BI Norwegian Business School - Preliminary Thesis Report

EBITDA as a Performance Measure and Indicator of Earnings Management

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Business Law, Tax and Accounting

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Thesis Registration Form

Information about the program/major

We are enrolled in the MSc in Business with major in Business Law, Tax and Accounting.

Area of study

Knowledge Gap

In our master thesis, we would like to investigate the use of "Earnings Before Interest, Taxes, Depreciation and Amortization", here on EBITDA, as a financial performance indicator of operating performance in companies' financial reports but also in conjunction with Earnings Management (hereby referred to as EM) and earnings quality. The thesis will therefore consist of two parts, where the first part will serve as a qualitative research of EBITDA as a performance measure, whereas the other part will consist of a quantitative approach towards research of EBITDA and EM.

The reason for our interest on the matter is that EBITDA is influenced by management decisions and because of that it might not be reflecting the underlying economic reality sufficiently. The use of EBITDA as a performance measure is widely criticized and questioned because of its ambiguous nature and irregular approach. Furthermore, there are little or no research linking EBITDA to EM, which our thesis will aim to provide.

EBITDA is commonly used by investors to analyze the operating financial performance of a company but also, by some, used as an indicator of a company's cash flow. This is because EBITDA does not include non-operating effects such as interest expenses, tax rates, and large non-cash items like amortizations and depreciations. However, using EBITDA for analysis purposes might be deceptive since companies with high leverage and high investments will have large interest payments and high depreciations and amortizations, thus net income will be considerably lower. In that case EBITDA don't have much informational value.

Some of the skepticism related to EBITDA is that it isn't regulated by Generally Accepted Accounting Principles (GAAP) nor International Financial Reporting Standards (IFRS) which makes it possible for managers to influence this measure.

EBITDA in Media

During the 80's there was a trend showing EBITDA as revenue. Companies started taking on large debt to complete large acquisitions, which led to lower results because of large interest payments. Instead they used the EBITDA to show just how good the business was going, because EBITDA is as stated above, earnings before interest, tax, amortization and depreciation. The large acquisitions resulted in increased amortization due to the following goodwill. However, using EBITDA as a performance measure neglected that impact on the firms' earnings.

WorldCom, one of the world's biggest telecom companies during the 1990's, took advantage of the properties of EBITDA by transforming regular period expenses to assets in order to depreciate them. This transformation inflated their earnings massively, but later the company was convicted for fraud (Gross, 2002).

Corresponding to the WorldCom case, Harvard Business Review posted an article in 2009 named "How EBITDA Can Mislead" (www.hbr.org). This article states just how easy EBITDA can be managed to pose better than what the underlying economic reality is showing. For example, simple change in the depreciation plan from five to eight years might lead to large differences in a company's earnings. This change in depreciation means a company can turn negative earnings into positive earnings overnight (Knight, 2009).

Warren Buffett, CEO of Berkshire Hathaway, is skeptic to the use of EBITDA in financial reports (Beshore, 2014). Warren Buffett said: "People who use EBITDA are either trying to cone you or they're conning themselves", cited by Brent Beshore (2014). Buffets vice chairman in Berkshire Hathaway, Charlie Munger, also share this negative view towards the use of EBITDA. He is wary of what is hiding behind the EBITDA. He emphasizes the importance of breaking down the numbers to see what EBITDA is really showing.

Recently there was a good example in media when Yara International revealed their fourth quarter results for 2016. They focused on how their EBITDA will improve in the coming years, while E24 (2017) stated that Yara reported disappointing results.

Earnings management

When investigating the use of EBITDA this should be seen in conjunction with EM. EM is a widely used terminology in accounting, and we are interested in whether managers with purpose use, or even manage, the EBITDA to pose better than they might be. This might be done because of incentives for their own sake, or to attract new investors to the company (Scott, 2012).

It's important to highlight the difference between EM and manipulation. Manipulation is an illegal act to avoid tax or nearby cases, while EM is a systematic way of choosing different actions towards reporting higher/lower numbers in order to benefit either yourself or the company.

Earnings Quality

Earnings quality might be an interesting aspect that could possibly explain some of the use of EBITDA. If we are to assess firms' earnings quality we will look at earnings persistency and accrual quality, that is measured to which extent current period working capital accruals occur as cash flows the following period (Scott, 2012).

