

Hochschule Rhein-Waal
Rhine-Waal University of Applied Sciences
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THE DISCLOSURE
OF ALTERNATIVE
PERFORMANCE
MEASURES AT THE
GERMAN CAPITAL
MARKET

*The Effect of the
Issuance of Guide-
lines on Alternative
Performance
Measures by the
European Securi-
ties and Markets
Authority on the
Financial State-
ments of DAX and
MDAX Corporations*

Bachelor Thesis

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The Disclosure of Alternative Performance Measures at the German Capital Market

The Effect of the Issuance of Guidelines on Alternative Performance Measures by the European Securities and Markets Authority on the Financial Statements of DAX and MDAX Corporations

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Abstract

While the regulation of non-standardized, voluntarily disclosed earnings figures – so-called Alternative Performance Measures (APMs) – has been part of the standard setting for over a decade now in the USA, the first extensive legally binding regulations for the EU and Germany have been coming into action in 2016 with the ESMA Guidelines on Alternative Performance Measures. In order to evaluate the impact of the guidelines on the APM reporting behavior of German large stock-listed companies, the annual reports of an adjusted sample of DAX30 and MDAX corporations are examined for the financial years 2014, 2015, and 2016. The empirical results show a slight decrease in the dissemination of APMs when comparing the results for 2015 and 2016. Moreover, the portion of companies reconciling the adjustments made in the calculation of APMs has increased significantly in the post-ESMA Guidelines period while the number of annual reports without any reconciliation has declined simultaneously. Furthermore, the results indicate a significant decrease in the amount of adjustments between normal and modified earnings figures that are published by the same company when comparing the periods prior and subsequent to the issuance of the ESMA Guidelines. A comparison to the developments in the USA following Regulation G shows a much smaller impact of the ESMA Guidelines on the countries' companies. Nonetheless, this may be due to the differences in structure and competencies between the securities authorities in the US and the EU. However, it can be concluded that by reversing the trend of an increasing use of APMs, the ESMA has achieved some of its goals.

Keywords: *Alternative Performance Measures, ESMA Guidelines on Alternative Performance Measures, Regulation G, DAX and MDAX annual reports, USA-Germany comparison*

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List of Abbreviations

APM	-	Alternative Performance Measure
ASB	-	Accounting Standards Board
BaFin	-	Bundesanstalt für Finanzdienstleistungsaufsicht
CESR	-	Committee of European Securities Regulators
C&DIs	-	Compliance and Disclosure Interpretations
DAX	-	Deutscher Aktienindex
DPR	-	Deutsche Prüfstelle für Rechnungslegung
EB figures	-	“Earnings Before” figures
EBIT	-	Earnings Before Interest and Tax
EBITDA	-	Earnings Before Interest, Tax, Depreciation, Amortization
ECEP	-	European Common Enforcement Priorities
ESFS	-	European System of Financial Supervision
ESMA	-	European Securities and Markets Authority
FASB	-	Financial Accounting Standards Board
FEI	-	Financial Executives Institute
FFO	-	Funds From Operations
GAAP	-	Generally Accepted Accounting Principles
HGB	-	Handelsgesetzbuch
IASB	-	International Accounting Standards Board
IAS	-	International Accounting Standards
IDW	-	Institut der Wirtschaftsprüfer
IFRS	-	International Financial Reporting Standards
IOSCO	-	International Organization of Securities Commissions
MDAX	-	Mid-Cap-DAX

NEMAX	-	Neuer-Markt-Index
NIRI	-	National Investor Relations Institute
OSC	-	Ontario Securities Commission
PFE	-	Pro Forma Earnings
S&P	-	Standard & Poor's
SDAX	-	Small-Cap-DAX
SEC	-	U.S. Security and Exchange Commission
SOX	-	Sarbanes-Oxley Act
WpHG	-	Wertpapierhandelsgesetz

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1. Introduction

Over decades, the number of companies worldwide that report non-standardized financial measures additionally to regulated Generally Accepted Accounting Principles (GAAP) measures has increased strongly. By 2001 more than 60% of the S&P 500 companies in the USA published earnings figures, which did not conform to US-GAAP, in press releases (Reason & Teach, 2002). Whereas up to the mid-1990s managers primarily used APMs to publish “as-if” results in order to show changes due to mergers and acquisitions or due to changes in accounting principles, firms are now using them to provide clearer pictures of the company’s financial position (Brody & McDonald, 2004, p. 34). The non-standard nature as well as several well-known accounting scandals¹ led to an increased skepticism towards unaudited disclosures of those so-called Alternative Performance Measures (APMs) (Bhattacharya, et al., 2004, p. 28). Thus, it is still oftentimes assumed that managers pursue opportunistic goals when disclosing APMs, such as displaying the own performance in the best light possible. Appropriately enough the OECD published in 2002 that the top 100 NASDAQ companies together disclosed a loss of 82 billion US-Dollars according to figures calculated in accordance with US-GAAP², but communicated summed up a profit of 19 billion US-Dollars in company-calculated APMs to the capital markets (OECD, 2002, p. 19). Moreover, cease-and-desist proceedings of the federal securities authority in the US, SEC, against stock-listed US companies³ have added to an image of fraudulent motives behind the publication of APMs. These cases led Stephen M. Cutler, Director of the SEC’s Division of Enforcement, to state that those APMs “can be used deceptively” and “cause mischief” for the public (U.S. Securities and Exchange Commission, 2002). The public’s opinion started to decline due to those various incidents surrounding the reporting of APMs. Thus, several ridiculing terms for non-standardized figures began to arise. In multiple sources, APMs are sarcastically named as “Earnings before the bad stuff” (Mulford & Cominsky, 2002, p. 340), “Earnings before Irregularities and Tamper-

¹ e.g. ENRON, while already being heavily financially distressed, abused non-standardized earnings measures in order to deceive investors by still announcing favorable earnings figures (Großmann, 2007, p. 48)

² These figures were also officially transferred to the U.S. Securities and Exchange Commission (SEC).

³ In 2002, the SEC instituted cease-and-desist proceedings against Trump Hotels & Casino Resorts Inc. for publishing information that are possibly misleading for investors. In the company’s third-quarter 1999 earnings release, the firm published APMs showing positive earnings figures without disclosing that those results were largely due to a non-recurring gain of \$17.2 million rather than to operational performance. At the same time, however, the company failed to disclose the exclusion of a significant one-time charge of \$81.4 million (U.S. Securities and Exchange Commission, 2002).

ing”, and “EBITDA – Earnings before I tricked the dumb auditor” (McLean, 2002). Even the former Chief Accountant of the SEC, Lynn E. Turner, labeled APMs as “EBS – Everything but Bad Stuff” (Turner, 2000).

In Europe, APMs have been subject to controversial discussions again in recent years. In contrast to the US, the EU as a whole was lacking legally binding regulations for a long period of time. With the implementation of Regulation G and related amendments of existing rules by the SEC in 2003, the US was a trailblazer in standardizing the reporting of APMs. The EU took it twelve years longer to establish a comparable regulatory system with legally binding rules. In 2015, the European Securities and Markets Authority (ESMA) published the ESMA Guidelines for Alternative Performance Measures with detailed regulations regarding the disclosure of APMs. Therefore, this paper seeks to compare the regulatory frameworks as well as the effective practical impact for the reporting of companies. With the help of the results of an empirical study conducted among the annual statements of DAX30 and MDAX companies for the financial years 2014, 2015, and 2016, a comparison between the periods prior and subsequent to the implementation of the ESMA Guidelines is drawn. The research conducted in this paper is guided by the following overall research question:

How has the issuance of the ESMA Guidelines on Alternative Performance Measures influenced the reporting behavior regarding APMs of DAX30 and MDAX companies?

The further paper is structured as follows: Chapter 2 provides the theoretical framework necessary to understand the empirical work. Thereby, in a first step, the term Alternative Performance Measure is defined together with the explanation of current topics surrounding the figures. Moreover, the legally binding regulations as well as voluntary initiatives are presented for the USA and the EU together with academic assessments of their effectiveness. Chapter 3 subsequently presents the results of the empirical study conducted among the annual reports of the DAX30 and MDAX companies for the financial years 2014, 2015, and 2016 in detail. Thereafter in Chapter 4, the results are critically evaluated and compared to the developments in the USA following the implementation of legally binding regulations. Chapter 5 then finally concludes the presented results and their implications for practice and gives an outlook regarding the disclosure of APMs in Germany.

2. Theoretical Framework

2.1. Alternative Performance Measures

2.1.1. Definition and Relevance of Alternative Performance Measures

Alternative Performance Measures describe voluntarily disclosed earnings figures used to display an undistorted image of a company's operating earnings or cash flow (Großmann, 2007, p. 1). Thereby, figures, which are regulated under the respective GAAP that are to be applied for a company, are modified by excluding non-recurring, unusual, non-operating, or non-cash expenses and incomes from the net income figure (Ruhwedel & Thale, 2013, p. 387). Therefore, APMs follow GAAP earnings in some way or are derived from them (Großmann, 2007, p. 1). Mulford and Cominsky (2002, p. 88) state that primarily non-recurring items are either deducted or added to the reported net income and only occasionally non-operating or non-cash items are treated as adjusted items. Volk (2007, p. 253) claims that those components are excluded, which are deemed to compromise the comparability of earnings figures between companies or between different years within the same company. The exclusions done when calculating APMs are thereby mostly to counter the deficits of GAAP figures regarding the quality of earnings (Hitz, 2010a, p. 128). Generally, the goal of the disclosure of APMs is to increase the representativeness of an earnings figure of the ongoing operations of a company (Bhattacharya, et al., 2004, p. 27) and therefore to give a better insight into the "core earnings" of a corporation (Bhattacharya, et al., 2003, p. 286). These figures should help investors to better understand the future sustainable ability of a company to achieve profits (Küting & Heiden, 2002, p. 1085). Especially managers, who calculate and disclose APMs, emphasize that these figures provide enormous advantages to investors as those figures are internal and more value-oriented control parameters (Großmann, 2007, pp. 323-324).

APMs exist under a broad range of names, including Pro Forma Earnings (PFE), non-GAAP financial measures, Non-Statutory measures, and Street Earnings (Davis Polk & Wardell LLP, 2016). Whereas the latter one only describes adjusted earnings figures calculated and reported by financial analysts, the former names are primarily used to depict APMs calculated by the companies themselves⁴. The most commonly used description for those kinds of earnings figures that serves as a generic term is Pro Forma Earnings. Nonetheless, hereinafter, the term Alternative Performance Measure will be

⁴ Küting and Heiden (2003, pp. 1550-1552) offer a very detailed systematology in order to differentiate between different forms of APMs. However, due to the complexity and the limited usage of the system, this paper will focus on the present definitions.

used in order to examine all of the mentioned forms – except analyst-calculated Street Earnings – as this paper focusses on the impact of the ESMA Guidelines on Alternative Performance Measures, which explicitly mentions the name APM already. However, it is worth it to determine the linguistic origin of the words Pro Forma: *pro forma* is descended from Latin and can be translated as *as if* in the economic context, i.e. Pro Forma Earnings are in fact *as if* Earnings displaying a result under the use of certain assumptions (Hillebrandt & Sellhorn, 2002, p. 153; Thale, 2013, pp. 4-5). In the context of earnings figures, this means that companies disclose a subjectively defined financial result *as if* certain selected expense and income items would not have occurred (Großmann, 2007, p. 1).

The voluntary disclosure of APMs or Pro Forma Earnings needs to be differentiated from the regulated, mandatory Pro Forma Earnings disclosure. Mandatory PFE disclosure is used to increase the comparability of financial results of a company in the case of substantial changes in the company's structure, such as mergers, acquisitions, or the withdrawal from certain business activities. For large German companies using IFRS, those mandatory disclosures are regulated in IFRS 33. The mandatory PFE disclosures are used in order to show the development of the company *as if* this substantial structural change had already occurred a long time ago (Großmann, 2007, pp. 13-16). Those disclosure practices should help (possible) investors to judge a company's operating performance correctly⁵.

In 2002, Hillebrandt and Sellhorn documented the use of 43 different forms of APMs in Germany (2002b, pp. 153-154). Those earnings figures can be disclosed in significantly different forms, which makes it tough to find criteria in order to cluster APMs. Most commonly, APMs are characterized as voluntarily disclosed figures that are neither subject to the norms and rules of the respective accounting standards nor to the examination of the auditor (Wühst & Rosner, 2015, p. 525). Especially German literature differentiates between APMs in a narrower and a broader sense (Hitz, 2010a, p. 133; Kleinmanns, 2016, p. 133). APMs in a broader sense comprise the so-called "Earnings Before" figures (EB figures) like EBIT and EBITDA as well as variations of those figures that are calculated by excluding specific components like interest (I), taxes (T), depreciation (D), or amortization (A) (Kleinmanns, 2016, p. 133). These fall under the category of APMs in a broader sense as they are calculated in a purportedly standardized manner (Hitz, 2010a, p. 133) even though empirical evidence shows that

⁵ Heiden (2006) differentiates between a third form of Pro Forma Earnings as he adds the level of Pro-Forma-Details (translation by author) to Pro-Forma-Financial Statements (mandatory PFE disclosure) and Pro Forma Figures (voluntary PFE disclosure). Those PFE-Details are a sub-group of the PFE-Financial Statements and used when a structural change was relevant for the valuation of a company but does not require a separate financial statement.

vast differences between companies exist in the calculation of those EB figures (Großmann, 2007, pp. 37-43). APMs in a narrower sense, however, comprise all management-defined earnings figures that modify a GAAP figure by excluding single or a number of items without following a methodical calculation scheme, making external accountability impossible without reconciliation (Großmann, 2007, pp. 37-43; Hitz, 2010a, p. 133; Kleinmanns, 2016, p. 133).

The relevance of APMs has increased steadily over the years. Already in the 1980s an increased publication of unregulated and unstandardized earnings figures by public companies was observable and, by now, APMs are widely established in Germany (Großmann, 2007, p. 9). While the reporting of APMs has generally increased since 1998⁶ (Black, et al., 2012, p. 878), increases of APM disclosures in press releases by 417%⁷ are documented for certain time periods (Bhattacharya, et al., 2004, p. 30). Bradshaw and Sloan (2002, p. 62) identified an increase of APM disclosures in press releases from 17% in 1986/87 to 72% in 1998/99 as well as an increase in the emphasis placed on APMs in those press releases. Bhattacharya, et al. (2003, p. 294) find an increase in the number of APM press releases from 181 in 1998 to 695 in 2000 among large US-American corporations. In Germany and Europe in general, the switch of the most important accounting standard to IFRS in 2005 as well as the harmonization of accounting standards with US-GAAP has increased the freedom in the publication of performance figures following IAS 1, especially in the presentation of APMs (Wühst & Rosner, 2015, p. 526). Therefore, companies have great freedom to disclose earnings figures voluntarily that the management deems to be useful and relevant for (possible) investors (Miller, 2009, p. 3).

