urgent issues to be solved.
Other financial performance measures

The users of financial information do in practice appear to use many measures, other than net income, to assess the performance of a company. Jensen and Xiao (2001) point to differences between users and their information needs and state that customization of financial reports can help meet users’ heterogeneous information requirements. They envision three types of modules in financial reporting: (1) the elements of the financial statements, (2) different accounting and presentation methods, and (3) nonfinancial information items.

As part of its initial research into performance reporting, the FASB interviewed 56 analysts and other users (2002). These users of financial statements stated amongst others that net income is often used as a starting point for their analysis of a company’s performance but generally is not among the top-three most important measures that they use. They assess a company’s performance based on other metrics such as operating earnings and EBIT. De Jong and Roelofsen (2005) report that analysts frequently asked about the impact of the conversion to IFRS on pro forma results and ratios in analyst conference calls held by Dutch listed companies to explain their conversion, indicating that analysts find these measures relevant. In their International Private Equity And Venture Capital Valuation Guidelines (AFIC, BVCA and ECVA, 2006), an international group of private/venture capital associations describe how EBIT and EBITDA based multiples are commonly used to estimate the value of a company. They also state that in their opinion a valuer must satisfy himself that the income measure used in the valuation represents a reasonable estimate of maintainable income which requires adjustment for amongst others exceptional or non-recurring items. Moody’s adjusts income for various elements including reclassification of unusual or non-recurring items, net of tax, to a special income statement caption that is below net profit after tax before determining credit ratings (2005).
This shows how both investors and creditors use alternative performance measures, other than bottom-line net income, before making their decisions based on accounting information. Either as a response to this or for other reasons, companies currently also use a wide variety of performance measures and the use thereof has been increasing over the past years (see the following paragraphs for a detailed analysis of research in this area).

**Criticism**

Many have opposed to the use of these, so-called, non-GAAP measures. The Securities and Exchange Commission (SEC) and the International Organization of Securities Commissions (IOSCO) are among them. As from the end of the previous century and the start of this century, the SEC debated this subject in many comment letters that were sent to companies using such measures (see amongst others SEC, 2001). In May 2002, the IOSCO also cautioned issuers, investors and other users of financial information to use care when presenting and interpreting non-GAAP results measures (2002) and after a number of public statements and warnings, the SEC started a first case against a company for misleading use of non-GAAP measures in 2002 (2002). In 2003, the SEC issued a final rule: “Conditions for Use of Non-GAAP Financial Measures”.

Also in Europe the debate intensified over the past few years. Already in 2001 for example, the Dutch Accounting Standards Board prohibited the use of EBITDA and EBITA on the face of the income statement. Early 2004, both the Dutch Institute for Auditors (NIVRA) and the Dutch security exchange regulator (AFM) expressed their concerns regarding the use of these measures in financial information (Het Financiele Dagblad, 2004a and 2004b). The introduction of IFRS in 2005 further led to discussions regarding inconsistencies in the presentation of various performance measures. Several parties have expressed their concerns that the introduction of IFRS
will not result in the high level of transparency and comparability of financial reporting from all publicly traded EU companies which was the primary objective of this introduction and was considered a necessary condition for building an integrated capital market which operates effectively, smoothly and efficiently. The IASB for example started its performance reporting project because it regarded the increased use of alternative performance measures as increasingly problematic, but also acknowledged that the bottom line (comprehensive) income was not sufficiently useful for the users of the financial statements (Newberry, 2003). However, this project did not yet yield significant results. Some argue that comparability could even decrease as a result of the lack of detailed guidance regarding the presentation of the result of the company in both the income statement and other parts of the financial statements (see for example CESR, 2005b and EFRAG, 2006). Hoogendoorn (2006) states that comparability under IFRS is significantly impeded by the lack of income statement formats and considers this a step backwards compared to the EU Directives. He believes that income statements will be prepared in a variety of formats, using a variety of pro forma revenue, cost and profit measures which cause great difficulty for analysts to compare financial statements. According to Barker (2004), in practice, companies report their own versions of income because of the absence of a universal agreement on how income should be defined. Newberry (2003) notes that preparers have used the discretion available to them to develop and promote their own sub-components within net income. Marseille and Vergoossen (2005) state that the lack of detailed formats under IFRS will cause an increase in the use of alternative performance measures.

This may even be strengthened by local regulators issuing guidance under IFRS. Schipper (2005) notes that if preparers turn to jurisdiction-specific GAAP or practices the result will be diminished comparability and diminished convergence. Related to the subject of this research, for example in 2004 the French Conseil National de la Comptabilité (CNC), issued a recommendation to include
a performance measure in the income statement of IFRS financial statements which presents the company’s result excluding non-recurring items and to label this as current operating income (2004). Results of Brouwer (2007b) indicate that this interpretation affected the presentation of such results by the French companies that adopted IFRS. Brouwer (2007b) also reports that UK companies still seem to be influenced by FRS 3 based presentation formats, a finding which is shared by the UK Financial Reporting Review panel (FRRP, 2006), an operating body the Financial Reporting Council which is the UK independent regulator responsible for promoting confidence in corporate reporting and governance. In their preliminary report on the IFRS implementation in the UK, the panel notes:

“Many companies used a layout for the Income Statement similar to that used previously under UK GAAP. Items such as impairment charges, amortisation of intangibles acquired as a result of a business combination and fair value adjustments on derivatives were often shown separately in the IFRS financial statements. Additionally, some companies presented items in a different order to that in IAS 1.”

Summary

Reporting the performance of a company is an important objective of the financial statements. There is however no consensus on how performance should be measured. Both in the US and EU concerns have risen about the increased and inconsistent use of alternative performance measures in financial reporting, in the EU particularly in relation to the introduction of IFRS.
2.4 Relevant accounting theory

Before the growing body of literature which has been developed over the last few years regarding the reporting of alternative performance measures and its consequences is discussed, this section summarizes the accounting theory which is relevant to consider in this context. These theories include the agency theory and the efficient market hypothesis as well as relaxed forms thereof, the Incomplete Revelation Hypothesis and Limited Attention Theory.

*Agency theory*

In a principal-agent relationship, the principal needs to rely on the agent performing in the principal’s best interest. To ensure this, the principal can implement various mechanisms like contracts that motivate the agent to operate in the desired manner. However, in order to monitor the agent’s actual performance, the principal is to a certain extent dependent on information that is provided by the agent to the principal. The agent generally has more or better information than the principal and could manipulate the information flow to the principal. Both the principal and the agent could be negatively affected by this information asymmetry problem. Adverse selection and moral hazard are well known in theory as problems arising from information asymmetry in the principal-agent relationship.

The principal may discount the information received to compensate for potential biases in the information received and as a result a well performing agent may not be fully rewarded for his performance. Good performing agents may want to signal their good performance and resolve or reduce the information asymmetry by providing additional information to their principals. This is known as signalling or voluntary disclosure. Reporting alternative performance measures can be seen as a form of voluntary disclosure where the agent tries to signal good performance which is
not immediately evident from the net income number. According to Narayanan et al. (2000), voluntary disclosure may reduce information asymmetry between managers and investors when it is (1) credible and (2) economically significant.