However, during our research we will assess whether EBITDA in conjunction with earnings quality is of any importance for the object of our thesis.

Initial Research

We have considered five companies within the “seafood” sector and five companies within the “oil-service” sector. Without doing any extensive research, we found some differences in the use of EBITDA in the financial reports. The “oil-service” companies focused more on EBITDA than “seafood” companies. This suggest that there might be different reasons for presenting EBITDA as a performance measure. Furthermore, this indicates that not all sectors are relevant for further research since the results would be difficult to compare.

When assessing EBITDA, we will look at managers’ incentive plans, the structure of operating expenses such as operating leases, and amount of company debt. Our research will be an extension of earnings management and an assessment of EBITDA as a performance measure.

Research Method and Hypotheses

In our thesis, we will apply a quantitative research method by studying financial reports of approximately 20 to 30 companies at Oslo Børs with time span of five years, that is from 2011 to 2016. We will look at different industries to see if we can find any differences in use of EBITDA and how it’s presented. However, we’re expecting that capital intensive companies that are involved in large investments in assets, such as companies within the oil service sector, are more prone to reporting EBITDA. Because of that, many companies listed at Oslo Børs will not be relevant for our study and therefore it will be even more important having a sufficient amount of observations for each company. Having data from a period of five fiscal years will probably solve that problem.

We expect that companies that are involved both directly and indirectly in the oil business will be especially interesting for our research since the oil price has been varying massively the last years. It will therefore be interesting to check whether companies changed metrics used in the financial reports, for example in letter to shareholders and outlook. We will not look at firms in the banking sector, as banks’ earnings rely largely on interest income.

It is also interesting to compare the use of EBITDA in the annual reports with use of other metrics, such as operating profit or net income, and if we will see any large differences between companies over time or between businesses.

We anticipate that companies that are reporting disappointing results will turn to the use of EBITDA to avoid showing the actual results. To assess what a disappointing result is, we will have to look at analysts' expectations before the chosen companies announces their earnings. One way to check this is by looking at the price development of the companies' stocks when earnings are being announced to the public. Typically, if a company announces earnings that are beating analysts' expectations it will have a positive effect on the stock price of the respective company, and vice versa. However, this is probably insufficient and we will have to do further assessments.

The data will consist of secondary data from data sources such as Bloomberg or Eikon. We might have to collect data from annual reports and reformulate the numbers in Excel to get a good view of the numbers and calculations. A reformulation of the report, as well as thorough investigation of how they use leasing, that is operating or capital lease, will also be assessed. We will then use Stata to interpret the data to see whether there any findings to be found or not. This method will require statistical analysis. When doing this, we will perform regression analysis and hypothesis testing. To find any categorical use of performance measures, we will most likely use a multiple discriminant analysis (MDA) in order to evaluate the performance measures into different classes.

We will also assess a quantitative view to determine how often EBITDA is used throughout the annual reports. We are going to use a scale from zero to two, zero means EBITDA is not mentioned, one to some degree and two often used. The scale will give us a quick overview of how frequent EBITDA appears and how much the firms emphasizes the matter.

We will apply APA 6th edition for our references using endnote.

Thesis progression

The preliminary thesis has deadline 16. January, but due to illness we got an extended deadline till March 1st.

The preliminary thesis will give us a good overview of our research topic and the literature. The preliminary thesis will help us defining a research area with its borderlines and limitations.

From first of March we will start to collect data and write the first part of our thesis. Most of our data will probably come from Bloomberg or Eikon but also annual reports from approximately 20 to 30 companies at Oslo Børs from different industries and from a period of five fiscal years. This data will firstly be implemented into excel, and then implemented into Stata where we can start to look for trends and patterns.

During late March early April, we hope to have a solution for our research question, and then can start to write the rest of our thesis.

We then expect to work with the thesis until deadline September 1st.

Literature Review

Earnings management is explained by Scott (2012) in his book "Financial Accounting Theory" as managerial decisions that are used to meet forecasts and thereby show a solid company economy to strengthen the perception of the company. Scott use the example of EM as a stream of smooth earnings over time or a stable growth in earnings. The most common way to manage earnings is using accruals.

Observing Accruals

The article «The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors» written by DeChow and Dichev in 2002, found a new way to approach accruals, namely accruals quality (Dechow & Dichev, 2002). They argued that accruals can be located into a map to the degree they realize the cash flows.