In general, APMs should increase the multi-period and inter-company comparability of earnings figures, provide an appropriate description of a company's performance, and enable a more realistic view of a company's economic development for investors (Großmann, 2007, p. 8). However, due to the lack of a universally agreed upon definition of the content of APMs, companies report a variety of proprietary versions of operating income (Brouwer, 2013, p. 26). Nonetheless, empirical evidence shows that investors as well as analysts have an increased demand for APMs and are attaching great importance and information value to those figures (Großmann, 2007, pp. 27-28, 323-324; Hitz, 2010a, p. 153). Especially non-professional investors seem to be influenced by APMs and the emphasis placed on them in press releases (Allee, et al.,

⁶ A steady increase had occurred with the exception of a short-term drop following the enactment of the Sarbanes-Oxley Act in 2002. The consequences of the Sarbanes-Oxley Act and Regulation G will be discussed in detail in Chapter 2.2.3.

⁷ For the time period of 2000 to 2002

2007, p. 214; Bhattacharya, et al., 2007, p. 597; Reimsbach, 2014, p. 505). This fact is alarming in the light of a lack of regulation of APMs (Ruhwedel & Thale, 2013, p. 388). Even more, when taking the conclusions from various studies into account that found out that disclosed APMs are generally higher than comparable GAAP figures (Johnson & Schwartz, 2005, p. 954), many companies are excluding recurring or common operating expenses (Black, et al., 2012, p. 878), and companies increasingly use APMs to meet analysts' forecasts (Bhattacharya, et al., 2004, p. 42).

2.1.2. Advantages and Disadvantages of Alternative Performance Measures

2.1.2.1. Advantages

APMs inherit some advantages over GAAP figures to companies as well as to investors and analysts. First and foremost, APMs have the power and the possibility to compensate the deficits of the standardized GAAP figures (Großmann, 2007, p. 1). Traditional earnings figures lack the suitability to predict future operating income due to non-recurring events that influence the GAAP figures (Großmann, 2007, p. 24; Hitz & Jenniges, 2008, p. 238).

APMs are able to provide a less distorted image of sustainable core earnings by removing the aforementioned non-recurring items as well as unusual or non-cash items in order to reduce noise in the earnings measures. Empirical evidence shows that investors demand easily understandable earnings figures (Bhattacharya, et al., 2003, p. 286) and APMs have the possibility to serve this demand. Less distortion through, e.g. one-time charges also leads to APMs inheriting more relevance for assessing the value of a company as well as its future operating performance as managers claim (Bhattacharya, et al., 2003, p. 288). Lougee and Marquardt (2004, pp. 788-790) prove that company-defined APMs show an incremental predictive power for future performance metrics if the information content of the company's GAAP figures is low and management has no incentive to whitewash the adjusted result. According to Brown and Sivakumar (2003, pp. 563-565) as well as Doyle, et al. (2003, pp. 159-162) Street Earnings defined by analysts have higher predictive power for future earnings than GAAP figures. However, Bhattacharya, et al. (2003, p. 285) find that APMs seem to have a higher informational content and seem to be more permanent than GAAP figures but also as Street Earnings. Additionally to the higher predictive power of APMs, they also have the possibility to increase inter-firm and multi-period comparability (Bhattacharya, et al., 2004, p. 28) if companies all have a common understanding when it comes to excluding non-recurring items. Furthermore, Ruhwedel

and Schultze (2002, p. 606) argue that from the investor's perspective the voluntary disclosure of additional value-relevant information is always desirable as it leads to a reduction of risk and therefore to a decrease of capital costs for investors. Moreover, management-defined APMs also inherit the possibility to provide investors with insider information within the calculation of the APMs regarding the situation of the company (Großmann, 2007, p. 3; Thale, 2013, p. 42).

From a company's perspective GAAP figures are not suitable for the internal controlling of the corporation as they have a relatively short observation horizon and are strongly dependent on changes in accounting standards. Adjusted figures like APMs inherit a much more conformist way of looking at the specific situation of the company (Ruhwedel & Thale, 2013, p. 386). Furthermore, specifics of the sector, in which the company is operating in, can be displayed more accurately (Ruhwedel, et al., 2017, p. 20). Lastly, the voluntary disclosure of value-relevant information increases the transparency from a company's perspective (Ruhwedel & Schultze, 2002, p. 606) and might satisfy the management's interest to make an accurate valuation of the company possible (Hitz & Jenniges, 2008, p. 238).

2.1.2.2. Disadvantages

Opposing the theoretical advantages of APMs over GAAP figures, critics argue that in practice APMs do not lead to an increase in transparency but claim the opposite to actually be the case. They state that APMs are ad hoc, serve merely the purposes of managers, and are misleading to (possible) investors (Bhattacharya, et al., 2003, p. 286). Especially investor protection has become more important as critics are concerned that APMs are used strategically by the management in order to whitewash the situation of the company and their performance⁸, which in the end might lead investors to making unfavorable decisions. Thereby, managers would selectively exclude specific items and primarily expenses in order to arrive at the desired APM (Bhattacharya, et al., 2003, p. 289). Generally, APMs can be easily subject to opportunistic behavior of managers as the missing universal definition of what to exclude from GAAP figures and what not, leaves this decision to the managers themselves (Großmann, 2007, p. 9). In consequence, APMs often exceed the respective GAAP earnings figures because one-time expense items are more regularly

⁸ However, even regulators see the reasons for this kind of behavior as the Chairman of the International Accounting Standards Board (IASB), Hans Hoogervorst, points out: „It is in the nature of humans to present something more positive than reality would allow for.“ (Fockenbrock, 2016)

excluded than one-time income items (Großmann, 2007, p. 1; Hitz & Jenniges, 2008, pp. 238-239) and also recurring items are sometimes excluded leading to higher APMs due to unjustified exclusions (Bhattacharya, et al., 2003, p. 287). Descriptive evidence shows that this was the case for approximately 79% of companies in 2005⁹ (Marques, 2006, p. 566). Various studies seem to confirm the fear that managers use APMs strategically. These studies show that management's propensity to disclose APMs is positively associated with incentives to meet earnings benchmarks, especially if those benchmarks cannot be met based on the results of GAAP earnings (Bhattacharya, et al., 2004, p. 39; Lougee & Marquardt, 2004, p. 783; Entwistle, et al., 2005, p. 14). Empirical evidence seems to confirm that APMs are used to reach earnings benchmarks, as Bhattacharya, et al. (2003, p. 317) find that about 80% of companies that announce APMs are meeting or beating the earnings forecasts of analysts based on these APMs, while only 39% of these very firms reach or exceed the analysts' forecasts based on their GAAP earnings figures.

Window dressing by calculating and publishing APMs by management has several downsides that mainly have an effect on investors. First and foremost, an opportunistic calculation of APMs decreases the predictive power of these adjusted figures (Großmann, 2007, p. 3), one of the most important arguments in favor of the usage of APMs. More importantly, however, APMs that were calculated with the intend of window dressing by a company inherit the risk of misleading investors to bad investment decisions. Especially when APMs are presented without the provision of a clear and comprehensible reconciliation, they can become misleading to investors (Bhattacharya, et al., 2004, p. 28) and specifically to less-sophisticated investors (Black, et al., 2012, p. 877)¹⁰. Furthermore, another argument in favor of APMs has been tested empirically, namely the argument for an increased multi-period and inter-company comparability of earnings figures through the provision of APMs. Empirical evidence, however, shows that due to numerous different adjustments used by different companies, comparability between firms does not seem to be increased by the usage of APMs (Bhattacharya, et al., 2003, p. 287). Moreover, even the multi-period comparison within the same firm seems to be difficult as companies alter the calculation schemes for the same APMs over time, making the comprehensibility more complicated for press and investors (Bhattacharya, et al., 2004, p. 28; Großmann, 2007, pp. 38, 47).

⁹ Bhattacharya, et al. (2003, p. 300) find that this was the case for 70% in 2002 and Entwistle, et al. (2005, p. 13) for 86% in 2003.

¹⁰ The danger of and the motives for opportunistic behavior by managers in the calculation of APMs will be further discussed in Chapter 2.1.3.

E.ON delivers solid operating earnings in core business

Interim Report II/2016

08/10/16

[→ PDF and Tables](#)

- Adjusted EBIT in core business up 15 percent to €1.7 billion
- Adjusted Group EBIT of €2 billion 6 percent below prior-year figure
- Impairment charges (€2.9 billion) and provisions for contingent losses €0.9 billion) at Uniper lead to significant net loss for E.ON of €-3.0 billion
- Full-year 2016 forecast affirmed: adjusted EBIT expected to be between €2.7 and €3.1 billion, adjusted net income between €0.6 and €1 billion
- Economic net debt rises to €24.8 billion relative to pro forma year-end 2015 figure for new E.ON of €21.3 billion

Source: E.ON SE (2016b)

Figure 1: E.ON Earnings Release

An example for the potential of APMs to be misleading can be seen in Figure 1. In 2016, E.ON published an earnings press release stating solid operating earnings. In the press release, however, only adjusted figures, i.e. APMs are shown in order to prove this result (E.ON SE, 2016b). Whereas the Adjusted Group EBIT offers an profit of about € 2 billion, a look in the annual report of 2016 shows a total Net Loss of approximately € 16 billion (E.ON SE, 2016a, p. 108). Also the non-adjusted EBIT in the annual report is negative with € -430 million. In order to come up with the adjusted result of the EBIT, E.ON, amongst other things, adds a total of € 3.869 billion of “other non-operating earnings” that are not specified (E.ON SE, 2016a, p. 205). The earnings release suggests a favorable image of the company for investors due to the published APMs. Nonetheless, GAAP figures show a different reality that is way less rosy. Here, it is difficult for investors to decide on investments as not all information is given.

2.1.3. The Principle-Agent Problem

The term *Principle-Agent* in the economic context describes the relationship between the owners or shareholders of a company (the principles) and the management of this company as an executive power (the agents). The principles are assigning the agents the task to manage the company on their behalf and in their interest. Hereafter, the principles have to rely on the agent to actually do so and perform in the principles' best interest. In order to motivate the agents to act in the desired way, the principles can

implement various mechanisms such as contracts (Brouwer, 2013, p. 28). Nonetheless, the management, as the agent, is making decisions that also affect the owners, as principles. As the agents are generally better informed about the situation of the company, they can manipulate the information flow to the principles (adverse selection). This information asymmetry can lead to negative effects, especially for the principles. Due to the information deficit, the principles are not able to assess all actions of the agents correctly. The agents can use this information asymmetry to their own advantage by exploiting their information advantage in hidden action. This is called moral hazard (Brouwer, 2013, p. 28; Thale, 2013, pp. 44-45). GAAP figures are generally used in order to efficiently protect investors by limiting the possibilities of earnings management for the agents and providing reliable and audited information about the situation of the company (Großmann, 2007, p. 25).

According to Narayanan, et al. (2000, p. 718) the reporting of APMs may reduce the information asymmetry in the principle-agent relationship when the additional, voluntarily disclosed information in the APMs are credible and economically significant. However, not all agents are willing to decrease the information asymmetry. Therefore, literature generally differentiates between two management motives for the disclosure of additional earnings figures as the disclosure generates additional costs for the company and is therefore non-intuitive (e.g. Bradshaw & Sloan, 2002, pp. 42-43)¹¹. The general differentiation is between (1) the information perspective and (2) the adverse manipulation of investors. Overall, the general goal of the management can be seen as to fulfill the expectations of the firm's stakeholders, which are most commonly expressed in earnings figures that are usually influenced by the forecasts of analysts. An information motive is to be expected from a management when the managers are interested in a correct capital market valuation of the company or they want to hold up the reputation of a sincere disclosure policy of the company (Hitz, 2010a, p. 134). Moreover, Black, et al. (2017, p. 777) find that managers prefer to meet the benchmark based on the reporting of GAAP figures. However, they find, if a company is failing to live up to the expectations of analysts based on GAAP figures, managers are more likely to report an APM (Baumker, et al., 2014, p. 91; Black, et al., 2017, p. 777). This is due to the fact that managers have a significant interest in meeting or beating earnings benchmarks. Not only might missing the expectations of analysts already by a small amount lead to significant share price drops, but also to a generally negative public perception of the company and therefore of the performance of the management (Großmann, 2007, pp. 2, 11-12, 386). Generally, the management's goals differ from

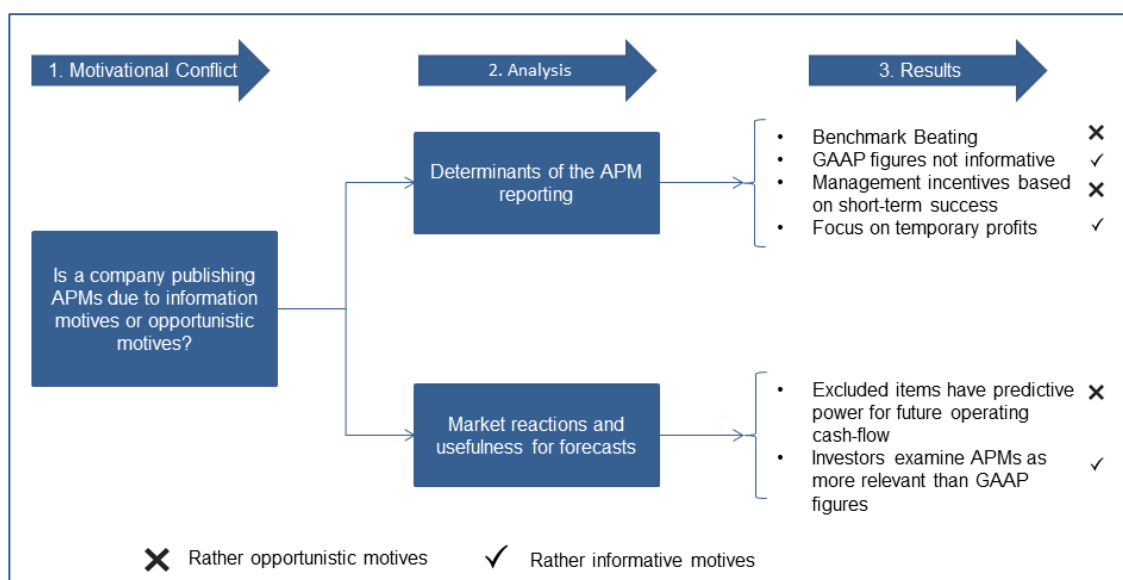
¹¹ Further literature includes Lougee and Marquardt (2004, p. 772), Entwistle, et al. (2005, p. 74), Entwistle, et al. (2006a, p. 41), Bhattacharya, et al. (2007, p. 584), Heflin and Hsu (2007, p. 351), and Dinh and Thielemann (2016, pp. 413-414).

the investors' as managers try to reach the earnings benchmarks predicted by analysts but not in such a significant way that they would increase the expectations for the following year immensely (Großmann, 2007, pp. 22-23). As mentioned before, contracts are a way to ensure that the management acts in a way that is desired by the owners of a company. Part of those contracts can be the payment of bonuses to managers if the company reaches its earnings benchmarks. Those bonus payments in combination with the general desire of every human to present the own performance in the best possible light are significant incentives for the management to fulfill the expectations of the public (Hitz, 2010a, p. 134). If a company now fails to meet or beat earnings benchmarks based on the disclosure of GAAP earnings, this might persuade managers to publish APMs due to the second motive of adverse manipulation of investors (Dinh & Thielemann, 2016, p. 415). Managers might therefore be tempted to use the possibilities of earnings management in order to present the company's results in the best way possible. Furthermore, according to the "Incomplete Revelation Hypothesis" by Bloomfield (2002, p. 242), the level of emphasis that managers give to certain information can influence the decision making of investors and create an incentive for the management to strategically emphasize APMs that show a better performance of the company (Brouwer, 2013, pp. 29-30). Empirical evidence shows that earnings management is especially widespread when the GAAP figure is negative, has decreased in comparison to the year before, or set goals are missed (Bradshaw & Sloan, 2002, p. 44; Bhattacharya, et al., 2004, p. 39). Earnings management is primarily done by eliminating mostly negative items and emphasizing APMs over the corresponding GAAP figures (Hsu, 2004, pp. 37-40; Allee, et al., 2007, p. 204; Hitz & Jenniges, 2008, pp. 238-239). The motive of adverse manipulation is especially implied as distinctive when the increase of the APM is larger than the increase of the GAAP figure or when the GAAP figure is negative and the APM is positive (Bowen, et al., 2005, pp. 1014-1016).