**Efficient market hypothesis**

Voluntary disclosure of additional alternative performance measures often only concerns the provisioning of existing information in a different format or with a different emphasis. A well known measure like Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) can generally be deduced from information already present in a company’s financial statements. Based on the efficient market hypothesis, which is an underlying assumption in many researches, one could argue that the presentation format of financial information does not affect investors’ decision making when the information is already present in another form. Not only can many alternative performance measures be calculated by the users of the financial statements based on the information disclosed therein, also is the net profit number still available to everyone. So if the additional alternative performance measures do not provide relevant information to the stakeholders of the company, they would still have the minimum information required by GAAP to make their decisions. As will be shown however in the next few paragraphs, users of the financial statements are affected by the presentation of information even if no new information is revealed. This may be explained by two theories which are discussed hereafter.

**Incomplete Revelation Hypothesis**

Bloomfield (2002) introduces the Incomplete Revelation Hypothesis which explains that information that is more costly to extract from public data is less completely revealed by market prices since it is insufficiently favourable for all investors to put effort in extracting this
information. As a result, the level of emphasis that management gives to certain information can affect investors’ decision making. As noted by Bloomfield, this results, among others, in incentives for managers to announce pro forma earnings and strategically emphasize performance measures that give a better view of the company’s (manager’s) performance than other measures and to classify ongoing expenses as non-recurring or extraordinary items while reporting unusual gains as part of operating income.

**Limited Attention Theory**

Hirshleifer and Theo (2003) assume that investors have limited attention and processing power. They argue that limited attention is not necessarily in conflict with the efficient market hypothesis since if time and attention is costly it may be very reasonable for investors to not invest more time in the analysis and processing of information when the expected benefits do no longer outweigh the expected costs. This cost could for example be the opportunity cost of not being able to analyse and process other information for the same company or for other companies in which the investor also wants to invest. As a result of their limited attention and processing power, the prominence and form of disclosure can affect investor perceptions and, as a result, investor decision making, even when the different forms are informationally equivalent. As noted by Daniel et al. (2002) “Psychological principles suggest that in providing information to investors, it is important that relevant information be salient and easily processed. As every academic author and teacher knows, the form as well as the content of communicated information affects how well it is absorbed.”

This may for example explain why in practice companies are often much more concerned about recognition on the balance sheet or in the income statement than about disclosure of the information in the footnotes to the financial statements. On- versus off-balance sheet treatment of
leases and recognition versus disclosure of stock option expenses are examples of elements that, in my experience, are frequently discussed as part of the preparation or audit of a company’s financial statements although the information still needs (or needed) to be provided in the footnotes to the financial statements when not recognized in the primary statements.

Hirshleifer and Theo (2003) also explore the impact of their theory to the disclosure of alternative performance measures and include both legitimate reasons and illegitimate reasons for the disclosure of alternative performance measures in their limited attention model. When a company excludes certain extra-ordinary items from GAAP earnings to arrive at an alternative performance measure, this may result in more relevant information. Hirshleifer and Theo (2003) argue that such adjustments can help investors with limited attention to better predict future cash flows. However, management can also exploit investors’ limited attention by excluding value relevant items from GAAP net income or not excluding non-value relevant items. The functional fixation of inattentive investors will make them treat the pro forma earnings as if they were adjusted to be maximally informative even when they are not.

**Summary**

The theories above explain why management and investors care about the form and prominence of disclosure. Investors have limited resources available and must prioritize the time and effort they put in analyzing a company’s performance. Therefore, companies can influence their analysis by presenting information more prominent and easier to access. These theories however do not by default help us concluding whether disclosures of alternative performance measures are used to inform the investors or to mislead investors. Both situations are possible depending on the specific situation. The question whether alternative performance measures are used to inform or to mislead...
has been further investigated in various other papers which are discussed in the following paragraphs.

2.5 Research on the impact of presentation on investors’ decision making in experimental settings

Introduction
As indicated in the previous paragraph, the efficient market hypothesis would predict that the simple repacking of information or presenting already available information with a different emphasis would not affect decision making by the users of the financial statements. Based on Bloomberg’s (2002) incomplete revelation hypothesis and Hirshleifer and Theo’s (2003) limited attention and processing power theory, one may however expect that such presentation choices by companies do affect decision making.

In experimental settings, various researchers provide evidence that the presentation format of financial information does affect decision making of various groups of financial statements users. This experimental research is discussed in this paragraph.

Experimental tests regarding the impact of presentation in general
Moriarity (1979) examines the effect of the use of multidimensional faces to describe the financial status of a company on the interpretation of this information by unsophisticated users (students) for making bankruptcy decisions. The study examines the differences in number of errors made in decision making and time needed to complete a task for four presentation formats: financial statement balances, financial ratios, faces without explanation and faces with explanation. Moriarity finds that decision making based on the faces with explanation were more accurate and
faster than financial statement balances which in turn were more accurate and faster than ratios. The experiment was repeated with more experienced users (practicing accountants) with similar results. Stock and Watson (1984) find similar results. Participants in their experiment were assigned with the task to identify changes in bond rating based on multidimensional faces and through financial ratios and financial statement balances. The participants using the multidimensional faces performed better than the other group of participants that used the financial ratios and financial statement balances. Similar to Moriarity (1979), Stock and Watson (1984) find that their results also hold for the more experienced participants.

Bloomfield and Libby (1996) argue that the location of the disclosure of certain accounting information affects the portion of investors that will process this information and as a result the market reaction to this information. In an experimental setting, they find evidence for this hypothesis. Hirst and Hopkins (1998) investigate whether different reporting formats for reporting comprehensive income affect buy-side financial analysts' estimates of the value of a company that actively manages income through sales of available for sale securities. They find that reporting comprehensive income at the face of the income statements improves the analysts valuation judgments compared to presentation in the separate equity movement schedule. The different reporting format appears to facilitate more effective detection of the modelled earnings management strategy. Maines and McDaniel (2000) find similar results for non-sophisticated investors (evening MBA students), but ascribe their results to information weighting rather than information detection. The participants did detect and evaluate the information irrespective the format in which it was reported, but the reporting format did affect the weight that they assigned to the information.
Experimental tests regarding the impact of pro forma information