We relate this article of accruals to our thesis, since accruals can influence earnings or expenses. This means EBITDA can be managed to report either better or worse results. The accruals can, according to the article, be measured whether the accruals have good or bad quality. Whether they assess them as good or bad depends on the residuals of working capital.

In 1995 Dechow, Sloan and Sweeney wrote the article "Detecting Earnings Management" where they evaluated accrual-based models for detecting EM. When detecting EM they looked at discretionary and nondiscretionary accruals, and found that it could be reasonable to control for firm performance in order to adjust for extraordinary financial events. Dechow et al. found that a modified Jones (1991) model provided the most powerful tests of EM. However, they had problems with isolating discretionary accruals so that they were misclassified as non-discretionary.

In a later study by Dechow, Hutton, Kim and Sloan (2012) a new approach for detecting EM was researched, finding that incorporating accrual reversals increased test power by 40%, which builds on the inherent property of accrual accounting that accrual-based EM in one period must reverse in another period.

Earnings Management to Reach Financial targets

Since our thesis is to investigate the use of EBITDA and connection to EM, we found the article by Degeorge, Patel and Zeckhauser (1999) "Earnings Management to Exceed Threshold" very interesting. The article find that if the company have specific goals towards earnings, the probability of EM to occur is high. EM often occur if the earnings are just outside reach or if it exceeds the threshold. Then either the company manage the earnings to reach the goal, or they report earnings less than actual earnings and then to make progression the next year.

This article is useful to our research, due to the possible connection between EM and EBITDA. It's likely that if companies are focusing on the use of EBITDA as a performance measure, they might have an incentive towards reporting a high EBITDA. This might mean that managers will choose to invest in assets instead of leasing, just to make the EBITDA better.

Deferred Tax Expense to Measure Earnings Management

Phillips, Pincus and Rego (2003) assessed if deferred tax expense could be useful to detect EM in companies restricted by GAAP, under the presumption that managers will manage earnings upward by exploiting possibility of using managerial discretion under GAAP to not increase current income tax payable. This will generate temporary book-tax differences that gives higher deferred tax expense. To do this, Phillips et al. evaluated incremental abilities of deferred tax expense and three accrual-based measures to detect EM so that specified earnings targets were met or slightly beaten. The earnings targets were to meet or slightly beat last year's earnings, zero earnings, and consensus analysts' forecasts.

They found that deferred tax expense should be incorporated in any research designs that aims to detect EM in companies, and not only accrual-based models. However, they also found, somewhat surprisingly, that total accruals were incrementally useful in detecting EM for each of the three earnings targets, whereas abnormal accruals were less consistent in doing so.

However, despite that this paper studied firms reporting according to GAAP, it is still applicable for firms reporting according to IFRS since deferred tax is also due to managerial decisions.

Change of CEO

In the article written by Bergstresser and Philippon (2006), they found grounds for that CEOs have incentives towards earnings management when they have interest in the company's share price. The more incentives the managers have towards bonuses and compensation plans, the more they are willing to adjust methods and numbers to reach the incentives.

Bergstresser and Philippon also states that in periods with high accruals the CEOs will sell and offload stocks to maximize their payoff. Also, if CEOs compensation is based on company value, accruals is used more frequently compared to no/low incentives.

This form of earnings management can be seen in context with our research question. We are investigating the use of EBITDA as a possible way of posing good despite the annual reports showing something else. Therefore, this article show how easily a manager can affect numbers and strategy to reach their goals. If we look at this in a bigger picture, we can image a manager willing to make corrections to pose the EBITDA as good to attract new investors.

Godfrey, Mather and Ramsay (2003) researched earnings and impression management in the context of CEO changes in Australian firms, arguing that new managers both have incentives to manage earnings and similar incentives to perform impression management by graphs in financial reports. By examining impression and earnings management at the same time, Godfrey et al. provided an opportunity to distinguish between alternative reasons for any observed earnings management.

In the year of CEO change they predicted unfavorable earnings and impression management and favorable earnings and impression management in the following reporting period. They found some evidence of income reducing earnings management in the year of CEO change but found no evidence showing unfavorable impression management that would indicate management opportunism as the explanation. However, the prediction of income increasing earnings management in the year following the CEO change had strong evidence, accompanied by evidence of significant selectivity of graphs, that is impression management.