As oftentimes APMs can be easily deduced from a company's financial statement, investors should be – at least for some APMs – able to understand the exclusions a company has done. According to the "Efficient Market Hypothesis", the presentation of financial information as APMs in an earnings release should therefore not affect investors' decision making when the information is already available in another form, i.e. as a GAAP figure (Brouwer, 2013, p. 29). However, empirical (Bhattacharya, et al., 2003, p. 307; Bowen, et al., 2005, p. 1031; Allee, et al., 2007, p. 216) as well as experimental data (Frederickson & Miller, 2004, pp. 667, 683) suggest that investors – and especially non-professional investors – assign significant information content to APMs, rely more heavily on APMs than on GAAP figures, and are influenced by the

emphasis placed on those figures in earnings releases in such a way that they make investment decisions based on APMs. According to Hirshleifer and Teoh's "Limited Attention Theory" (2003, p. 379) investors have a limited capacity of attention and processing power and can therefore be influenced by the prominence and the form of disclosure of financial information. Due to these limitations, investors must prioritize the time and effort, which they spend on analyzing a company's performance and are therefore subject to manipulation by the placement and emphasis a company puts on specific information (Brouwer, 2013, pp. 31, 37).

The management of a company can pursue investor-friendly as well as more opportunistic goals by publishing APMs. However, in practice it is difficult to differentiate between the two motives and makes it tougher to interpret empirical results (Brouwer, 2013, p. 37). Dinh and Thielemann (2016, p. 415) have developed a



Own illustration based on Dinh and Thielemann (2016, p. 415)

Figure 2: Model on APM Disclosure Motives

model in order to differentiate more easily between the motives of managers to disclose APMs. This model is displayed in Figure 2. According to this model, rather informative disclosure motives by managers can be assumed when the corresponding GAAP figures to the disclosed APMs are not informative, the focus of the reporting is more on temporary profits, or when investors regard APMs as being more relevant than GAAP figures. Rather opportunistic motives, however, can be assumed if the disclosed APMs are beating the benchmark, the management's bonus payments are based on short-term success, or when excluded items have predictive power for future operating cash-flows. Even though the model is probably incomplete and not suitable to every company's situation, it nonetheless helps to understand the companies' APM disclosure motives and to categorize them.

2.2. Legal Framework Regarding Alternative Performance Measures in the USA

2.2.1. Sarbanes-Oxley Act

The regulation of APMs¹² has a fairly long history in the USA as the U.S. Securities and Exchange Commission (SEC) is publishing guidelines on APMs already since 1973 (Großmann, 2007, p. 327). Before the US Congress passed the Sarbanes-Oxley Act (SOX) in 2002, a number of different warnings and recommendations had been published by numerous US-American authorities. On April 26, 2001 the Financial Executives Institute (FEI) in cooperation with the National Investor Relations Institute (NIRI) issued best practice guidelines for the use of APMs in press releases in response to growing APM publications. Thereby, the guidelines focused mainly on the form of presentation (Thale, 2013, p. 52). On December 4, 2001 the SEC issued a “Cautionary Advice” regarding the publication of APMs and announced that it would sue companies, which use misleading earnings figures. In the publication the SEC states that APMs carry “no defined meaning and no uniform characteristics” and may “mislead investors if [they obscure] GAAP results” (U.S. Securities and Exchange Commission, 2001). However, the SEC also acknowledges that APMs can provide useful information to investors if there are appropriate disclosures about their limitations. Therefore, investors should focus their attention on critical components of financial results (U.S. Securities and Exchange Commission, 2001). The statement also commended the guidelines by FEI and NIRI to companies when presenting APMs. On January 16, 2002 the SEC enforced the first ever action against a company for publishing misleading APMs in an earnings press release. Trump Hotels & Casino Resorts Inc. was charged with the reproach that the company’s third-quarter 1999 earnings were misleading due to the inclusion of an undisclosed special gain but the simultaneous exclusion of a special loss in the disclosed earnings (U.S. Securities and Exchange Commission, 2002). The concerns of regulators, legislators, and standard setters about APMs being confusing and misleading to investors were fulfilled (Allee, et al., 2007, p. 202). SOX was then passed on July 30, 2002 as an answer to the opportunistic reporting of companies in the US. The specific goal of SOX was thereby the re-establishment of the investors’ confidence in the accuracy of the published financial data (Großmann, 2007, p. 330). Furthermore, SOX wanted to improve the timely and current disclosure of substantial changes of the financial situation as well as to regulate the content of those information (Großmann, 2007, p. 345). SOX prohibits companies from disclosing possibly misleading APMs and requires firms to provide

¹² or non-GAAP financial measures as they are primarily called in the US

reconciliations between APMs and the corresponding GAAP figures. Section 401 (b) of SOX explicitly gives the task to formulate and regulate the specifics of voluntarily disclosed APMs in a new regulation to the SEC (Public Law 107-204, 2002).

2.2.2. Regulation G and Items 10 of Regulation S-K and Regulation S-B

The U.S. Securities and Exchange Commission (SEC) is the federal stock exchange supervisory authority of the USA and is therefore responsible for the control of the securities trading in the US. The SEC strives to protect investors and create a trustworthy market environment for securities trading (U.S. Securities and Exchange Commission, 2017).

As mentioned before, SOX specifically tasked the SEC with regulating the voluntary disclosure of APMs in the US. This task led to the establishment of the so-called Regulation G and to the amendments of the already existing Item 10 of Regulation S-K and Item 10 of Regulation S-B as well as the new Item 12 of Form 8-K. Those regulations were inured on March 28, 2003¹³ and state that these rules “are intended to ensure that investors and others are not misled by the use of non-GAAP financial measures” (U.S. Securities and Exchange Commission, 2003)¹⁴.

Regulation G defines APMs¹⁵ as a “numerical measure of [...] historical or future financial performance, financial position or cash-flow” that excludes or includes selected amounts and adjusts the most directly comparable GAAP figure. Generally speaking, to Regulation G APMs comprise all financial information that is calculated and presented by the use of any other calculation scheme than the ones according to US-GAAP. Regulation G requires companies to disclose the most directly comparable GAAP figure as well as a reconciliation of the published APM to this GAAP figure. Furthermore, APMs should not be disclosed in a misleading manner. Those rules are applicable when a firm publishes or publicly discloses information that make use of an APM. Moreover, the rules are also applicable if the information are published in non-written form.

¹³ A chronological course of the regulations passed in the US can be found in Appendix A.1.

¹⁴ If not indicated otherwise through a reference, the following explanations regarding Regulation G as well as the amendments and the new Item 12 of Form 8-K all refer to the Final Rule by the SEC in 2003.

¹⁵ In Regulation G called non-GAAP financial measures.

In addition to Regulation G, the amendments to Item 10 of Regulation S-K and to Item 10 of Regulation S-B are regulating the use of APMs in filings with the SEC. The amendments require a provision of the most directly comparable GAAP figure in the filings presented with “equal or greater prominence” compared to the APM as well as a reconciliation between the two figures. Furthermore, the company should explain why it considers the APM to be able to provide useful information to investors and how the management uses the APM internally. Moreover, the amendments prohibit to present APMs on the surface of financial statements that are disclosed according to the standards of US-GAAP, as well as using labels or descriptions for APMs that are confusingly similar to the titles of GAAP figures. Additionally, the amendments forbid the exclusion of items as non-recurring when they are likely to recur. In general, the amendments offer a more detailed description of requirements and prohibitions in comparison to Regulation G.

Lastly, the new Item 12 of Form 8-K called “Disclosure of Results of Operations and Financial Condition” requires companies to furnish a Form 8-K to the SEC within five business days of any public release including information regarding results of operations or financial condition. The requirements of this Item 12 apply regardless of the disclosure of an APM in the release.

Within the regulation of APMs by the SEC in the US, it stands out that the SEC explicitly does not prohibit the use of APMs in general. The SEC rather recognizes that not all useful information for investors can be provided by standardized earnings figures under GAAP and that APMs can serve a purpose to investors in determining recurring earnings figures (Bloom & Schirm, 2003; Miller, 2009, p. 3). Surely, rules mean nothing if obedience to them is not controlled and enforced. However, as a federal agency the SEC has the legislative, executive, and judicative competencies and inherits extensive possibilities to sanction companies, managements, and auditors (Großmann, 2007, pp. 346-347).

2.2.3. Studies on the Effectiveness of Regulations in the USA

In order to examine the effectiveness of the revised rules on APMs through SOX and Regulation G, a large number of studies has been conducted in the US. Those studies focus on the behavior of companies when publishing APMs in the post-SOX or post-Regulation G period comparing it to the behavior prior to the regulations. Moreover, the behavior of investors regarding APMs has been examined in the two periods.

Generally, the vast majority of studies finds that the implementation of the regulations has decreased the overall reporting of APMs in earnings releases. Entwistle, et al. find in two studies (2006a, pp. 46-47; 2006b, p. 361) that the disclosure of APMs in US press releases has declined from 77% in 2001 to 54% after the implementation of Regulation G in 2003. They also find a decrease in the average magnitude of adjustments as they decline from 76% in 2001 to 33% in 2003 and in the relative portion of APMs that are higher than the corresponding GAAP figure from 85% to 67% (pp. 47-48). Marques (2006, pp. 559-565) measures a reduction in the frequency of APM reporting from 65% in 2001 to 48% in 2003 after the examination of the press releases of 361 S&P 500 companies. However, she also finds that the use of non-GAAP measures other than non-GAAP earnings had already decreased in 2001 due to the “Cautionary Advice” of the SEC. Heflin and Hsu (2007, p. 35) confirm the decline in the frequency of the disclosure of APMs post-Regulation G and add that also the probability that disclosed APMs fulfill or exceed the expectations of analysts has decreased after the SEC’s intervention. Appropriately enough, Bond, et al. (2017, p. 15) find that the implementation of Regulation G had increased the number of exclusions used by companies in order to reach or exceed earnings benchmarks.

Not only do studies find that the frequency of APM disclosures had declined, empirical evidence also suggests that the quality of disclosed APMs as well as the quality of exclusions from GAAP figures have increased significantly after the interventions of the SEC (Kolev, et al., 2008, pp. 157-159; Black, et al., 2012, p. 876; Brouwer, 2013, pp. 60-61; Bond, et al., 2017, p. 15). Kolev, et al. (2008, p. 157) further find that companies that had low quality exclusions in the period prior to the SEC regulations had stopped releasing APMs after the intervention of the SEC. This result seems to be consistent with the SEC’s goal to increase the quality of APMs. Additionally to the increase in quality, a number of studies has recognized a decrease in the emphasis of APMs in comparison to GAAP figures from 2001 to 2003 (Entwistle, et al., 2006a, pp. 47-48) and from 2001 to 2002 respectively (Bowen, et al., 2005, pp. 1020-1022). Bowen, et al. find that this is especially true for firms with great media exposure (p. 1013). Appropriately enough, Black, et al. (2012, p. 902) find that companies are reporting APMs less aggressively in the post-SOX period. Moreover, empirical evidence shows that opportunistic use of APMs and the disclosure in a potentially misleading manner had decreased after the implementation of SOX and Regulation G. Yi (2012, pp. 121, 123) finds a decrease in the disclosure of APMs after the implementation of Regulation G primarily for companies with opportunistic reporting motives in earnings releases between 2001 and 2004. Those findings are confirmed by the results of Heflin and Hsu (2007, p. 40) and seem to be consistent with the regulators’ intentions. Entwistle, et al.

(2006b, p. 355) further report a drop in APM disclosures that are presented in a potentially misleading manner from 10% of all US S&P 500 firms in 2001 to less than 1% of those companies in 2003.

Not only have companies been influenced by the regulations of the SEC but also investors seem to be more aware of the use of APMs post-Regulation G. Black, et al. (2012, pp. 876, 902) find that the regulations have increased the investors' awareness of the topic and the opportunistic possibilities those figures present. Moreover, they report that investors seem to see APMs as more trustworthy in the post-SOX period and seem to rely more on APMs that are not obviously misleading. However, if disclosed APMs are obviously misleading, investors seem to discount those figures rigorously. Furthermore, Allee, et al. (2007, p. 221) confirm that investors do not rely on press releases that overemphasize APMs in the post-Regulation G period.

A number of studies concludes that the SEC has to some extent achieved its goals of creating a more dependable environment for investors and regulate the mostly free playground of publishing APMs for companies more strongly. Therefore, they deduce that the intervention was both necessary and effective (Entwistle, et al., 2006b, p. 355; Black, et al., 2012, p. 902). However, Black, et al. (2012, p. 878) also find that with the exception of a temporary but significant decline immediately after the passing of SOX, the disclosure of APMs has increased steadily since 1998. Appropriately enough, on August 1, 2007 the SEC has issued tips for investors how to deal with APMs and alerting them to read the financial statements of companies carefully (U.S. Securities and Exchange Commission, 2007). This advice in conjunction with the announcement of the SEC's chairwoman Mary Jo White in March 2016 to examine a further regulation by the federal authorities due to the increasing usage of APMs (U.S. Chamber of Commerce, 2016) show that the SEC is still not satisfied with the results of Regulation G and the other rules. On May 17, 2016 then the SEC's Division of Corporate Finance released new and revised "Compliance and Disclosure Interpretations" (C&DIs) expanding the texts of Regulation G and Item 10(e) of Regulation S-K without changing the existing rules (Davis Polk & Wardell LLP, 2016, p. 1). The SEC herein again emphasized the correct calculation of APMs as well as a presentation that is not leading to misunderstandings. Furthermore, SEC officials have stated that there are considerations to enhance the existing rules and even create additional enforcement actions (p. 3).