Frederickson and Miller (2004) investigate the impact on investors’ decision making of the inclusion of pro forma information in earnings announcements for both sophisticated users (analysts) and less sophisticated users (MBA students). One group of participants received an earnings announcement with GAAP income and another group received an earnings announcement including both GAAP income and alternative performance measures. The participants were asked to make an estimate of the stock price of the company based on the available information. All participants in the experiment received sufficient information to deduct the alternative performance measure from the earnings announcement, to ensure that all participants had the same information and any differences in valuation judgment would be due to the disclosure of the alternative performance measure itself and not to differences in actual information available. The results indicate that the MBA students that make their assessment based on the alternative performance measure announcements value the company’s share on average 12% higher than the MBA students that only receive GAAP income. For the analysts, the difference in valuation was less than 1%. These results show that in particular non-sophisticated users are affected by disclosure of pro forma information. Further analysis indicates that this is mainly caused by non-sophisticated users’ use of less well-defined valuation models. Many non-sophisticated users use heuristic valuation models by adjusting prior stock prices based on their evaluation of the positive or negative news in the earnings announcement. In addition, Frederickson and Miller (2004) conclude that the non-sophisticated users that did use a multiple based valuation model did not adjust the earnings benchmark used in their model as a result of the pro forma disclosure, but rather adjusted the multiple that they apply to this benchmark. This different valuation judgment appears to be caused by an unintentional cognitive process rather than conscious decision making.
Elliott’s (2006) experiment investigates whether investors’ perception of income are affected by the emphasis that is given to alternative performance measures by companies that make GAAP losses and the impact of the inclusion of a quantitative reconciliation thereon. Elliott’s findings are mixed but the general conclusion is that unsophisticated users (MBA students) judge income higher for companies that report alternative performance measures first and GAAP losses later in the earnings release than when GAAP losses are reported first or when a simultaneous reconciliation is provided. Similar to Frederickson and Miller (2004), she also ascribes these results to an unintentional cognitive effect rather than a consciously different assessment of the income figure emphasized by management. Experienced analysts however were affected to a lesser extent by the emphasis placed on alternative performance measures. Actually, they judged the performance higher for the companies that included a clear reconciliation between GAAP losses and alternative performance measure profits consistent with a notion that such reconciliation increases the perceived credibility of the reported information.

Dilla et al. (2006) examine how different online reporting formats for the pro-forma to GAAP reconciliation affect judgments of undergraduate accounting students. They find that the participants’ judgments are more significantly affected by the alternative performance measure disclosure when the alternative performance measure to GAAP reconciliation is presented on a separate, hyperlinked page than when they are presented on the same page as the alternative performance measure disclosure. These results hold when participants judge fourth quarter income and income potential, but not for their full year income or investment assessments which may be affected by the research design.

Krische (2005) tests the empirical results found by Schrand and Walther (2000) who find that managers strategically emphasize prior period gains and losses to lower the benchmark for current
year’s income and influence investors’ assessment of current year’s income. They also find that investors appear to be influenced by such strategic reporting behavior by management (also refer to paragraph 2.7). Krische (2005) provides experimental evidence that the transparency of the description of a transitory prior-period gain or loss affects the investors’ assessment of the current period income. This result appears to be due to limited ability of the investors to remember the prior-period event even when the investor did identify the event in that period as transitory. The impact is mitigated by a clear and quantitative description of the transitory prior-period result in the current earnings announcement. Krische (2005) notes that the results also highlight the need for consistency in reporting non-GAAP financial performance measures.

Andersson and Hellman (2007) investigate how analyst EPS forecasts are affected by pro forma information. They find that analysts that receive pro forma information (in addition to GAAP information) make significantly higher EPS forecasts than analysts that receive GAAP information only suggesting that analyst forecasts can be manipulated by presenting information in an alternative way.

**Investors’ assessment of the credibility of disclosures**

Based on a review of literature, Mercer (2004) identifies factors that investors consider when assessing the credibility of management disclosures. One of these factors is the situational factor. Mercer (2004) notes that investors are expected to be less likely to believe management disclosures when management has high incentives to be misleading or untruthful. As a result, investors will be more sceptical towards good news disclosures than towards bad news disclosures and towards disclosures made by financially distressed companies versus non-distressed companies. Applying this to alternative performance measure disclosures, one could expect that investors are less likely to rely on the alternative performance measures reported by management.
when net income is negative or decreasing, especially in cases where pro forma adjustments reverse these negative results into positive results. In an experiment among 244 MBA students, Mercer (2005) however finds that forthcomingness about negative news has a positive impact on management’s credibility only for a short time. In the long run, managers reporting positive income news are perceived more credible by investors irrespective their reporting decisions in the past.

Summary

In summary, these experiments provide evidence that human judgement is affected by the presentation format of, furthermore, the same information. Improving the way information about the performance is presented to investors could thus improve investors’ decision making. This specifically applies to unexperienced investors and to a much lesser extent to experienced investors and analysts.

In addition, the finding that investors’ decision making is affected by alternative performance measure disclosures does not mean that such disclosures are to be considered undesirable. The finding that non-sophisticated users are affected differently than sophisticated users may give some indication that the non-sophisticated are picking up or focusing on irrelevant information and make incorrect decisions. However, many companies may provide these disclosures in the sincere belief that they provide useful information to the market. It is hard to distinguish between companies that report alternative performance measures\(^2\) to provide useful additional information and companies that try to mislead the investors through a disclosure strategy. Some researchers

\(^2\) In the literature referred to in this chapter, alternative performance measures are generally called pro-forma measures, non-GAAP measures or street earnings. Alternative performance measures is the name that CESR uses in its recommendation.
have tried to answer this question empirically. Their findings are discussed in the following paragraphs.

2.6 General literature regarding the usefulness of various performance measures

Introduction
As mentioned in paragraph 2.3, many have investigated whether GAAP income is relevant for investor decision making and have generally concluded positively. This does however not mean that all relevant information is captured in one bottom-line net income number. Breaking up net income in components with different characteristics might enhance the predictive power of models that use these components and reporting additional performance measures separately could enhance the decision usefulness of financial information.

Two groups of research can be identified that try to answer the question whether the provisioning of income information beyond the net income number alone is relevant for investors’ decision making by using data available in existing databases. The first group focuses on the information content of different income components and the second group focuses on differences between data reported in I/B/E/S and data reported in Compustat.

The information content of different income components
Ohlson and Penman (1992) formulate an expectation that the disaggregation of the bottom line number into its components will add information into their valuation models since the individual line items or components are expected to have different valuation implications. The reason is that some line items pose greater measurement problems than others. Depreciation and tax expenses
are mentioned as examples of line items that have greater errors than the other line items. In addition, certain line items are more transitory than others. Based on this, one would predict a lower earnings response coefficient for these line items than for the other line items. They evaluate empirically how disaggregated accounting data explain returns. The results indicate that different line items have different valuation implications over shorter periods, but that the average coefficient associated with the various line items are approximately the same for longer intervals.

Fairfield et al. (1996) also investigate the predictive power of forecast models that systematically disaggregate income (return on equity). They find that disaggregating income into operating income, non-operating income and income taxes, special items, and extraordinary items and discontinued operations improves the forecasts of one year ahead profitability significantly. Banker and Chen (2006) find similar results for the disaggregation of income into components that reflect variability of costs with sales revenue and stickiness in costs with sales declines.

Fields et al. (1998) investigate the usefulness of GAAP net income and funds from operations (FFO), an alternative performance measure commonly used in the real estate investment trust industry, by comparing adjusted R’s from regression analyses of future FFO, cash flows, net income and current stock price on each of these two performance measures. They find that the usefulness of each of these measures is context specific and that the results do not support the superiority of FFO over net income.