Furthermore, Godfrey et al. found that in cases where CEO changes identified as resignations strong evidence of earnings management and some evidence of impression management. However, in cases where CEOs retired, there was little or no support for any earnings or impression management. A subsample of large firms showed no evidence of earnings management and little evidence of impression management. Conversely, they found strong support for favorable earnings and impression management in the year following CEO change, but no support in the year of CEO change.

These findings are important to keep in mind when investigating the use of EBITDA in financial reporting since it might be affected by decisions made by newly appointed CEOs.

Bonus Schemes and Management Incentives

Bonus schemes are incentives that make managers manage earnings to reach bonuses and goals. The article "The Effect of Bonus Schemes on Accounting Decisions" by Paul Healy (1985), states that bonus schemes increase the likelihood of managing accruals and procedures to reach the bonuses. Healy also states that managers are willing to change or switch accounting procedures when a bonus scheme is getting close to realization.

What's interesting comparing this article with Degeorge, Patel and Zeckhauser's (1999) article is that Healy found no evidence of change in accounting principles to decrease earnings when the bonus plans have an upper or lower limit.

For our thesis, we will not debate whether the limits affect EM, but know that this might be the case. We will also use the article by Healy to investigate the annual reports where there are clear bonus schemes related to EBITDA if the management then take actions to reach bonuses.

Accounting Quality

Burgstahler, Hail and Leuz stated in their paper from 2006, when firms have reporting incentives created by market forces it will affect the accounting quality, thereby reduce the use of EM. What's interesting with the article is despite showing how strong effect market incentives have on companies, some companies will always try to manage their numbers in one way or another.

The market forces could be to report informative earnings according to standards and to norms. This means to report useful and relevant information, not redundant information.

We relate this article to our research because despite strong incentives towards high quality in the financial reports from the market or regulations, public firms still manipulate their numbers. They may then use accruals to boost their numbers.

References

Bergstresser, D., & Philippon, T. (2006). CEO incentives and earnings management. *Journal of Financial Economics, 80*(3), 511-529. doi:10.1016/j.jfineco.2004.10.011

Beshore, B. (2014). EBITDA Is «BS» Earnings. Retrieved from https://www.forbes.com/sites/brentbeshore/2014/11/13/ebitda-is-bs-earnings/ - 2873a7af6070

Burgstahler, D. C., Hail, L., & Leuz, C. (2006). The importance of reporting incentives: Earnings management in European private and public firms. *Accounting Review, 81*(5), 983-1016. doi:10.2308/accr.2006.81.5.983

Dechow, P. M., & Dichev, I. D. (2002). The quality of accruals and earnings: the role of accrual estimation errors. *Accounting Review*, 35.

Dechow, P. M., Hutton, A. P., Kim, J. H., & Sloan, R. G. (2012). Detecting Earnings Management: A New Approach. *Journal of Accounting Research, 50*(2), 275-334. doi:10.1111/j.1475-679X.2012.00449.x

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). DETECTING EARNINGS MANAGEMENT. *Accounting Review, 70*(2), 193-225.

Degeorge, F., Patel, J., & Zeckhauser, R. (1999). Earnings management to exceed thresholds. *The Journal of Business, 72*(1), 1-33.

E24. (2017). Yara-tallene skuffer. Sourced from http://e24.no/boers-og-finans/yara-international/yara-tallene-skuffer /23920099

Godfrey, J., Mather, P., & Ramsay, A. (2003). Earnings and Impression Management in Financial Reports: The Case of CEO Changes. *Abacus, 39*(1), 95-123. doi:10.1111/1467-6281.00122

Gross, D. (2002). The Accounting Trick That's Killing WorldCom. *Slate.* Retrieved from http://www.slate.com/articles/business/moneybox/2002/06/the_accounting _trick_thats_killing_worldcom.html

Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics, 7*(1), 85-107. doi:10.1016/0165-4101(85)90029-1

Knight, K. B. a. J. (2009). How EBITDA Can Mislead. *Harvard Business Review.* Retrieved from https://hbr.org/2009/11/how-ebidta-can-mislead

Luciano, R. (2003). EBITDA as an indicator of earnings quality. *JASSA*(1), 29-34.

Phillips, J., Pincus, M., & Rego, S. O. (2003). Earnings management: new evidence based on deferred tax expense. *Accounting Review, 78*(2), 491.

Scott, W. R. (2012). *Financial accounting theory* (6th ed. ed.). Toronto: Pearson.