2.3. Legal Framework Regarding Alternative Performance Measures in the EU

2.3.1. Necessity of a Regulation in Germany and the EU

Compared to the USA, the European Union and Germany are relatively far behind with the regulation of APMs. Whereas the US had already implemented regulations through the introduction of Regulation G and further rules in 2003, companies in the EU were subject to local accounting laws and regulations until 2004 with limited or no implications on the disclosure of APMs (Brouwer, 2013, p. 12). The Dutch Accounting Standards Board prohibited the use of EBITDA and EBITA on the income statement already in 2001 (p. 25). German legislation, however, only contained the complete randomness by reforming the *Wertpapierhandelsgesetz* (WpHG) through the fourth *Finanzmarktförderungsgesetz* in 2002 (Gronewold & Sellhorn, 2009, p. 110) and prohibiting possibly misleading information regarding the voluntary disclosure of APMs in press releases in 2004 (Thale, 2013, p. 53). Nonetheless, for EU listed companies that have adopted IFRS in 2005, those national laws were no longer applicable for financial statements. IFRS offers great freedom for companies to present financial information and APMs more positively than GAAP figures (Brouwer, 2013, pp. 15-16). Even though most expenses and incomes are forbidden to be classified as “extraordinary items” through IAS 1.85 since 2005 (Gronewold & Sellhorn, 2009, p. 108), the management report in financial statements is currently out of scope of the IAS regulations due to a lack of corresponding instruments in IFRS (Hitz & Jenniges, 2008, p. 238). This is problematic as auditors in Germany are obliged to examine the plausibility of APMs according to IDW PS 202 but only in the annual report and not the management report (Thale, 2013, p. 53).

In order to regulate the use of APMs in the EU, several projects were initiated over time. However, neither the joint project called “Reporting Performance” between the International Accounting Standards Board (IASB) and the British Accounting Standards Board (ASB) with the goal to introduce a common APM calculation scheme (Hillebrandt & Sellhorn, 2002b, p. 154) nor the joint project called “Financial Statements Presentation” by the IASB and the Financial Accounting Standards Board (FASB) in 2004 encouraged the issuance of guidelines regarding the use of APMs (Thale, 2013, p. 54). This lack of regulation in the EU and the increased freedom for companies through the adoption of IFRS that was accompanied by a more intensive use of APMs also in Germany (Großmann, 2007, p. 6) led to a high demand for regulation.

2.3.2. CESR Recommendations on Alternative Performance Measures

The Committee of European Securities Regulators (CESR) was a network of EU member state authorities that advised the European Commission in securities questions and promoted consistent supervision of securities trading across the member states of the EU. It was established by the European Commission in 2001 and replaced by the European Securities and Markets Authority (ESMA) in 2011 (ESMA, n.d.). In October 2005, the CESR issued its Recommendations on Alternative Performance Measures with the goal to provide transparent and unambiguous information on financial performance for investors containing non-binding proposals for EU-listed companies that publish APMs (CESR, 2005, pp. 2, 5)¹⁶. The principles of the recommendations should be applied to any kind of reporting, with the exception of prospectuses, such as press releases, when financial information are included (p. 5).

The CESR defines APMs as any measure other than GAAP measures that are included in audited financial statements. However, APMs are either derived from audited financial statements or are calculated by alternative methodology other than GAAP. The CESR divides APMs into two categories. The first category includes all measures that result from the adjustments of line items in the income statement, balance sheet, or cash flow statement, such as EBITDA or earnings before one-time charges. The second category comprises additional performance indicators that reflect business activity, projection of future cash-flows, or forward-looking indicators (pp. 3-4).

Similar to the regulations by the SEC, the CESR advises firms to present APMs only in combination with GAAP figures and to provide a reconciliation from APMs to GAAP figures. Furthermore, companies should label APMs in a meaningful way and avoid confusing or misleading titles. Moreover, the used APMs should be defined as well as the adjustments that were made in order to calculate the APMs. Thereby, it should be explained how the APMs are used internally in order to underline the relevance of those figures to investors. In order to make investors understand how APMs have developed over time, comparable information for previous periods should be provided and the definition of APMs should be consistent over time to avoid confusion. Similarly to the SEC's regulation, GAAP figures should be presented more prominently than APMs or at least with equal prominence to them. Lastly, the CESR advises companies to disclose if the used APMs had been subject to a separate auditor's review and what

¹⁶ If not indicated otherwise through a reference, the following explanations regarding the CESR Recommendations on Alternative Performance Measures refer to the original guidelines by the CESR.

its conclusion was. Generally, financial information should always be presented understandably, reliably, and in a comparable and relevant manner (pp. 5-6).

Kleinmanns (2016, p. 135) emphasizes again that the CESR Recommendations have no binding effect that is comparable to traditional sources of law. The recommendations are not legally binding and the EU member states are therefore not obliged to follow their instructions.

2.3.3. IOSCO Statement on Non-GAAP Financial Measures

The International Organization of Securities Commissions (IOSCO) was established in 1983 and is regarded as the worldwide standard setter for the securities sector. Its membership regulates more than 95% of the world's securities markets. The IOSCO's purpose is to develop, implement, and promote compliance to internationally recognized standards for securities regulations (IOSCO, 2017a). Already in 2002 – similar to the SEC – the IOSCO published a “Cautionary Statement Regarding Non-GAAP Results Measures” as an alert to investors and companies (IOSCO, 2002). The increased inadequate use of APMs has then in June 2016 led to the release of the IOSCO Statement on Non-GAAP Financial Measures that includes advice on the presentation of APMs and applies to APMs that are disclosed outside of financial statements such as in press releases or the Operating and Financial Review (IOSCO, 2016). As Germany is member of the IOSCO (see IOSCO Membership Map in Appendix A.2), the IOSCO Statement is applying to German companies. However, similar to the CESR Recommendations on Alternative Performance Measures, the IOSCO Statement on Non-GAAP Financial Measures is not legally binding.

The IOSCO defines APMs as any numerical measure that is not a GAAP measure and provides information about a company's “current, historical or future financial performance, financial position or cash flow” (IOSCO, 2016, p. 3)¹⁷. The IOSCO recognizes the advantages of APMs as they provide firms with flexibility in publishing value-relevant, company-specific information that allow investors to gain additional insight into a firm's financial performance. However, the IOSCO also sees the problems with APMs that arise when APMs are presented inconsistently or they obscure the results of GAAP figures. Moreover, the statement criticizes the lack of inter-company and multi-period comparability due to the lack of a standardized meaning of APMs.

¹⁷ If not indicated otherwise through a reference, the following explanations regarding the IOSCO Statement on Non-GAAP Financial Measures refer to the original statement of the IOSCO.

Therefore, the IOSCO provides advice to companies in order to improve the usage and recognition of APMs (p. 2).

The IOSCO advises companies to provide APMs in a clear and useful manner to investors and prevent misleading presentations. Moreover, companies should explain the meaning, purpose, and calculation of disclosed APMs and label them in a meaningful way. Furthermore, firms should provide information as to why an APM is useful to the investor and how the company uses the figure internally. The IOSCO also advises companies to present GAAP figures with equal or greater prominence compared to APMs and to provide a clear quantitative reconciliation between the two figures. Moreover, APMs should be provided consistently for prior time periods with easily accessible information regarding the figures. In addition, when calculating APMs, firms should avoid to falsely label items as non-recurring when they are not. In general, APMs should not be used in order to avoid presenting adverse information to the market (pp. 2-5).

In terms of content, the IOSCO Statement on Non-GAAP Financial Measures gives similar advice as the CESR Recommendations on Alternative Performance Measures. Nonetheless, the scope of the two documents is significantly different. Whereas the CESR focuses mainly on financial information that is published in earnings releases such as press releases, the IOSCO focuses on information that is provided with but not as part of the annual report, namely the management report.

2.3.4. ESMA Guidelines on Alternative Performance Measures

The European Markets and Securities Authority (ESMA) was founded on January 1, 2011 as a consequence of the Larosière report that recommended the establishment of European System of Financial Supervision (ESFS). It replaced the CESR and as its successor took over all its tasks and responsibilities as the European securities authority. The ESMA strives to enhance investor protection and promote orderly and stable financial markets in the EU (ESMA, n.d.).

On February 13, 2014 the ESMA published a “Consultation Paper” as a successor of the CESR Recommendations on Alternative Performance Measures with the goal to replace them (ESMA, 2014). On June 30, 2015 the ESMA published the Final Report on the Consultation Paper including the feedback and remarks of the submitted statements regarding the ESMA’s proposals (ESMA, 2015b) before finally issuing the ESMA Guidelines on Alternative Performance Measures on October 5, 2015. The

finalized guidelines are valid for disclosures after July 3, 2016 and apply specifically to APMs in prospectuses and regulated information – like management reports or ad-hoc disclosures – by companies whose securities are traded on a public market. The guidelines explicitly do not apply to financial statements (ESMA, 2015a, pp. 1-2). The Final Report by the ESMA had revised its proposed scope after criticism of being too ambitious. Hereinafter, financial statements were excluded from the scope. The exclusion of financial statements from the scope of the ESMA Guidelines was justified by financial statements being “already covered by the applicable financial reporting framework” (Deloitte, 2015). Thereby, the ESMA considers regulations regarding financial statements explicitly as a task of the IASB (Dinh & Thielemann, 2016, p. 416)¹⁸. With the help of its guidelines, the ESMA aims at increasing the “usefulness and transparency” of APMs for investors and improving the “comparability, reliability, and comprehensibility” of those figures (ESMA, 2017c). According to the ESMA, a common approach to deal with APMs is thereby “necessary to ensure consistent, efficient and effective supervisory practices” (ESMA, 2015a, pp. 4-5)¹⁹.

The ESMA defines APMs as a financial measure, which is not a measure defined by GAAP, that displays “historical or future financial performance, position or cash-flow” (pp. 7-8). Thereby, the APM is usually based on or deduced from a GAAP figure, mostly by adding or subtracting amounts (pp. 7-8). The ESMA defines GAAP as either EU-IFRS, the national accounting standards of a member state, or an accounting standard applied by a non-member country that is accepted by the EU (Kleinmanns, 2016, p. 134). In order to make APMs easily analyzable and comprehensible for investors, companies should define APMs in a clear and readable way. Additionally to the definition of the APM itself, firms should provide the basis of calculation as well as underlying assumptions and hypotheses. In order to decrease confusion regarding APMs, companies should give those figures meaningful labels that reflect the content and the calculation basis adequately. Thereby, titles should not be overly optimistic or confusingly similar to GAAP figures, nor should items be mislabeled as non-recurring or unusual if they affected previous periods and will affect future periods again. Moreover, companies should disclose a reconciliation of the APM to the most directly comparable GAAP figure in the financial statement as well as the GAAP figure itself. Thereby, the APM should not be presented with more prominence than the GAAP

¹⁸ On December 18, 2014 the IASB finished a project under the name “Disclosure Initiative”. This project had significant impact on the requirements regarding IAS 1 with explicit reference to APMs. The revised regulations clarify which qualitative requirements subtotals and breakdowns of the structural scheme have to fulfill (Deloitte, n.d.; Kleinmanns, 2016, pp. 134-135).

¹⁹ If not indicated otherwise through a reference, the following explanations regarding the ESMA Guidelines on Alternative Performance Measures refer to the original guidelines by the ESMA.

figure. Furthermore, firms should explain the usefulness of APMs in order to allow investors to understand their relevance and reliability. If a company discloses an APM, it should always provide comparatives to previous periods in order to show the development of an APM. Thereby, the definition and calculation of an APM should always be consistent over time. In case a company redefines an APM or a company decides to no longer disclose an APM, the firm should explain the changes and the reasoning behind said changes. The ESMA explicitly allows compliance by reference if the documents, which are referred to, are easily accessible for investors (pp. 7-10).

The overall goal of the ESMA guidelines is to increase the comparability, reliability, and comprehensibility of disclosed APMs. Thereby, the ESMA tries to achieve its stated mission of protecting (possible) investors (Ruhwedel, et al., 2017, p. 20). This fits to the reasons for the guidelines given by the ESMA in a Public Statement (ESMA, 2016), in which the ESMA again mentions the possibly misleading character of APMs and the dangers they inherit for investors. The guidelines are generally well accepted by the public. Marc Tüngler, CEO of the *Deutsche Schutzvereinigung für Wertpapierbesitz*, states that the guidelines increase the hygiene at the capital markets as well as the trust of the investors by setting more boundaries to the disclosure of APMs (Fockenbrock, 2016, p. 20).

When comparing the three presented guidelines on APMs regarding the member states of the EU – i.e. the CESR Recommendations, the IOSCO Statement as an international guideline, and the ESMA Guidelines – it becomes apparent that none seeks to prohibit the publication of APMs completely. In terms of content, the CESR Recommendations, the IOSCO Statement, and the ESMA Guidelines do not offer significant differences. Especially when comparing the CESR Recommendations and the ESMA Guidelines, one recognizes the connection between those two organizations as some of the paragraphs are literally the same wording. Merely the more extensive and more specific definition of APMs as well as the different scope of the documents seems to be differentiating (Wühst & Rosner, 2015, pp. 527-528; Kleinmanns, 2016, p. 136). Furthermore, the ESMA newly includes in its guidelines the necessity to give reasons if an APM is no longer disclosed. (Wühst & Rosner, 2015, p. 529) However, due to the lack of differences in content some authors question the effectiveness of the new guidelines (Wühst & Rosner, 2015, p. 525).

In contrast to the CESR Recommendations and the IOSCO Statement, the ESMA Guidelines on Alternative Performance Measures have serious legal implications. In accordance with Article 16 of the ESMA order (Europäisches Parlament, 2010) the ESMA Guidelines are published within the ESFS in order to establish supervisory

procedures and secure a common and uniform application of EU law. The ESMA has thereby stated that it expects the authorities of the member states to comply to these guidelines and enforce the compliance within the countries by making them part of their supervisory practices (Deloitte, 2016a). The binding force of the guidelines is thereby due to a subsidiary obeying duty, i.e. the companies listed in a country have to follow those rules if the securities authority of the member state has complied to the regulations (the complete mechanism can be seen in Appendix A.3). Within the context of the “comply-or-explain” mechanism of the ESMA, the German *Bundesanstalt für Finanzdienstleistungsaufsicht* (BaFin) has confirmed its intent to follow the ESMA guidelines (see Appendix A.4). Therefore, the guidelines are applicable and legally binding for German listed companies (Kleinmanns, 2016, p. 135).