Moehrle et al. (2001) investigate the information content of income excluding amortization, income before extraordinary items and cash flow from operations by comparing adjusted R’s from regressions of market-adjusted returns on the unexpected portion of each of these three measures. They find that income before extraordinary items excluding amortization and income before
extraordinary items including amortization are equally informative and more informative than cash flow from operations. However, for the business services industry, which according to Moehrle et al., includes many “new economy companies” (high growth, loss making), cash flow from operations is found to be more informative than the income measures. Comparing R’s from regressions of share prices on income, Jennings et al. (2001) find that income before goodwill amortization explains significantly more of the variation in share prices than income after goodwill amortization.

Francis et al. (2003) further explore the impact of industry characteristics on the relevance of various performance measures. Based on research of various information sources Francis et al. identify certain alternative performance measures that are assumed to be preferred in certain industries. A first set of tests examines the relative and incremental explanatory power for security returns of income before extraordinary items, EBITDA and cash from operations in industries where each of these measures is assumed to be superior in valuing a company’s shares during the period 1990-2000. They find that the assumed preferred measures do add explanatory power to the models, but that in the “alternative measures”-industries the assumed preferred measures do not dominate income before extraordinary items in explaining security returns. Income before extraordinary items is also in these industries found to be most relevant. A second set of tests is conducted using other, mostly non-financial, alternative performance measures with similar results.

Schmidt (2006) specifically focuses on one line item that often is excluded from alternative performance measures (like EBITDA): the income tax line. Schmidt finds that changes in the tax component of income generally persist and are relevant for predicting future income. Especially the initial estimate of the effective tax rate which is reflected in the first quarter interim financial
information persists in future periods, indicating that this initial estimate is largely based on long
term strategic tax planning. Revisions to the effective tax rate in later quarters appear to be less
persistent which may indicate that the tax component of income is used to meet or beat analyst
expectations. Investors however appear to underestimate the persistence of both elements of the
tax change component.

McVay (2006) examines the classification of items within the income statement and focuses on
the allocation of expenses between core expenses and special items. McVay identifies
classification shifting as a potential earnings management tool which has a low cost for
management since it does not affect a company’s future income. Similar to the (discretionary)
accrual estimation models used in the ‘traditional’ earnings management research, McVay
develops a model to estimate expected core income and, based on that, unexpected core income.
The evidence found indicates that managers use classification shifting to overstate core income, in
particular in situations where this makes the difference between missing and meeting analyst
forecasts and even more pronounced for growth companies. Investors do appear to be affected by
the inappropriate presentation of recurring expenses as special which is evidenced by the negative
returns in the subsequent year when these items, which were expected to be incidental, recur.

Using the Compustat definition of special items, Fairfield et al. (2009) test the association between
past special expenses and future profit margins for various windows. They find that on average
negative special items are not informative about future profit margins. However, this result is
attributable to companies with low core profitability. For companies with high core profitability,
negative special items are associated with lower future profit margins and should thus not be
excluded from core income when forecasting future profit margins. Frankel (2009) however,
believes that there is no theoretical sound explanation for these results.
Compustat versus I/B/E/S

Bradshaw and Sloan (2002) compare income before extraordinary items and discontinued operations from Compustat (GAAP income) and income as tracked by analysts, reported in I/B/E/S (street earnings) for the period 1985-1997. They find a dramatic increase in cases where GAAP income and street earnings differ as well an increase in the magnitude and frequency of expenses that are excluded from street earnings resulting in street earnings generally exceeding GAAP income. Testing long window associations between stock returns and income, they find that street earnings are increasingly the basis for valuation by investors as opposed to GAAP income. Based on an investigation of 200 earnings announcements from 1986-1987 and 200 press releases from 1998-1999, Bradshaw and Sloan (2002) conclude that management plays an active role in defining and emphasizing street earnings. In the first period approximately 83% of the earnings announcements discussed GAAP income only and when street earnings were discussed these were discussed after GAAP income in 63% of the cases. In the second period (1998-1999) the percentage of GAAP-only announcements had decreased to 28% with street earnings being discussed first in 60% of the announcements that discussed street earnings. They conclude that this could either be an attempt to obtain higher valuation or to remove transitory components in order to make street earnings an improved measure for determining future cash flows.

Doyle et al. (2004) use I/B/E/S data and find that companies that exclude small items of expenses (i.e. not the companies that take a “big bath”) from their GAAP income more often just meet or beat analyst forecasts. They conclude that this provides evidence that managers pro-actively use alternative performance measures to meet or beat analyst forecasts.
Brown and Sivakumar (2003) assess the value relevance of operating income disclosed in I/B/E/S (as a proxy for operating income disclosed in earnings releases) as compared to operating income disclosed in Compustat based on three procedures: (1) ability to predict future income; (2) association between income levels and stock price levels; and (3) correlation between income surprises and abnormal stock returns. Based on quarterly data from 1989 to 1997, they show that operating income reported by managers and analysts (I/B/E/S) are more value relevant than a measure of operating income derived from the financial statements (Compustat).

Doyle et al. (2003) however, find that the expenses that are excluded from alternative performance measures as reported in I/B/E/S during the period 1988 to 1999 provide incremental information about a company’s future cash flows up to three years in the future beyond the information in the alternative performance measure itself. The results are the strongest for the ‘other exclusions’ being the exclusions not being special items. Special items are found to be generally unrelated to future cash flows, but other exclusions, such as depreciation and amortization, do have predictive power for future cash flows. However, the stock market does only partially respond to the information content of items excluded from alternative performance measures and thus overvalues these companies’ shares. As a result, stock returns for three years after the earnings announcements are significantly negatively related to the amount of exclusions.

Using First Call data, Gu and Chen (2004) examine analysts’ inclusion and exclusion of items from alternative performance measures. They find that items that are excluded from alternative performance measures have lower valuation multiples than items that are included. Given that they do not find that abnormal returns can be earned based on information about inclusions and exclusions, they conclude that the valuation difference is supported by fundamental differences between the quality of included and excluded items rather than the result of the exclusion of the
item itself. Baik et al. (2009) however find that alternative performance measures are influenced by analysts’ self interest. They find that analysts are more likely to exclude expenses from alternative performance measures for glamour stocks (for which they have an incentive to be optimistic) than for value stocks. They also conclude that excluded expenses are predictive for future income for glamour stocks and not for value stocks. Christensen et al. (2011) conclude that companies’ managers actively influence the items that analysts exclude from GAAP income to determine alternative performance measures via the guidance that they issue.

Summary

This body of research provides mixed evidence regarding the usefulness of and manipulation with alternative performance measures (street, or pro forma, earnings). Most researchers find that breaking up income into components and provisioning of alternative performance measures result in relevant information for investor decision making. However, they also find that the information that is excluded from frequently used alternative performance measures (like income taxes and amortization) provide as such relevant information beyond the information included in the alternative performance measure alone. As long as this other relevant information is also provided, these findings would support claims made by managers that alternative measures are primarily reported to provide additional useful and value relevant information to the market. However, some of the evidence discussed above also indicates manipulative use of alternative performance measures to inappropriately influence the investors’ view on the performance of the company.