The effectiveness of the guidelines, however, depends heavily on the steadfastness of the respective authorities of the member states – as the BaFin and the *Deutsche Prüfstelle für Rechnungslegung* (DPR) in Germany – and their enforcement of the regulations (Kleinmanns, 2016, p. 136). The DPR seems to follow the ESMA’s call and published the national auditing emphasis for 2016 for German listed companies on November 3, 2016 (BDO Deutschland, 2017). Thereby, the DPR lists the presentation of financial performance as one of the central points of the 2016 audits and refers to the European Common Enforcement Priorities (ECEP) by the ESMA (Ruhwedel, et al., 2017, p. 21). Within the ECEP, which were jointly published by the ESMA and the European national enforcers on October 28, 2016, the ESMA requires compliance with the ESMA Guidelines and reminds firms to present APMs in a non-misleading way and in accordance with IAS 1 (BDO Deutschland, 2017).

2.3.5. Studies on Alternative Performance Measures in the EU and Germany

This chapter will present a number of studies on the usage of APMs by German based companies. In order to give insight into the role of German companies in the EU and the usage of APMs in Germany in comparison to other EU member state, it will start off by presenting a study on APMs in several member states of the EU.

2.3.5.1. Brouwer (2013) on the EU Context

The study by Brouwer is one of the first to examine the use of APMs in the EU context. Merely Isidro and Marques (2008, p. 5) offer some insight in the European environment

with their investigation of year-end earnings press releases of 321 European firms in 2003 to 2005. Hereby they find that the disclosure of and the emphasis on APMs depends on several company characteristics such as the country the company is listed in, the firm's industry, size, performance, leverage, and corporate governance. Overall, they find the transparency regarding the nature and the amount of adjustments made to arrive at APMs to be rather low.

Brouwer (2013, p. 7) analyzes about 17,000 EU financial statements from 15 EU member states in the period of 1996 to 2007 in order to come up with empirical evidence on the reporting of APMs in the EU. Similar to practices in German literature, he differentiates between EB figures and so-called normalized performance measures (p. 76), which would be categorized as APMs in the narrower sense. Furthermore, Brouwer investigates the impact of the EU-wide adoption of IFRS in 2005 on the use of APMs. He finds that the national standard setting of the member states still has a significant influence on the reporting of APMs while the effect of the implementation of IFRS seems to be rather low (pp. 64-65). Overall, the usage of APMs had increased sharply from 35% of financial statements including APMs in 1998 to 60% in 2002 and 68% in 2007 showing a similar trend to US-American companies (pp. 78, 81). Table 1 shows that when it comes to the disclosure of APMs in financial statements, Germany is slightly above average with 61% of financial statements by German companies disclosing an APM compared to 59% overall.

Table 1: Percentage of Financial Statements that Include APMs (1998-2007)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Weighted Average
Austria	44%	44%	62%	70%	69%	71%	75%	75%	74%	82%	70%
Belgium	67%	54%	57%	64%	60%	61%	73%	79%	82%	78%	68%
Denmark	58%	57%	60%	54%	61%	62%	51%	65%	62%	69%	60%
Finland	36%	30%	36%	32%	38%	44%	52%	41%	43%	44%	40%
France	46%	51%	50%	58%	63%	61%	64%	70%	72%	78%	64%
Germany	23%	37%	53%	60%	66%	69%	67%	67%	67%	66%	61%
Greece	0%	38%	36%	40%	49%	56%	56%	57%	58%	69%	53%
Ireland	37%	47%	48%	49%	53%	49%	50%	55%	63%	59%	52%
Italy	24%	13%	22%	45%	52%	53%	55%	63%	68%	71%	50%
Luxembourg	0%	0%	14%	50%	25%	47%	42%	57%	38%	43%	38%
Netherlands	16%	23%	40%	47%	54%	53%	57%	57%	51%	57%	47%
Portugal	0%	38%	50%	55%	69%	72%	74%	65%	77%	83%	68%
Spain	17%	48%	69%	73%	74%	83%	65%	81%	88%	88%	75%
Sweden	25%	24%	35%	42%	37%	39%	42%	37%	40%	47%	38%
United Kingdom	48%	53%	58%	61%	64%	64%	69%	71%	71%	73%	65%
Weighted Average	35%	41%	50%	56%	60%	61%	63%	65%	66%	68%	59%

Note: Table 2 shows the percentage of financial statements per country and year that include either an alternative performance measure that excludes depreciation or amortization or a normalised alternative performance measure for the period 1998-2007.

Source: Brouwer (2013, p. 77)

When splitting APMs into APMs in a broader sense, i.e. EB figures, and APMs in a narrower sense, Germany has an above average use of EB figures and a very low use

of normalized earnings figures. Overall in the EU, the use of EB figures increased from 16% in 1998 to 40% in 2007, while the use of normalized earnings figures increased from 24% to 40% (pp. 78-79).

Brouwer further examined the strategic use of APMs in the EU. He finds that EU companies use APMs significantly more often in order to meet or beat an earnings benchmark that is failed to meet by a GAAP figure. Apparently, consistent with US-based evidence, EU companies also publish APMs due to strategic motives. Concerns that the introduction of IFRS – due to its higher disclosure freedom for companies – would lead to an increased strategic use of APMs, cannot be confirmed by the empirical evidence of Brouwer. However, a positive effect of the CESR Recommendations on the use of APMs in the EU cannot be confirmed either (pp. 110-113).

2.3.5.2. Hillebrandt & Sellhorn (2002)

The study by Hillebrandt and Sellhorn (2002a, pp. 3-4) constitutes the first well-published evidence on the reporting of APMs in Germany. The authors analyzed the financial statements of 127 DAX100 (consisting of the DAX30 and MDAX firms) and NEMAX50 companies from the financial year 2000. The sample is adjusted for firms from the banking and insurance sector as well as for corporations with limited data available. Hillebrandt and Sellhorn find that of those 127 sample companies approximately 90% published at least one APM in their annual report. Thereby, EBIT and EBITDA seem to be the most popular APMs as about 88% of the sample firms and approximately 42% respectively of the sample companies publish them. However, those two figures are not the only APMs used by firms as the authors identify a total of 43 distinct forms of APMs in the annual reports of the sample firms (pp. 3-4). The authors did not only document the plain use of APMs but also examined the motives behind the disclosure practices. Thereby, the empirical evidence shows that companies are more likely to report upward-biased APMs if profitability measures such as Return on Equity deliver weak results. Moreover, due to a lack of comprehensible reconciliations and explanations regarding the disclosed APMs, the study draws a picture of low transparency for those kinds of figures.

Additionally, Hillebrandt and Sellhorn also examined the existence of patterns in the characteristics of firms that disclose APMs. They find that the amount of goodwill disclosed in the balance sheet of a company has an impact on the decision whether or not a company publishes an APM. As a high amount of goodwill in the balance sheet leads to rather high amounts of amortization, which decrease earnings measures before

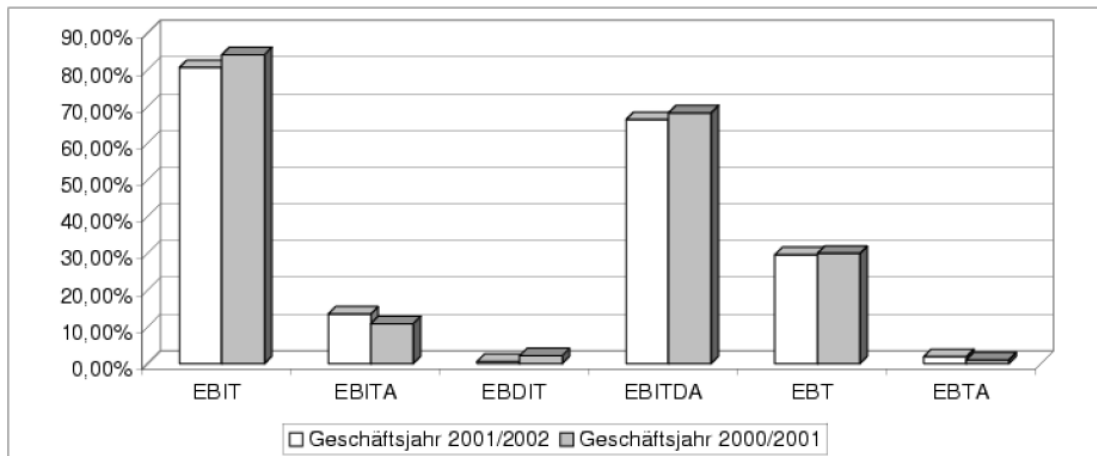
amortization, the likelihood of the disclosure of an EBITDA figure is significantly increased if this constellation is present in a firm's annual statement. Regarding the financial position of a company, Hillebrandt and Sellhorn cannot find the existence of a relationship between the profitability of a firm and the probability that a corporation publishes an APM (pp. 23-24).

2.3.5.3. Küting & Heiden (2002/2003)

In two related studies in 2002 and 2003, Küting and Heiden continued the empirical work of Hillebrandt and Sellhorn by examining the reporting of APMs in German annual reports for the financial years 2001 and 2002 respectively. In comparison to the study by Hillebrandt and Sellhorn, Küting and Heiden examined a larger amount of companies by including the firms of DAX30, MDAX, NEMAX50, and SDAX. Furthermore, they put a specific focus on the implications of their results for the external performance analysis for investors and analysts (2002, p. 1086). Whereas in their study from 2002 the authors examined the annual reports of 205 companies (2002, p. 1807), the 2003 study comprised the annual reports of merely 155 companies with index affiliation from the industrial, commercial, and service sector (2003, p. 1548). This study examines solely the disclosure of APMs in the broader sense as the primary focus is on EB figures.

Küting and Heiden find that in 2002, 183 of the 205 sample companies (89%) published at least one EB figure (2002, p. 1807). This result is confirmed in 2003, where 90% of the examined firms show the same behavior (2003, p. 1548). Thereby, 68% of the sample companies (61% in 2002, p. 1807) publish even two or more EB figures in their annual statement (2003, p. 1548). In both years, EBIT and EBITDA seem to be the most popular APMs among the sample companies (2002, p. 1087; 2003, p. 1548), while especially DAX30 companies tend to publish EBITDA figures (2002, p. 1087). The still increasing popularity of EBIT and EBITDA can be also seen in Figure 3. While the popularity of most other EB figures decreased from 2001 to 2003, EBIT and EBITDA are still on the rise. Regardless of the tendency that DAX30 companies are more likely to disclose EBITDA figures than firms from other indices, US-American results that the likelihood of publishing an APM is determined by the size of the company,

cannot be confirmed by the data as in all examined indices the disclosure of APMs is similarly popular among the firms²⁰ (2002, p. 1087).



Source: Küting & Heiden (2003, p. 1548)

Figure 3: Development of EB Figures in German Annual Reports 2001-2002

Interestingly, in 2003, empirical data suggested that companies, which are publishing their annual reports under the regulations of HGB or IAS, are disclosing EB figures more often than firms that report under the standards of US-GAAP. The authors assign this finding to the first effects of the implementation of SOX in the USA at that point in time (2003, p. 1548). As a continuation of the results of Hillebrandt and Sellhorn, Küting and Heiden find that for the annual reports of the financial year 2001 it can be confirmed that companies with high goodwill positions in their balance sheet are significantly more likely to disclose an EBITDA figure than companies with low or medium levels of goodwill (2002, p. 1088). However, this observation cannot be confirmed for the annual reports of the financial year 2002 (2003, p. 1549).

In comparison to the results for 2001 where reconciliations were the exception leading to a lack of comprehensibility for investors (2002, pp. 1087-1088), the evidence for 2002 suggests an increase in reconciliations as now 28% of the companies that publish an APM are either including the EB figure in the Income Statement or are disclosing a separate comprehensible reconciliation within the annual report (2003, p. 1548). This observation is especially distinctive for DAX100 corporations. Nonetheless, the reconciliations are mostly not provided for every APM disclosed (2003, p. 1548). Regarding the placement of the EB figures in the annual report, Küting and Heiden find in their

²⁰ Over 90% of DAX30 companies, 90% of MDAX companies, 88% of NEMAX50 companies, and 89% of SDAX companies publish at least one EBIT figure in their annual report (Küting & Heiden, 2002, p. 1087)

study from 2003 that the disclosure takes place to almost similar parts in the audited as well as the non-audited parts of the annual report (p. 1548). This signals an improvement as the findings in the 2002 study showed that APMs are mostly disclosed in the non-audited key figures or the preface of the management board (p. 1087).

Küting and Heiden conclude that the publication of earnings figures with an “as-if” assumption hinders the effective performance analysis for investors. Furthermore, they suggest that a higher degree of effectiveness of APMs could be assumed if those figures were to be published in the management report or the annex including comprehensible reconciliations (2002, p. 1088).

2.3.5.4. Großmann (2007)

The study by Großmann (2007, pp. 85-86) focuses on the reporting behavior of German stock-listed companies of the DAX30 and the MDAX in the years 2000 to 2003. She finds that about 86% of the sample companies disclose at least one APM in their financial statement. Thereby, the firms focus on measures from the EB figures. 91% of DAX30 and MDAX companies disclose at least one EB figure and 71% of the sample firms present more than one EB figure (p. 92). Among those companies, EBIT seems to be the most popular APM as approximately 92% of the firms disclose this figure. Within the financial statements, corporations frequently present APMs with more emphasis than and often before the regulated GAAP figures, e.g. in the Financial Highlights (pp. 86-87). Thereby, the disclosed EBITDA figures exceed the GAAP measures in every examined quarter and are on average 5.58 times higher. Großmann finds that especially companies that disclose a loss according to GAAP figures use the APM EBITDA in order to improve the presentation of the earnings result towards investors and analysts (pp. 100-101). Hereby, 76% of all annual or quarterly earnings results, which were published between 2000 and 2003, that reported a negative figure were transformed into a positive EBITDA figure (p. 94). Lastly, the study finds that, when several APMs are published, the disclosure of an explanation or reconciliation is not provided for every published APM regularly (p. 89). Concluding, due to the current practices of German publicly listed companies regarding APMs, the publication of those figures does not lead to an improved assessment of the future development of a company and therefore not to simplification of the decision-making process for investors.

2.3.5.5. Hitz & Jenniges (2008)

The study by Hitz and Jenniges (2008, p. 236) examines the disclosure practices of companies, which balance according to IFRS and are part of the German HDAX, for the financial year 2006. The HDAX consists of the companies that make up DAX30, MDAX, and TecDAX. Hitz and Jenniges use an adjusted sample by only examining firms that disclose under the regulations of IFRS. Moreover, they merely examine selected parts of the financial statements (p. 244). This study delivers the first evidence for the disclosure of APMs in a narrower sense for large German companies in the HDAX. Hitz and Jenniges thereby find that APMs are an integral part of financial statements as more than 80% of the sample companies publish APMs. Thereby, EBIT and EBITDA are the most popular figures. Additionally to those APMs in a wider sense, about one fifth of the firms publish modified earnings figures, i.e. APMs in a narrower sense. Sometimes those figures are even exclusively the APMs used by a company. As mentioned before, these APMs in a narrower sense are difficult to interpret and oftentimes difficult to comprehend for investors. Thereby, the modified earnings figures are on average substantially higher than the corresponding GAAP figure as preferably expense items are excluded. In contrast, EBIT figures are more easily comprehensible as they are in more than two thirds of the cases part of the IFRS Income Statement as a subtotal. However, only one third of the published APMs are explained by reconciliation. Nonetheless, Hitz and Jenniges do not find evidence for a widespread opportunistic disclosure motive (p. 245). Nonetheless, they criticize the lack of universally binding regulations for the disclosure of APMs (p. 244).

2.3.5.6. Hitz (2010)

The study by Hitz (2010b, pp. 63, 71) documents the disclosure of APMs by DAX30 and MDAX companies listed at the Frankfurt Stock Exchange for the financial years 2005 and 2006 by examining a sample of 566 quarterly earnings press releases. Those earnings announcements typically accompany the publication of annual or quarterly reports (pp. 70-71). He finds that the sample companies make extensive use of EB figures and more importantly of APMs in the narrower sense in a substantial number of cases and with a large variety (p. 65). Hitz's results show that EB figures are disclosed equally to GAAP earnings figures in terms of regularity and emphasis as about 90% of the sample companies report this kind of figures. Additionally, APMs in the narrower sense are disclosed in about 33% of the earnings releases. Thereby, the adjusted

measure, i.e. the APM, is higher than its corresponding GAAP earnings figure in approximately 75% of the cases. The evidence shows that the EB figures or the APMs in a narrower sense are presented with more emphasis in the disclosure than the GAAP figure. However, in only one third of the cases the exclusions that were necessary in order to come up with the APM are explained in nature and amount in a reconciliation leading to low transparency of earnings adjustments (p. 82). Hitz states that the results suggest that due to the observed reporting patterns the reporting of APMs may be to some extent motivated by opportunistic and strategic disclosure motives that could potentially harm non-professional investors (p. 79). Nonetheless, he is not in favor of an all-encompassing prohibition of APMs but rather suggests enforcing the use of reconciliations more strictly while avoiding a standardization of APMs. Furthermore, the evidence suggests that the CESR Recommendations in 2005 had no impact on the frequency or emphasis of APM reporting nor did it lead to an increase in reconciliation quality (p. 82).

2.3.5.7. Thale (2013)

The study by Thale (2013, p. 86) examines the use of APMs in the financial statements of the companies comprising the DAX30 and MDAX in the financial year 2011. The sample is adjusted for companies from the banking and insurance sector. She finds that except one firm all sample companies (99%) disclose APMs. Moreover, 53% of the firms publish APMs in the narrower sense. Thereby, DAX30 companies disclose APMs in the narrower sense more often than MDAX corporations. 81% of the sample companies publish more than two APMs. Whereas firms comprising the DAX30 are most commonly disclosing two APMs, MDAX companies normally publish three APMs. On average, the sample firms report one APM in the narrower sense in their financial statements (pp. 88-89). The most popular APMs among the sample companies are the EBIT being used in 66% of the cases as well as the EBITDA being used in 65% of the cases (p. 90). Thereby, EBT, EBIT, and EBITDA can often easily be calculated with the help of the income statements (p. 94). However, some differences can arise between firms in the calculation of these figures as only about 88% of the sample companies define the EBIT in the same way. Thereby, the majority of the firms defines the EBIT as the result before taxes, interest, other financial results, and income from investments (pp. 93-94). When companies disclose an adjusted EBIT or EBITDA to the normal EBIT or EBITDA figures, the adjusted EBIT exceeds the normal EBIT by about 9.5% and the adjusted EBITDA exceeds the normal EBITDA by approximately 3.7% (p. 96). Thale finds further that all APMs in a narrower sense can be reconstructed by data

from the financial statements. Thereby, 69% of the sample companies provide reconciliation in tabular form. Overall, she recognizes an improvement in the transparency for both APMs in the narrower and in the wider sense (p. 109). However, the results show no common patterns for the exclusion of expense and income items. According to the results, the most common adjustments are valuation adjustments and restructuring costs (pp. 100, 102). Furthermore, Thale finds that the common assumption that the disclosure of an APM in the narrower sense should replace a negative GAAP figure by a positive APM cannot be confirmed by the results as only 7.7% of the companies that disclose an APM have had a loss. However, the results suggest that APMs in the narrower sense are published by companies that had to disclose an earnings decrease in comparison to the prior period. More than half of the companies in the sample that had to disclose an earnings decrease published APMs, whereby of the 10 companies with the most significant decrease seven firms disclosed APMs in the narrower sense (p. 105). In a related publication Ruhwedel and Thale (2013, p. 392) state that the practical relevance of APMs in Germany has been confirmed by the empirical results and suggest to oblige companies to disclose comprehensible reconciliations in order to increase transparency.

2.3.5.8. *Ruhwedel, et al. (2017)*

The study by Ruhwedel, et al. (2017, p. 21) examines the management reports of the financial statements of the companies comprising the DAX30 and the MDAX for the financial year 2015. The sample is thereby adjusted for firms from the banking and insurance sector. The authors find that 94% of the sample companies disclose at least one APM. Thereby, both DAX30 and MDAX companies publish on average approximately three APMs, whereby the figure of the MDAX firms is marginally higher. APMs in a narrower sense are published by 74% of the companies. Here, the figure for the DAX30 firms is significantly higher. With a publication rate of 58% among the sample companies, EBIT is the most popular APM (p. 22). The authors further find that when companies disclose an adjusted EBIT additionally to a normal EBIT, the modified version exceeds the normal EBIT in 92% of the cases. This is due to the preferred exclusion of expense items and suggests an opportunistic rather than an informative disclosure motive of the companies' managements. However, when taking a look at the calculation of the EBIT and defining a standardized EBIT, only about half of the sample companies publish an EBIT that exceeds the standardized version. Therefore, the oth-

er half discloses EBITs that are lower or equal to the standardized EBITs. This evidence does not suggest an opportunistic disclosure motive by the firms (p. 23)²¹.

2.3.5.9. Summary

The presented studies show that the publication of the CESR Recommendations in 2005 had limited to no impact on the disclosure practices of large German stock-listed companies. APMs are widespread in Germany and used with pleasure by the disclosing firms as they seem to make use of the advantages APMs offer for companies. In comparison to the APM disclosure practices of US-American companies, EB figures are way more prominent among German firms and represent the most popular APM category in Germany (Reimsbach, 2014, p. 480). When comparing US-American studies to German studies, it becomes apparent that US-based studies generally do not examine EB figures and focus much more on press releases than on financial statements (Brouwer, 2013, p. 62). Due to the low impact of the CESR Recommendations and the widespread usage of APMs in Germany, it will be interesting to compare the APM disclosure practices for large German stock-listed companies before the ESMA Guidelines with the reality after the ESMA Guidelines have become effective.

3. Empirical Examination of Management Reports of DAX and MDAX Corporations

3.1. Methodological Approach

For the collection of the data, the annual reports of three periods, namely the financial years 2014, 2015, and 2016, are examined. The annual reports are thus representing the database for the study. These annual reports are manually selected and downloaded from the webpages of the companies. The database is examined concerning the dissemination and disclosure frequency of APMs, the adjustments done in order to arrive at the APMs, and the reconciliations provided in order to increase the comprehensibility of APMs. As mentioned before, oftentimes companies are trying to influence

²¹ Even though, parts of the empirical evidence of this study are examining the same time period as Ruhwedel, et al. (2017), in 2015, the results between the two studies might differ. This is due to marginally different definitions of what APMs (inclusion in the examination presented in this Bachelor thesis of figures such as EPRA and FFO measures) as well as slightly different sample sizes as the composition of the MDAX is dependent on the date on the MDAX is examined.

investors by presenting APMs more prominently than GAAP figures within the annual report. Therefore, this study focuses on the key figure sections²² of the annual reports. However, in order to examine the use of reconciliations, also other parts of the annual reports are analyzed. For that purpose, the rest of the annual reports are scanned and examined by the help of a key word search (see Appendix B.1). The collection of the data takes place as a content analysis. The content analysis is an empirical method to systematically and comprehensibly describe the aspects in terms of content of documents in order to be able to interpret matters external of the document (Früh, 2007, p. 27). As qualitative and quantitative analyses share a number of factors, this study does not differentiate between the two forms of content analysis unlike its oftentimes separated in literature. Thus, this content analysis has to be understood as a qualitative-quantitative method (Früh, 2007, p. 74). The collected data can be regarded as secondary data since already existing figures within the annual reports of the DAX and MDAX companies are used (Schöneck & Voß, 2013, p. 27). Moreover, the data used has to be classified as non-official data as solely data published by companies are used (Bleymüller, et al., 2015, pp. 2-3). The analysis of the data is done by the means of descriptive statistics. Those comprise the collection, summary and organization of the collected data (Sullivan, 2010, p. 5).

3.2. Research Questions and Overall Goal

This empirical study aims at grasping the current situation of disclosure practices at the German capital market. Moreover, by comparing the current practices of the 2016 annual statements with the previous two years, the effects of the ESMA Guidelines are analyzed. In order to gain a more complete picture of the development of APM disclosures in Germany, the empirical results of this study are compared to the result of previous studies. Thus, similar research questions to prior studies are used. The overall question of this study deals with the topic of the ESMA Guidelines' impact on the disclosure practices of companies at the German capital market.

RQ: *How has the issuance of the ESMA Guidelines on Alternative Performance Measures influenced the reporting behavior regarding APMs of DAX30 and MDAX companies?*

From this research question all subsequent research questions are deduced. As mentioned before, the annual reports are analyzed for the dissemination and frequency of

²² Those parts are also referred to as Management Reports and Financial Overview Section.

APMs, the adjustments to GAAP figures in order to arrive at the APMs, and the reconciliations provided for investors. Thus, the following research questions can be clustered accordingly to these three fields.

The first category deals with the dissemination and frequency of APMs in the annual reports of the DAX30 and MDAX companies. The following research questions are aimed at providing results for this field:

RQ 1: *How many companies publish APMs in their annual report?*

RQ 2: *How have the number of companies publishing APMs and the number of APMs overall changed in the post-ESMA Guidelines period?*

RQ 3: *Which APMs are used overall and most frequently in the annual reports?*

The chosen database of annual reports from the years 2014, 2015, and 2016 offer sufficient data to examine the second research question. Nonetheless, the results will be compared to the analysis of prior studies in order to provide a more complete overview over the developments regarding the disclosure of APMs in Germany.

A second category of research questions tackles the analysis of adjustments that are used in order to arrive at an APM. Thus, the following research questions are used for this purpose:

RQ 4: *To what extent are common APMs adjusted in order to arrive at modified APMs in the annual reports?*

RQ 5: *Are the adjustments influencing the normal APMs in a positive or negative way?*

RQ 6: *Which schemes are used by the companies in order to calculate EBIT figures?*

RQ 7: *How did the issuance of the ESMA Guidelines change the adjustment practices of companies at the German capital market?*

By examining the amount and nature of adjustments that are used to calculate the APMs as well as whether these adjustments influence the monetary amount of APMs in comparison to the corresponding GAAP figures in a positive or negative way, the study tries to explore the transparency of APMs in German annual reports. Furthermore, the calls by some to standardize certain APMs are addressed by assessing the calculation schemes used by companies in order to come up with regularly used fig-

ures such as EBIT and EBITDA and how these figures are differing from a standardized measure.

The last category examines the reconciliations of disclosed APMs to the most directly comparable GAAP figures. Therefore, the following research questions are applied:

RQ 8: *How many of the sample companies are disclosing comprehensible reconciliations between APMs and GAAP figures?*

RQ 9: *Which are the most used adjustments reconciled by the sample companies?*

RQ 10: *How have the reconciliation practices changed subsequent to the ESMA Guidelines?*

As demanded in several previous studies, the ESMA Guidelines have increased the requirements for reconciliations in order to provide a higher level of transparency for investors. This category examines how reconciliation practices are prior and subsequent to the ESMA Guidelines and whether or not an effect of the new regulations is observable.

The research questions of the three categories are examined by the means of descriptive statistics. Frequency tables as well as graphs are the primary tool to determine the disclosure practices regarding APMs at the German capital market.

3.3. Sample Selection

This empirical examination seeks to analyze and depict the past and current situation of the reporting of APMs on the German capital market with respect to the effects of the ESMA Guidelines on Alternative Performance Measures. Therefore, the sample is comprised of the companies listed on the two largest German stock indices DAX30 and MDAX since these firms serve as role models to the economic landscape of German companies. The *Deutsche Aktienindex* (DAX) is the best-known German stock barometer and comprises the 30 largest and most liquid companies of the German capital market (therefore also the name DAX30). It represents approximately 80% of the market capitalization of all stock-listed public companies in Germany. The Mid-Cap-DAX (MDAX) consists of the 50 largest companies with the highest turnover subsequent to the DAX (Deutsche Börse Group, 2017). As the companies represented in these two indices are subject to strict publication regulations, their annual statements are publicly

and easily available. The compulsory publications as well as the high public exposure of the companies further lead to a high quality of data. Due to those reasons as well as the aforementioned exemplary role of these companies for the German market, the DAX30 and MDAX companies represent a fitting sample for the purposes of this examination.

As this study is not only interested in the current situation of the disclosure of APMs in Germany, but also in changes in the reporting behavior due to the legally binding guidelines of the ESMA, a period prior to the application of the guidelines as well as a period subsequent to the implementation is examined. Additionally to the financial years 2015 and 2016, the annual reports from the financial year 2014 are included in the scope in order to exclude specifics of the 2015 year prior to the ESMA guidelines. Thus, this study comprises the annual statements of the DAX30 and MDAX companies of the financial years 2014, 2015, and 2016. As the composition of the two indices changes regularly in annually (half-yearly for MDAX) reevaluations of company size and turnover, the annual reports for 2014, 2015, and 2016 are examined of the companies comprising DAX30 and MDAX on October 31, 2017. This limitation leads to the examination of annual reports from a year where a company might not have been part of one of the indices. Furthermore, in order to guarantee comparability to previous German studies, the sample is adjusted for companies from the banking and insurance sector. Moreover, the companies Metro AG and Uniper SE have been eliminated from the study as for the two firms, data is unavailable. Therefore, the following four companies of the DAX30 and the six firms of the MDAX were excluded from the examination (see Table 2). Thus, this study examines a total of 210 annual reports of 70 companies.