In addition, the evidence is based on the information included in analyst tracking services such as I/B/E/S and/or other database information (e.g. Compustat) which does not necessarily equal the actual information reported by management (see also Easton, 2003). It is possible that analysts track an alternative performance measure that is not reported at all by the company and that their
tracking and the investors’ decision making is not affected by company disclosures of performance measures. As a result, these findings do not tell us much yet about actual reporting behavior and the impact of actual disclosures made in practice. Furthermore, Abarbanell and Lehavy (2007) provide evidence that results are driven by a relatively small number of cases in the tails of the distribution where I/B/E/S earnings exceed Compustat earnings and Cohen et al. (2007), discussed by Christensen (2007), point to the fact that results from studies that use I/B/E/S forecast information are affected by an “errors in variables” problem caused by the mismatch between the basis for I/B/E/S forecasts and actual GAAP income.

The next paragraph discusses a body of literature that addresses most of these concerns by investigating actual disclosures made.

2.7 Research based on actual company disclosures

Introduction

In order to gain further insight into the question which companies report alternative performance measures and how this affects investors’ decision making, some researchers have examined companies that actually reported alternative performance measures. The advantage is that this research can really focus on the properties of companies that do report alternative performance measures and the question whether reporting an alternative performance measure or not makes a difference whereas research based on information that is available in databases primarily focuses on the properties of certain alternative performance measures in general. A disadvantage however is that this research is much more time consuming and thus that sample sizes are generally much smaller.
General research into the reporting of alternative performance measures

Schrand and Walther (2000) examine 130 press releases in which management emphasizes a prior-period gain or loss on the sale of property, plant & equipment (PP&E). They conclude that managers strategically try to lower the benchmark against which the current quarter’s income will be evaluated by emphasizing prior-period nonrecurring gains on the sale of PP&E. This strategy is especially found in cases of negative income surprises. Their analysis of returns at the earnings announcement date suggests that investors are actually influenced by this strategy.

Bhattacharya et al (2003) and Bhattacharya et al. (2004) provide evidence on the magnitude of pro forma reporting based on an examination of 1,149 press releases between January 1998 and December 2000 that contain alternative performance measures as well as the informativeness and persistence of the reported alternative performance measures. The announcements were selected through searches based on the key words “pro forma” and variations thereon. It is noted that this method selects only a portion of the actual announcements containing alternative performance measures since a wide variety of terminology is used in practice, see hereto Bradshaw (2003). The sample shows significant growth in alternative performance measure reporting during the period reviewed. Bhattacharya et al. (2004) find that companies that announce alternative performance measures are relatively young and concentrated in the technology and business services industries. These companies are more liquid (measured by the current ratio), less profitable, have higher debt levels, P/E ratios and book to market ratios than other companies in their industries. Depreciation and amortization was the most frequently identified adjustment category but companies were generally not consistent over time in the expenses that they exclude from GAAP income. Based on the behavior of certain key metrics around thresholds, Bhattacharya et al (2004) conclude that their results support the criticism that managers generally use alternative performance measures to try to meet or beat analysts’ expectations or to avoid (GAAP) income decreases. Bhattacharya et
al (2003) however also conclude that alternative performance measures are more informative, in that the model that regresses short-window abnormal returns around earnings announcements on the alternative performance measure surprise has more explanatory power than the model that is based on GAAP income, and more permanent, in that the analysts’ one quarter ahead income forecasts respond more heavily on the alternative performance measure surprise than on the GAAP income surprise. They do also find that investors are sceptical towards alternative performance measures that meet or beat analysts’ expectations when GAAP income does not. Such scepticism is not found with investors (but is found with analysts) when a GAAP loss is converted into an alternative performance measure profit.

Lougee and Marquardt (2004) examine 249 alternative performance measure press releases between 1997 and 1999 which were also selected using key word searches. Using a matched sample design they explore what distinguishes companies that report alternative performance measures from companies that do not. They find that alternative performance measure reporting is predominantly identified in the press releases of companies with lower GAAP income informativeness (or quality), measured by amongst others their earnings response coefficients, corresponding adjusted $R^2$s and various accounting measures. In addition, companies with negative income surprises appear to report alternative performance measures more often than companies that meet the income benchmarks which indicates that strategic considerations influence managers’ decision making whether or not to disclose alternative performance measures. The second part of their paper focuses on the information content of alternative performance measures. Regressing abnormal stock returns around the earnings release on GAAP income and alternative performance measures, they find that alternative performance measures have information content in cases that GAAP income informativeness is low and income surprises are positive. In these cases alternative performance measures also appear to marginally better predict
future GAAP income and returns than GAAP income alone. However, when GAAP income informativeness is high or income surprises are negative, alternative performance measures do not seem to be considered informative by investors and do not help predicting future profitability. Lougee and Marquardt (2004) conclude that their results provide mixed evidence on the question whether alternative performance measures are used to inform or to mislead investors and that this is highly context-dependent.

Johnson and Schwartz (2005) examine 433 companies that released alternative performance measures in press releases issued between June and August 2000 which were identified using electronic text searches. They find that alternative performance measure reporters are often in the computer and technology industry. Using market multiples, they find some evidence that companies that report alternative performance measures are on average overpriced. However, stock returns during a narrow window around the earnings announcement date suggest that if there is overpricing, this is not caused by the earnings announcement itself. Based on these combined results, Johnson and Schwartz (2005) conclude that there is no evidence that investors were misled by the alternative performance measures disclosure itself, but that they consider a richer set of information when evaluating a company’s performance. Berger (2005) however comments on the paper and states that since alternative explanations are possible no conclusions can be drawn based on the reported findings.

Bowen et al. (2005) examine the emphasis that is placed (rather than the choice whether or not to report) on alternative performance measures and GAAP earnings based on the quarterly press releases of 206 companies in 2001 and 2002. They find that alternative performance measures are more often emphasized in the press release than GAAP income and that managers strategically emphasize the performance measures that portray better performance. They also find that GAAP
income is less emphasized in the situations that GAAP income is expected to be less relevant (high income variability, high-tech companies, and companies with losses) resulting in relative more emphasis on alternative performance measures. However, this is not caused by the emphasis placed on alternative performance measures as such; in these cases the emphasis is placed on revenues rather than on income measures. In addition, they find that alternative performance measures are particularly emphasized by companies with greater media coverage and more sophisticated users. According to Bowen et al. (2005) this is in line with the notion that more sophisticated users find alternative performance measures more relevant. It is however not consistent with opportunistic behavior or investor deception since Elliott (2006) finds that it is the unsophisticated user that is misled by alternative performance measures and not the sophisticated user. Bowen et al. (2005) find that investors’ decisions are affected by the emphasis placed on alternative performance measures; the market reacts stronger to a surprise in the alternative performance measure when this metric is given greater emphasis in the press release.