Table 2: Excluded DAX and MDAX Companies

Excluded DAX Companies	Excluded MDAX Companies
Allianz SE	Areal Bank AG
Commerzbank AG	Deutsche Pfandbriefbank Holding AG
Deutsche Bank AG	Hannover Rück SE
Munich RE Group	Metro AG
	Talanx AG
	Uniper SE

Own illustration based on Appendix B.2

Table 3 provides an overview over the sample size and the exclusion of companies according to the previously stated reasons. In total, eight companies have been excluded due to their belongingness to the banking or insurance sector. Moreover, two firms were eliminated because of a lack of data due to recent hiving offs from other

companies. An entire list of the companies that comprise the sample size can be found in Appendix B.2.

Table 3: Adjusted Sample Size

	DAX	MDAX	Total
Market listed companies	30	50	80
Companies from Banking and Insurance Sectors	4	4	8
Companies lacking sufficient data	0	2	2
Adjusted sample size	26	44	70

Own illustration based on Appendix B. 2

3.4. Results

3.4.1. Dissemination and Frequency

Companies publishing APMs

Regarding the dissemination and frequency of APM disclosures in the annual reports of the sample companies, the following part examines the so-called key figures or the financial overview of the management report of the annual reports. These are usually comprised in the cover flap of the annual report.

Table 4: Dissemination of APMs Among the Sample Companies

	Stock Index	Companies			Companies with APMs		Companies with APMs in Narrower Sense	
		total	sample	%	absol.	%	absol.	%
2014	DAX	30	26	87%	24	92%	15	58%
	MDAX	50	44	88%	44	100%	31	70%
	Total	80	70	88%	68	97%	46	66%
2015	DAX	30	26	87%	24	92%	18	69%
	MDAX	50	44	88%	44	100%	32	73%
	Total	80	70	88%	68	97%	50	71%
2016	DAX	30	26	87%	24	92%	16	62%
	MDAX	50	44	88%	43	98%	30	68%
	Total	80	70	88%	67	96%	46	66%

Own illustration based on Appendices B.3 to B.8

Table 4 shows that the absolute value and the percentage figure of companies in the DAX30 that publish APMs has not changed over the examined years 2014, 2015, and 2016. For each year 24 of the 26 DAX sample companies have disclosed APMs at a prominent place in their annual report. This is a portion of 92%. Neither the Infineon Technologies AG nor the Siemens AG publish any APM for the three sample years. Between 2014 and 2015, there is no change observable for the MDAX companies ei-

ther. For both years, all of the sample companies have published APMs in their annual reports. However, in 2016 a slight change is recognizable. Since Hugo Boss stopped reporting an adjusted EBITDA, now merely a number of 43 of 44 of the MDAX sample companies disclose at least one APM. This represents a portion of 98%. Due to this reporting stop also the total percentage figure has decreased slightly from 97% in 2014 and 2015 to 96% in 2016.

When observing APMs in the narrower sense, i.e. figures that have been adjusted for other items than seemingly standardized items such as taxes or depreciation, a higher number of changes is perceptible. Whereas a comparison of the reporting differences for both DAX and MDAX companies combined between 2014 and 2015 leads to the observation of an increase in the disclosure of APMs in the narrower sense from 66% of the sample companies to then 71%, the reporting of those figures decreased again by five percentage points to 66% of sample companies in 2016. The increase in 2015 was primarily due to a large increase in the reporting of APMs in the narrower sense of DAX companies. The percentage increased from 58% in 2014 to 69% in 2015. However, the percentage of MDAX companies rose as well. The decrease in 2016 was due to both, a decrease in the percentage of DAX companies and a decrease in the percentage of MDAX companies reporting APMs in the narrower sense.

Table 5: Sum of Published APMs (per Company)

	Stock Index	Companies			Sum of APMs published		Sum of APMs in Narrower Sense published	
		total	sample	%	absol.	per firm	absol.	per firm
2014	DAX	30	26	87%	76	2,9	27	1,0
	MDAX	50	44	88%	142	3,2	61	1,4
	Total	80	70	88%	218	3,1	88	1,3
2015	DAX	30	26	87%	79	3,0	30	1,2
	MDAX	50	44	88%	148	3,4	65	1,5
	Total	80	70	88%	227	3,2	95	1,4
2016	DAX	30	26	87%	73	2,8	27	1,0
	MDAX	50	44	88%	150	3,4	66	1,5
	Total	80	70	88%	223	3,2	93	1,3

Own illustration based on Appendices B.3 to B.8

Table 5 shows the development of the total number of APMs and APMs in the narrower sense published for the financial years 2014, 2015, and 2016. The evaluation shows that the total number of APMs published by DAX and MDAX companies has slightly decreased from 227 in 2015 to 223 in 2016. This is only a marginal effect, but reverses the trend of the years before where the number of published APMs rose by nine from 218 in 2014. The decrease in 2016 is due to a declined publication of APMs by DAX companies. In comparison to 2015, the firms of the highest German index published only 73 APMs in 2016 in comparison to 79 APMs in 2015. In contrast, the number of APMs published by MDAX companies rose slightly. Overall, the DAX and MDAX sam-

ple companies publish on average a number of 3.2 APMs per firm in 2016. This number is still marginally higher than the level of 2014 with 3.1 APMs per corporation. Thereby, MDAX firms publish more APMs than DAX companies with 3.4 APMs per firm compared to 2.8 APMs.

When looking at the total number of APMs in the narrower sense published by DAX and MDAX companies, it comes to the attention that the trend observable for all APMs is also transferable to APMs in the narrower sense. Similarly, the total number of APMs in the narrower sense published in 2016 has slightly decreased by two compared to 2015 with a number of 93 compared to 95. The decrease also follows a slight increase from 2014 to 2015. Thereby, the marginal drop also comes due to a decline of APMs in the narrower sense published by DAX companies while the number published by MDAX firms even increased by one when comparing the years 2015 and 2016. Overall, the DAX and MDAX sample companies on average disclose a number of 1.3 APMs in the narrower sense in 2016, which is equal to the level of 2014 and slightly lower than that in 2015. Thereby, the MDAX firms publish a number of 1.5 APMs in the narrower sense in 2016, while the DAX companies only disclose 1.0 APMs in the narrower sense.

Table 6: Number of APMs per Company

	Total			
	2014	2015	2016	Δ 2016-2015
0 APMs	2	2	3	1
1 APM	8	7	9	2
2 APMs	21	20	18	-2
3 APMs	17	15	14	-1
4 APMs	8	12	13	1
5+ APMs	14	14	13	-1

Own illustration based on Appendices B.3 to B.8 (see full table in Appendix B.9)

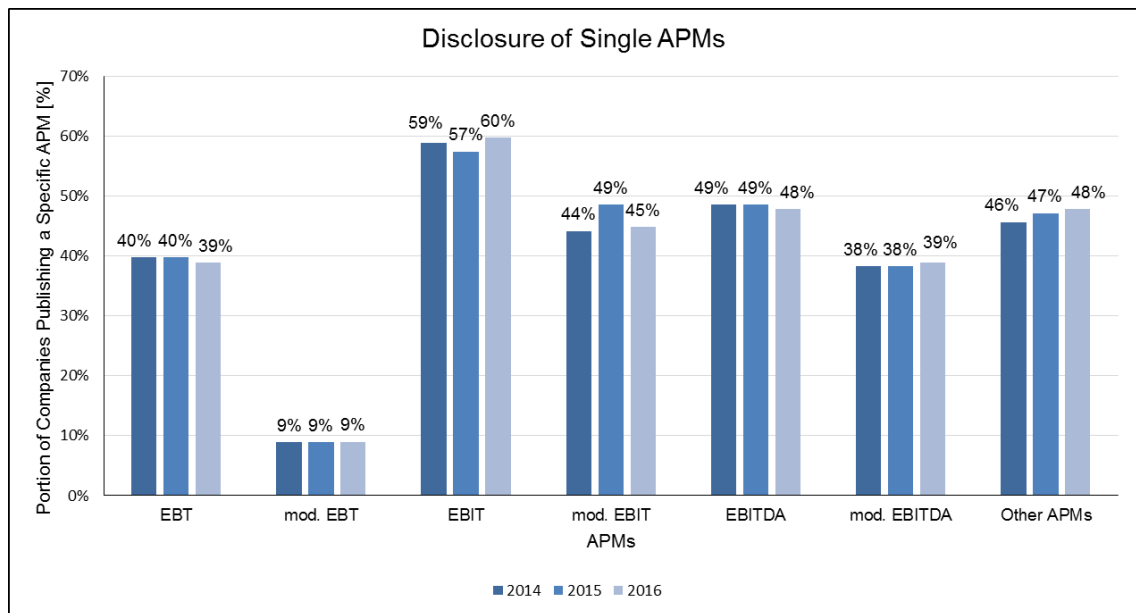
Table 6 shows the distribution of APMs per company for DAX and MDAX firms combined for the financial years 2014 to 2016. The table indicates that the number of companies that disclose no or only one APM has increased in 2016 compared to 2015, while the number of companies that publish two or more APMs has declined in the same time period. However, the vast majority of companies (83%) discloses two or more APMs in their annual reports. Nonetheless, as mentioned before, this figure has also decreased from 87% in 2015. The most APMs observed in the examination were published by the Stada Arzneimittel AG in 2016 with ten disclosed APMs in a single annual report.

Looking back at **RQ 1** it seems safe to say that the disclosure of APMs as well as of APMs in the narrower sense is widespread among the sample companies of DAX and MDAX. Thereby, the results coincide with the empirical evidence of prior studies discussed previously in Chapter 2.3.5. Only when comparing the observations by Thale (2013) concerning the publication of APMs in the narrower sense with the results of this study, it becomes apparent that the dissemination of those figures seems to have increased significantly, i.e. from 55% of the sample companies in 2012 to 66% in 2016. Thus, according to the overall results, APMs (in the narrower sense) seem to be well-established on the German capital market and are regularly used to communicate earnings figures.

When looking at **RQ 2** and comparing the dissemination of APMs among the sample companies between the financial years 2015 and 2016, an overall slight decline of the disclosure of APMs (in the narrower sense) is observable. Thereby, this effect seems to be more distinctive among DAX firms than among MDAX companies. This might be due to the higher pressure to comply with standards because of a greater level of media exposure for DAX companies. Even though the decline is indeed very small, it nonetheless represents a reversal of the previously existing steady increase in the use of APMs in annual reports. Therefore, with regards to the publication of APMs (in the narrower sense), the ESMA Guidelines seem to have achieved one goal of putting a stop to the exponential increase in the disclosure of APMs.

Disclosure of single APMs

Following the examination of the overall disclosure practices of German DAX and MDAX corporations, it remains interesting, which kind of APMs are disclosed primarily by the sample companies. The percentage figures shown in this section represent the share of companies that disclose a specific APM in proportion to all companies announcing APMs in that year and not in proportion to all firms comprising the sample size. This is done as it seems to be more comprehensible to show the portion of companies that publish a specific APM in relation to the companies that disclose APMs at all than in relation to all firms.



Own illustration based on Appendix B.10

Figure 4: Disclosure of Single APMs

Thus, it becomes obvious that EBIT (60%) as well as EBITDA (48%) still seem to be the most popular APMs among DAX and MDAX companies in 2016. Thereby, the popularity of the figures is higher among the DAX corporations (67% and 50%) than among the MDAX firms (56% and 47%) of the sample size. In contrast, MDAX companies disclose EBT, modified EBT, and modified EBITDA more frequently than DAX corporations. Moreover, the portion of companies that disclose an EBIT has increased from 57% in 2015 to 60% in 2016. The announcement of EBIT figures had dropped the year before when comparing 2014 to 2015. Regardless of this increase, other figures have suffered a decline in 2016 compared to 2015. The use of EBT, modified EBT, and EBITDA all decreased in 2016. Additionally to the normal and adjusted EB figures, about half of the companies publishing APMs also publish further APMs. Thereby, the table in Appendix B.11 shows that the adjusted net income is by far the most popular APM among the other APMs. In comparison to 2015, the use of the adjusted net income also increased in 2016. With similar disclosure frequency Funds from Operations I (FFO I) and the adjusted operating profit follow.

Nonetheless, when comparing the figures for MDAX companies for the years of 2015 with 2016, one has to be careful. While the absolute figures might have remained constant, the percentage figures might have changed. This is due to the aforementioned disclosure stop of APMs by Hugo Boss and the method of calculating the percentage for the disclosure of single APMs as a portion of all companies publishing APMs instead of all firms from the sample size. Since the number of companies publishing

APMs has changed in 2016 – and therefore the calculation basis – percentage figures might have changed even though absolute figures stay the same.

Referring back to **RQ 3**, the results of previous studies that EBIT and EBITDA are the most popular APMs among German large companies can be confirmed. Thereby, the numbers are similar to the figures observed more recent examinations by Thale (2013) and Ruhwedel, et al. (2017). However, a decline in the use of EBITDA in comparison to the results by Thale (65%, see Chapter 2.3.5.7.) is observable. When comparing the results to older studies like Hillebrandt and Sellhorn (2002b), the use of EBIT figures seems to have decreased significantly as their evidence showed that 88% of the sample companies published an EBIT figure (see Chapter 2.3.5.2). Compared to the results by Ruhwedel, et al. and the empirical evidence of this study however, the use of EBIT figures rose again from 2015 to 2016, regardless of the now legally binding application of the ESMA Guidelines for German stock-listed corporations.

3.4.2. Adjustments

Comparison of normal and adjusted APMs

In order to assess how companies use adjustments, comparable figures have to be examined. Therefore, those companies, which publish e.g. a normal EBIT and a modified EBIT or a normal EBITDA and a modified EBITDA, are observed. Here, it is important to see, if the adjusted figure is higher, lower, or equal to the seemingly standardized normal EB figure. Here, those companies, which publish both a modified and a normal version of an APM in their key figures section, are examined further.

The results in Table 7 show that indeed a normal and modified version of the figures EBIT and EBITDA are the most common measures that are published together by the sample companies from DAX and MDAX. Whereas the numbers of both, companies that disclose a normal and a modified EBIT and firms that disclose a normal and a modified EBITDA, increased from 2014 to 2015, a decreasing tendency is perceptible when comparing the financial years 2015 and 2016. In 2016, 23 companies from DAX and MDAX disclosed two versions of an EBIT and 18 firms announced two forms of EBITDA.