Adhikari and Duru (2006) examine a sample of 985 quarterly press releases by 429 companies over the period 1994-2004 for the disclosure of free cash flow information. They find a large increase in the reporting of free cash flow information, especially during the period 1999-2002 followed by some decline after the implementation of regulation G. They match each company that discloses free cash flow information with a company that does not disclose this information based on industry, fiscal year and size. Disclosure of free cash flow information does not appear to be heavily influenced by industry membership, but profitability and financial status do affect free cash flow reporting decisions. Companies that report free cash flow information are less profitable, have lower credit ratings and are more leveraged than their matched company in the sample that does not report free cash flow information. In addition, companies that report free cash flow information pay out higher dividends than their counterparts that do not report free cash flow.
information. Their free cash flow and cash flow from operations is generally higher than that of their counterpart in the matched sample. This indicates that these companies have an incentive to draw the users’ attention away from GAAP income and to free cash flow information which is consistent with claims that managers use free cash flow disclosures opportunistically and potentially to mislead investors. Adhikari and Duru (2006) also identify significant diversity in the definition of free cash flow as well as variation in the definition over time. The definitions used by these companies generally lead to higher free cash flow numbers than based on a standardized definition. These findings seem to confirm concerns expressed by various regulators (also refer to paragraph 2.2). It is however noted that Adhikari and Duru (2006) do not investigate the relevance (predictive power) of the free cash flow information for these companies and thus a final conclusion cannot be drawn about whether the disclosures are made to mislead, to inform or both.

Allee et al. (2007) and Bhattacharya et al. (2007) test the experimental results found by Frederickson and Miller (2004) and Elliott (2006) using archival data. As described in paragraph 2.5, in an experimental setting, Frederickson and Miller (2004) find that primarily non-sophisticated users are affected by disclosure of pro forma information whereas the sophisticated users’ valuation judgments are hardly affected. Elliott (2006) reports that non-sophisticated users’ valuation judgments are affected by the emphasis placed on alternative performance measures whereas sophisticated users appear to see through management’s strategic reporting behavior. Allee et al. (2007) and Bhattacharya et al. (2007) use trade-size-based proxies to distinguish between less sophisticated users (which are expected to be individual retail investors that generally trade low volumes) and sophisticated users (institutional investors that generally trade in larger volumes per transaction). They then compare both investor groups’ trading reactions to income information that contains alternative performance measures and a matched sample that only contains GAAP income. The results indicate that the less sophisticated users trade significantly
more based on alternative performance measure information and, in contrast, more sophisticated
users trade less when an alternative performance measures is present, indicating that they are
suspicious of strategic reporting behavior by management. Price reactions are found to be higher
when alternative performance measures are reported before GAAP income, which appears to be
caused by the trading activity of less-sophisticated investors. Although Allee et al. (2007) and
Bhattacharya et al. (2007) measure slightly different aspects of the investor reaction to alternative
performance measures than Frederickson and Miller (2004) and Elliott (2006), their findings

Black and Christensen (2009) investigate the extent to which different types of income
adjustments in press releases affect the difference between alternative performance measures and
GAAP income from continuing operations. They conclude that managers often exclude recurring
expenses to meet strategic targets. Companies that report alternative performance measures only
sporadically are somewhat more aggressive in using recurring adjustments to beat strategic
earnings benchmarks than companies that report alternative performance measures on a regular
basis.

D’Souza et al. (2010) conclude that line item disclosures in press releases are aligned with the
economic characteristics of companies. They find that more leveraged and capital intensive
companies are more likely to disclose EBITDA information.

Riedl and Srinivasan (2010) investigate the presentation of special items in the financial
statements as a separate line in the income statement or in the footnotes only for a sample of 500
companies over the period 1993-2002. Although they find some evidence for opportunistic
behavior (managers are more likely to separately present special items that cause them to miss an
earnings benchmark), they conclude that managers’ reporting choices are primarily driven by informational motives to reflect underlying company performance by highlighting on the face of the income statements items that are more transitory than those disclosed in the footnotes only.

The impact of regulation on the reporting of alternative performance measures: the Sarbanes-Oxley Act

As noted in the paragraph 2.2, regulation on the use of alternative performance measures has been and is limited in the EU. In the US the Sarbanes Oxley Act (SOx) and related SEC regulation has resulted in some regulation regarding the disclosure of alternative performance measures. A large body of US literature, investigating the impact of this regulation exists. This literature is discussed in this section.

Entwistle et al. (2006a and 2006b) focus on the impact of the implementation of the SOx regulation on the disclosure of alternative performance measures. They examine US press releases during the period 2001-2003. They find a decrease in alternative performance measure reporting from 77% in 2001 (prior to SOx) to 54% (after implementation of regulation G) in 2003. In addition, in 2003 alternative performance measures are used in a less biased manner, meaning that the portion of companies reporting alternative performance measures that are higher than GAAP income decreased as well as the magnitude of the adjustments. In addition, alternative performance measures were presented less prominent in 2003 than in 2001. More importantly, Entwistle et al. (2006a and 2006b) conclude that the percentage of misleading alternative performance measure releases (mostly through the use of misleading terminology) dropped from over 10% prior to the implementation of SOx to less than 1% after the implementation of regulation G. This is consistent with Bowen et al. (2005) who find that less emphasis is placed on alternative performance measures and more emphasis is placed on GAAP measures in 2002.
compared to 2001, especially by companies that are subject to greater media exposure. They ascribe this development to the SEC’s cautionary advice issued in December 2001, credibility concerns as stakeholders may view alternative performance measure reporting as opportunistic behavior and a resulting decline in (perceived) benefit of reporting alternative performance measures.

Marques (2006a) also explores the impact of regulation on the use of alternative performance measures, or as Marques calls them, non-GAAP financial measures or earnings. Marques (2006a) investigates the impact of the cautionary warning from the SEC in December 2001 and, similar to Entwistle et al. (2006a and 2006b), the implementation of regulation G in January 2003 using press releases of 361 S&P 500 companies issued during the years 2001-2003. Marques (2006a) finds a decrease in the disclosure of non-GAAP earnings in 2003 resulting from regulation G. The use of other non-GAAP measures had already decreased in 2001 as a result of the cautionary warning of the SEC. In addition, Marques (2006a) finds that investors did not undervalue or overvalue companies reporting non-GAAP earnings before regulation G, but did respond positively to non-GAAP earnings after regulation G. This may be explained by increased perceived credibility of the reported non-GAAP earnings which would be consistent with Elliott’s (2006) experimental findings. In addition, Marques (2006a) finds that the market reacts much more heavily to adjustments that are followed by analysts than to the adjustments made by management that are not taken over by the analysts. In a related paper, Marques (2006b) builds on the findings regarding the impact of regulation G on the disclosure of non-GAAP earnings and adds the impact of corporate governance mechanisms. She finds the decrease in disclosure of non-GAAP earnings as a result of regulation G is lower for companies with stronger corporate governance mechanisms than for companies with weaker corporate governance mechanisms. According to Marques (2006b) this implies that companies with stronger corporate governance
mechanisms are less likely to make misleading earnings adjustments than companies with weaker corporate governance mechanisms.

Campbell and Pitman (2009) review the year-end press releases of 100 randomly selected S&P 500 companies for the years 2002 (pre-regulation G) and 2005 (post-regulation G) in detail. They also find a decrease in the use of alternative performance measures after the implementation of regulation G, but smaller than found by most other researchers (16% decrease). They ascribe this difference to their research method which does not rely on key word searches and thus captures a larger portion of the alternative performance measure reporters. In addition, they find significant movements between the adjustment categories that are being used by companies to calculate alternative performance measures. This explanation is in line with prior research findings that companies do not report alternative performance measures consistently.

Yi (2007), using hand-collected earnings releases between 2001 and 2004, examines whether the decrease in alternative performance measure disclosures after regulation G is an intended or unintended consequence of the regulation. Yi (2007) concludes that the decrease in alternative performance measure disclosures as a result of regulation G is primarily found for companies with opportunistic reporting motives whereas companies with communication motives are more likely to disclose alternative performance measures after the implementation of regulation G. In addition, alternative performance measures were more informative post-regulation G than pre-regulation G. The findings appear to be consistent with the intention of the regulation.

Kolev et al. (2008) find that after the SEC interventions in 2001, exclusions from GAAP income are of higher quality and that companies with lower quality exclusions stopped reporting
alternative performance measures after the interventions. These results are consistent with the intention of the regulatory actions taken. Kolev et al. (2008) however also find that special items exclusions are of lower quality which suggests that managers have shifted more recurring expenses into the special items category and is not consistent with the intention of the regulation.

Heflin and Hsu (2008) find that regulation G resulted in a decline in the frequency of alternative performance measure disclosures and the magnitude of items excluded, both for special and other item exclusions. Furthermore, they find that the probability that the disclosed performance measure meets or beats analysts’ forecasts declined as well as the association between returns and disclosed income forecast errors. The results of Heflin and Hsu (2008) provide mixed evidence about whether regulation G achieved the intended results.

Marques (2010) investigates the prominence of alternative performance measures in press releases both before and after the implementation of regulation G. She finds that among companies that report alternative performance measures, the relative emphasis of the GAAP income number increased between 2001 and 2003 and the emphasis on the alternative performance measure decreased. However, managers do still emphasize alternative performance measures when this helps them meeting or beating strategic earnings benchmarks suggesting that the relative decrease in emphasis on alternative performance measures is primarily due to the companies with less incentive to emphasize the alternative performance measure.

Chen (2010) however concludes that regulation G constraints the exclusion of recurring expenses from alternative performance measures to meet or beat analyst forecasts based on the finding that the difference between persistence of exclusions that allow companies to meet or beat analyst forecasts and exclusions that do not declined decreased after regulation G was implemented.
Furthermore, analysts appear to better understand the persistence of items that are excluded from alternative performance measures, particularly those that do not allow companies to meet or beat analyst forecasts.

Zhang and Zheng (2011) find that after regulation G, companies place less emphasis on the alternative performance measures in press releases. They find that before the SEC warning, 87.4% of the examined press releases emphasized pro forma earnings whereas after regulation G only 22.9% did so. In addition, they conclude that mispricing of companies reporting alternative performance measures decreased due to the regulation G requirement to provide a clear reconciliation between alternative performance measures and GAAP income which was followed by many companies and resulted in an overall improvement of reconciliation quality.

Frankel et al. (2011) investigate the impact of board independence on the opportunistic exclusion of recurring items from alternative performance measures. They conclude that board independence has a positive effect on the quality of (exclusions from) non-GAAP earnings. The impact of board independence on the quality of alternative performance measures however declined after the implementation of regulation G indicating that regulation G is an alternative monitoring mechanism playing a similar role as board independence.

Cross-country differences in the use of alternative performance measures and European research

during this period alternative performance measures were reported much more often in the US than in Canada (77% versus 33%), deviate more from GAAP income in the US and are given greater prominence in the US. In a related paper Entwistle et al. (2004) report that alternative performance measures (per share) in their US sample were higher than GAAP income in 87% of the cases and on average more than twice as high as GAAP income.

Entwistle et al. (2005) find some evidence for a relationship between a company’s missing of performance thresholds, specifically between missing analysts’ expectations, and reporting alternative performance measures, but not for all thresholds for which this relationship was hypothesized. Based on these findings, they conclude there is some evidence that, in both countries, alternative performance measures are used to mislead investors. Entwistle et al. (2005) note that US and Canada are very similar and that since differences are already found between these two countries, even greater differences may exist between other countries.

There is little research of this phenomenon in the EU and most research conducted so far is limited to research on the individual country level. Examples are Hooghiemstra and van der Tas (2003 and 2004) for the Netherlands, Marseille and Vergoossen (2005) for the Netherlands, Koning et al. (2010) for the Netherlands, Hirsch (2007) for Austria and Hillebrandt and Sellhorn (2002) and Hitz (20010) for Germany.

In the UK, a larger body of research is available about reporting of alternative performance measures by UK companies. Relevant research includes Barker (2000), Lin and Walker (2000), Watson et al. (2002), Walker and Louvari (2003), Connolly and Hyndman (2004) and Choi et al. (2005 and 2007).
Barker (2000) uses participant observations and semi-structured interviews to gain insight in the use of income information by analysts in the context of FRS 3. He concludes that, although accounting information is not their primary information source and financial statement analysis is not necessarily their core competence, analysts use income information with immediacy and importance and that they use the components of FRS 3 to construct one or more normalised income measures.

Lin and Walker (2000) examine the power of book value per share and two alternative income per share measures (headline earnings per share and FRS3 earnings per share) to explain variations in share prices of 689 UK companies listed on the London Stock Exchange. They conclude that book value per share and headline earnings per share add statistically and economically to the model, but that the explanatory value contributed by FRS3 earnings per share is negligible.

Watson et al. (2002) investigate the voluntary disclosure of accounting ratios by 313 UK companies in the context of the agency and signalling theory. Watson et al. (2002) state that they believe that ratio disclosures can assist financial statements users by improving the communication functions and quality of the financial statements. They note that the agency theory can explain ratio disclosure when these disclosures reduce agency costs by improving disclosure quality. Signalling theory can explain ratio disclosure when these disclosures are considered (industry) best practice and are used by management to signal favourable performance. Watson et al. (2002) identify differences in the magnitude of ratio disclosure between industries, but the identified trend cannot easily be explained. No clear effect of the company’s performance on the level of ratio disclosure has been found either. Size appears to be the only factor that predictably affects ratio disclosure. Based on these findings, Watson et al. (2002) conclude that there is little evidence for the agency and signalling theory on ratio disclosure.
Walker and Louvari (2003) investigate the variation in willingness of companies to disclose additional earnings per share measures. They find that companies that generally have a high level of disclosure are more likely to disclose additional earnings per share measures. They also find that companies use additional earnings per share measures to present a more favourable earnings profile, except when they are loss making. Companies appear to be hesitant to report an additional earnings per share measure when it is negative, perhaps because managers fear that the negative alternative measure will be interpreted as the company’s sustainable earnings figure.

Connolly and Hyndman (2004), explore reporting of performance information outside the financial statements by British and Irish charities, an ‘industry’ in which performance information beyond net income is likely to be very relevant for the financial statements users. They find that British charities report more performance information than Irish charities and larger charities more than smaller charities.

Choi et al. (2005) use hand-collected data for a sample of UK companies at three time points arriving at 1,246 company-year observations. They find that companies report alternative performance measures when GAAP (FRS 3) earnings are a relatively poor indicator of future operating performance and therefore relatively less value relevant than the alternative performance measure. Their findings are consistent with management using private information to disclose more relevant income numbers to investors.

Using the same dataset, Choi et al. (2007) investigate differences between adjustments made by management of UK companies and adjustments made by Thomson Datastream to arrive at a recurring income number. They conclude that disagreements generally reflect managers’ superior
ability to correctly classify income components. Some evidence of strategic disclosure behavior however also emerges in that gains included by management and excluded by Thomson Datastream on average are not value relevant.

Isidro and Marques (2008) investigate the year-end earnings press releases for a cross country sample of 321 European companies for the fiscal years ending 2003, 2004 and 2005. They find that the disclosure of EBIT and EBITDA is much more common in Europe than in the US and that the disclosure of and emphasis on alternative measures depends on several company characteristics such as country, industry, size, performance, leverage and corporate governance practices. They also find that the transparency about the nature and amount of adjustments is low.

In a second study Isidro and Marques (2010) investigate the impact of institutional and economic factors on the strategic reporting of alternative performance measures. They conclude that such factors do influence both the reporting of alternative performance measures and the strategic use of these measures. Alternative performance measures are reported more frequently in countries where public information is more important, i.e. countries with more sophisticated financial markets. Furthermore, strong investor protection and developed markets mitigate the strategic use of alternative performance measures.

**Summary**

Although some evidence is found for alternative performance measures being reported to provide more relevant information to investors (see for example Lougee and Marquardt, 2004), the body of research using actual information disclosed in press releases also provides a large amount of evidence pointing towards strategic use of such measures. The implementation of regulation G
however improved the quality of alternative performance measures reported and the disclosures surrounding it.

Limited evidence about the reporting of alternative performance measures in the EU is available. Isidro and Marques (2008 and 2010) provide the first evidence of cross-country differences in the reporting of alternative measures and strategic reporting of such measures.

2.8 Summary
The literature that is discussed in this chapter provides a number of insights into the subject of this thesis, the use of alternative performance measures in the EU. First of all, although the use of alternative performance measures has been and is widely debated, regulation regarding this aspect of financial reporting is limited which leaves significant room for management to make its own judgments about which measures to report and which not. Secondly, both empirical and experimental evidence indicate that, especially inexperienced, investors are affected by the presentation of information and the inclusion of alternative performance measures in financial reports. This can be explained by the incomplete revelation hypothesis and limited attention theory.

Thirdly, empirical evidence indicates that most alternative performance measures and additional break downs of net income that are reported by management provide additional useful information to investors. However, the empirical evidence also indicates that management strategically emphasize measures that portray better performance. No final answer can thus be given yet about whether management provides this information to inform or to mislead. Finally, research into the
impact of the Sarbanes-Oxley regulation indicates that this regulation significantly affected the use of and emphasis placed on alternative performance measures.

Most of the research however has been performed in a US environment. In addition, although it is a widely observed phenomenon, the studies generally do not address alternative performance measures that exclude depreciation and amortization such as EBITDA. A third element that has not been addressed in prior research is the use of alternative performance measures in the financial statements (including narratives). Most research is focused either on general database information or on the actual use in press releases. The financial statements however are the formal documents through which management gives account for the performance of the company.

The EU environment promises to be a fruitful environment for further exploring this subject. First of all, since concerns about the increased use of alternative performance measures in the EU due to the implementation of IFRS have been expressed by many parties, research into the actual behavior of EU companies in this regard is relevant for those who participate in this debate. Secondly, results found in the US environment may not necessarily hold in the EU environment and the EU results of this research allow for comparison with the already available US results as well as comparison between EU countries. These results will give further insight into the impact of various cross-country differences on (voluntary) accounting decisions made.

2.9 Contribution of this research to the literature

This study contributes to the literature by making a comprehensive manual analysis of the use of alternative performance measures in the EU. The study covers over 17,000 company-year
observations during the period 1995-2007 from the 15 EU countries that had joined the EU on or before January 1, 1995.

Current debates regarding the use of alternative performance measures in Europe are very much based on US research and anecdotal evidence. The findings in US research may however not necessarily be relevant for decision making in the EU environment, specifically given that companies from EU code law countries may behave differently than the companies from common law countries that have primarily been investigated in prior research. This research contributes to the literature by providing evidence on the use of alternative performance measures by a large sample of EU listed companies. The research provides insight into the use of alternative performance measures in the EU, as well as for EU common law and code law countries separately, strategic use of alternative performance measures, relevance of reported alternative performance measures and the relationship between strategic use and the relevance of reported alternative performance measures.

Secondly, the results provide separate insight into the two groups of performance measures that are widely used and debated: results excluding depreciation and/or amortisation (EBITDA and similar measures); and results excluding certain non-recurring items. Most studies do not address alternative performance measures that exclude depreciation and amortization such as EBITDA (with the exception of Francis et al., 2003, and Isidro and Marques, 2010) even though it is a widely observed phenomenon. These performance measures are covered in this study as well and tested separately giving a more complete picture of the issue. This is particularly important in the EU context given the dispersion in the type of alternative measures used in the various EU countries.
Thirdly, although many have expressed concerns about the impact of the implementation of IFRS on the reporting of alternative performance measures, no comprehensive empirical evidence is available on the impact of the implementation of IFRS on the use and strategic use of alternative performance measures in the EU. In this research, I investigate the impact of the implementation of IFRS on both the level of use of alternative performance measures and the strategic use of alternative performance measures in the EU.

Furthermore, most research focuses on alternative performance measures in press releases whereas this research focuses on the use thereof in financial statements. As a result of auditors involvement and oversight on financial statements, results found for measures reported in financial statements may differ from results related to information included in press releases.

Finally, I do not only separately investigate the strategic use and relevance of alternative performance measures, but also the relation between reporting decisions, strategic motives to report alternative performance measures and the relevance of the alternative performance measures that are reported. Strategic use may be of concern for investors and regulators, but strategic use and relevance may not be two mutually exclusive aspects of the reporting of alternative performance measures, i.e. it is possible that also for companies that are strategically motivated to report a specific alternative performance measure the measure itself is relevant for the users of the financial statements. Therefore, I explicitly test the relation between strategic motives and the relevance of reported alternative performance measures.