Table 7: Comparison of Normal and Modified APMs

	2014			2015			2016		
mod. EBIT is ... than EBIT	higher	lower	equal	higher	lower	equal	higher	lower	equal
absol.	19	2	0	21	2	2	18	2	3
%	90%	10%	0%	84%	8%	8%	78%	9%	13%
mod. EBITDA is ... than EBITDA	higher	lower	equal	higher	lower	equal	higher	lower	equal
absol.	11	3	0	16	2	1	13	3	2
%	79%	21%	0%	84%	11%	5%	72%	17%	11%
mod. EBT is ... than EBT	higher	lower	equal	higher	lower	equal	higher	lower	equal
absol.	3	1	0	3	1	0	1	3	0
%	75%	25%	0%	75%	25%	0%	25%	75%	0%
mod. EBITA is ... than EBITA	higher	lower	equal	higher	lower	equal	higher	lower	equal
absol.	1	0	0	2	0	0	2	0	0
%	100%	0%	0%	100%	0%	0%	100%	0%	0%
mod. Net profit is ... than net profit	higher	lower	equal	higher	lower	equal	higher	lower	equal
absol.	3	0	0	2	1	0	2	1	0
%	100%	0%	0%	67%	33%	0%	67%	33%	0%

Own illustration based on Appendices B.12 and B.13

Table 7 indicates that the majority of companies that publish an adjusted EBIT or EBITDA are increasing the value of the earnings displayed by this figure in comparison to the normal EBIT or EBITDA. Whereas in comparison to 2014, the percentage of companies that publish a higher modified EBITDA than normal EBITDA increased from 79% to 84%, a decline to now merely 72% of companies that announce a higher adjusted EBITDA is observable. For the normal and adjusted EBIT, however, a decreasing trend is already perceptible since 2014. While in 2014 90% of the companies published a higher modified EBIT than normal EBIT, this number shrank to 84% in 2015 and finally to 78% in 2016. In both cases, EBIT and EBITDA, in 2016 the percentages of the normal APM being higher than the adjusted APM as well as the two figures being equal increased. A way smaller sample of companies publishes similarly an adjusted as well as a normal figure for EBT, EBITA, or Net Profit. While from 2014 to 2015 there were no differences in the publication of the two EBT figures²³, a significant change was perceptible between 2015 and 2016. Here now, in three cases the modified EBT was lower than the normal EBT and only in one case the adjusted figure was higher. The observation of the modified EBITA and the modified Net Profit, however, showed no conspicuities.

Striking, nonetheless, is that beside the Volkswagen AG in 2015, no other company disclosed a negative figure of earnings that was later adjusted in such a way that it be-

²³ In both years, in three cases the modified EBT figure was higher than the normal EBT and in one case the normal EBT figure was higher.

came a positive modified version of that figure. In that year, Volkswagen transformed a negative operating result into a positive adjusted operating result.

Table 8: Adjustments in Percent

all absolute figures depicted in million €	Turnover	EBIT	mod. EBIT	Adjustment			EBITDA	mod. EBITDA	Adjustment			
				abs.	%	ΔR			abs.	%	ΔR	
Total	2014	17.520,0	1.325,2	1.465,9	141	25,32%	1,31%	2.645,8	2.720,5	75	6,04%	-1,17%
	2015	17.298,5	1.324,5	1.523,8	199	22,07%	1,14%	2.321,3	2.513,7	192	8,25%	-1,52%
	2016	16.172,0	1.531,2	1.627,8	97	9,83%	0,87%	2.893,8	2.863,2	-31	1,33%	-5,47%

Own illustration (based Appendices B.12 and B.13)

When examining the changes that the adjustments did to the normal figures in percent, large variations between the three financial years are observable. The amount that the modified EBIT exceeded the normal EBIT decreased from 25% in 2014, to 22% in 2015, and to only 10% in 2016. Compared to the results by Thale (2013, p. 96) in 2011, this portion had increased significantly until 2014, as she observed that the adjusted EBIT exceeded the normal figure by about 9.5%.

The development in the differences between the normal EBITDA and the modified EBITDA is similar to the EBIT development. The percentages for EBITDA figures went from 6% in 2014 to 8% in 2015 and finally decreased to merely 1% in 2016. Again comparing those results to the empirical evidence provided by Thale (2013, p. 96), the increase from 2011 to 2014 does not seem as large for EBITDA figures as for EBIT figures, as she observed that modified EBITDA exceeded the normal EBITDA by 3.7%.

Regarding **RQ 4** it can be said that in some cases APMs are adjusted in an enormous way as the example of Volkswagen shows. However, a trend towards a lower level of adjustments between normal and modified EBIT(DA) figures is observable. This might be one of the first achievements of the ESMA Guidelines.

When examining **RQ 5** again, the empirical results show that adjusted figures have generally a higher monetary value than the corresponding normal APM. It can hence be assumed that companies use those modified APMs in order to present the financial situation of the firm in a more favorable light. Nonetheless, a declining trend is also observable since in 2016 more modified figures are equal to or lower than the corresponding normal APM. This can also be seen as an effect of the ESMA Guidelines, which are eager to limit the extensive use of adjustments.

Standardized EBIT

In 2017, Ruhwedel, et al. (2017, p. 24) had observed that companies use different calculation schemes in order to come up with the disclosed EBIT²⁴. The authors have then used a standardized EBIT calculation scheme in order to make the results comparable. This study uses the same calculation scheme in order to come up with comparable results to previous studies. The standardized EBIT is thereby calculated as EBT + interest income – interest expense.

Table 9: Standardized EBIT

Standardized EBIT is ... than reported EBIT		Worse		Better		Equal		Total
2014	DAX	10	63%	2	13%	4	25%	16
	MDAX	12	50%	9	38%	3	13%	24
	Total	22	55%	11	28%	7	18%	40
2015	DAX	7	47%	5	33%	3	20%	15
	MDAX	13	54%	6	25%	5	21%	24
	Total	20	51%	11	28%	8	21%	39
2016	DAX	10	63%	2	13%	4	25%	16
	MDAX	14	58%	6	25%	4	17%	24
	Total	24	60%	8	20%	8	20%	40

Own illustration based on Appendices B.14 and B.15

Table 9 shows the results for the comparison of the EBIT published by the corporations themselves and the standardized EBIT. For the financial years 2014 and 2015, the standardized EBIT is lower than the EBIT published by the companies themselves in about half of the cases. Accordingly, the other half is either higher than (28% in 2014 and 2015) or equal to the published EBIT (18% and 21%). In 2016, however, the portion of the companies of which the standardized EBIT is lower than the published EBIT increases to 60%. Whereas the portion of standardized and published EBIT being equal remains roughly the same with 20%, the portion of the standardized EBIT being higher than the published EBIT decreases to merely 20%.

Regarding **RQ 6**, one can see that the sample companies are indeed using different calculation schemes in order to arrive at an EBIT figure. However, for the years 2014 and 2015 it does not seem that those schemes are used to show a better result for the EBIT than the standardized EBIT. Nonetheless, in 2016 a majority of the EBIT figures published by the companies themselves are higher than the standardized EBIT. This might indicate that post-ESMA Guidelines companies are increasingly trying to use EBIT figures in order to whitewash their financial performance results.

²⁴ Also Volk (2007, p. 254) states that different analysts come to different results for the value of an EBIT figure even when analyzing the same annual report. He denounces the lack of a standardized content for such figures.

3.4.3. Reconciliations

Forms of Reconciliation

The following section is seeking the answer to **RQ 8** and is therefore examining the forms of reconciliation that companies, which are publishing APMs, provide. Merely, the annual reports of companies that disclose some kind of adjusted or modified figure are examined further. Furthermore, only explanations that state concrete monetary amounts of adjustments are thereby recognized as reconciliations. The basis for the following percentages is the number of those companies that have published an APM in the specific examined financial year. These are 45 of the 70 sample companies in the financial years 2014, 48 firms in 2015, and 43 in 2016. In total, over the three analyzed years, a number of 49 different corporations have disclosed an adjusted APM. This corresponds to 70% of the 70 sample companies.

Table 10: Forms of Reconciliation

	2014		2015		2016		Total
No reconciliation	18	40%	19	40%	7	16%	44
Written	9	20%	9	19%	10	23%	28
Table	18	40%	20	42%	26	60%	64
Companies with adjusted figures per year	45	100%	48	100%	43	100%	136
Companies without adjusted figures per year	4		1		6		11
Total Companies with adjusted figures in at least one year	49	70%	49	70%	49	70%	
Companies without adjusted figures in any year	21	30%	21	30%	21	30%	63
Total	70	100%	70	100%	70	100%	

Own illustration based on Appendices B.16 and B.17

The results in Table 10 show that the number of annual reports without reconciliation calculations for adjusted APMs has decreased significantly from 40% in 2015 to 16% in 2016. In contrast, the percentage figure had remained on the same level when comparing 2014 to 2015. The decrease in missing reconciliations has led to an increase in written, explanatory reconciliations from 19% in 2015 to 23% in 2016. Before there had been only a slight decrease of one percentage point between the previous two time periods. The most significant increase, however, was observable with reconciliations in tabular form, which rose from 42% to 60% in 2016. This increase was already perceptible in the transition from 2014 to 2015.

With regards to the research questions, it is observable that more companies are disclosing comprehensible reconciliations including the amounts adjusted in the post-ESMA Guidelines period. This can be seen as great achievement for the authority as

the provision of a larger number of reconciliations was one of the most important goals of the guidelines.

Reconciled Adjustments

The following section seeks an answer to **RQ 9** by analyzing the reconciled adjustments that were made during the calculation of the APMs. In contrast to the previous section on the form of reconciliation, if the company describes what has been done to arrive at the APM but does not disclose the amounts adjusted, the adjustment is still recognized in this analysis.

Table 11: Reconciled Adjustments

Year	Restructuring Costs	Goodwill impairment	Impairment	Profit/Loss from divestitures	Legal income/expenses	Mergers & Acquisitions	Profit/Loss from (financial) assets	Revaluation of provisions	Other
2014	20	3	13	15	5	15	7	5	29
	41%	6%	27%	31%	10%	31%	14%	10%	59%
2015	20	3	15	13	6	14	8	4	32
	41%	6%	31%	27%	12%	29%	16%	8%	65%
2016	23	3	15	10	6	14	10	3	32
	47%	6%	31%	20%	12%	29%	20%	6%	65%

Own illustration based on Appendices B.16 and B.17

Table 11 shows the distribution of reconciled adjustments according to the purpose stated by the companies themselves. It can be seen that restructuring costs make up the largest part with 41% in 2014 and 2015 and 47% in 2016. After this, impairment and items from Mergers & Acquisitions follow with 31% and 29% respectively in 2016 as individually recognizable adjustment items. A large portion of companies discloses reconciliations including other adjustments that could not be assigned to the other categories. The reconciliation of the questionable adjustment of goodwill impairment has been staying constantly low with 6% over all three examined years. This signals an improvement compared to the results found by Ruhwedel and Thale (2013, p. 391) that in 2013 goodwill impairments have been the most frequent reason for adjustments of EBIT or EBITDA with 31%. This might be due to the ESMA's statement that impairments on other assets are regarded as misleading (ESMA, 2016). Apart from this there were no conspicuous changes in the frequency of adjustments.

4. Discussion and Comparison to the Developments in the USA

In summary, the coming into effect of the ESMA Guidelines on Alternative Performance Measures on July 3, 2016 and the compliance of the BaFin to the regulations have

brought upon some kind of change regarding the reporting behavior of German large stock-listed companies. The ESMA's stated goals were to ensure comparable, reliable, and comprehensible APM disclosures that provide a more transparent and useful environment for investors without prohibiting the publication of APMs completely. This was to be achieved by decreasing the number of misleading APM publications and increasing the amount of comprehensible reconciliations. Moreover, the possibilities to exclude specific items, which are not regarded as e.g. non-recurring, are now limited, in order to achieve the goals set. As the ESMA Guidelines focused primarily on APMs disclosed outside of the annual statement, e.g. in the key figures or the management report, this study examined these parts in particular.

The empirical evidence indicates that overall, the usage of APMs develops in the direction, which the ESMA favors. When comparing the figures for 2015 and 2016, the results show that the number of companies that publish APMs and especially the amount of those that publish APMs in the narrower sense has decreased slightly. Furthermore, the overall figure of APMs published and therefore also the number of APMs published per company has decreased. This is also true for the publication of APMs in the narrower sense. The tendency of a decline in the dissemination of APMs can also be taken from the fact that the publication of no or only one APM has increased while at the same time, companies publish two or more APMs on a lower level than before. Even though the observed declines are only marginal, they still show a reversal in the trend that was perceptible when comparing the financial years 2014 and 2015. Here, the dissemination of APMs was still on the rise. The current tendency after the inuring of the ESMA Guidelines shows that the regulations have brought forth only a slight, but still a change in the disclosure of APMs. Therefore, the steady increase of APM disclosures seems to be stopped for the moment.

When it comes to disclosure of specific APMs, the ESMA Guidelines do not seem to have an impact on the popularity of the single figures as EBIT and EBITDA are still the most commonly published APMs for several years now already. What is interesting nonetheless, the disclosure of the APM Adjusted Net Income has increased significantly and is used by 17% of the sample companies in 2016 compared to merely 13% in 2015. This means an APM in the narrower sense has gained popularity after the disclosure-limiting regulations of the ESMA Guidelines.

Regarding the adjustments of APMs, the results of the study indicate that companies are also less likely to portray adjusted figures more positively than non-modified measures compared to prior years. When comparing the normal and the adjusted version of EBIT and EBITDA published by the same company, the portion of companies

for which the modified figure exceeds the normal measure has declined in 2016 for both EBIT and EBITDA compared to the year before. Nonetheless, this percentage is still significantly higher than the portion of companies where the normal measure is higher than the adjusted one and the portion of companies where both figures are equal, combined. However, this again signals a tendency in the direction that was targeted by the ESMA by issuing those regulations and it seems that those goals have been achieved at least partly.

Another possible way of influencing the monetary amount of earnings figures is by using different calculation schemes in order to arrive at seemingly standardized figures such as EBIT. When calculating with the same standardized EBIT calculation scheme used by Ruhwedel, et al. (2017) and comparing those figures to the EBIT published by companies, it comes to the attention that companies are indeed using different calculation schemes in order to arrive at the EBIT figure. In 2014 and 2015 in about half of the cases the EBIT published by the companies themselves is higher than the standardized EBIT, while the other half is either lower than or equal to the standardized EBIT. In 2016, however, the portion of cases in which the standardized EBIT is lower than the EBIT published by the companies rises to 60%. This result might indicate that due to stricter regulations regarding APMs, firms are looking for alternative ways to display their earnings in the best way possible. Therefore, companies might be using different calculation schemes for figures such as EBIT in order to increase these measures in the highest possible way. Furthermore, similar to the development in the USA after the enactment of SOX and Regulation G, investors may regard the published APMs in the post-ESMA Guidelines period as more trustworthy due to the higher level of regulation. If this is true, companies might make use of this by changing the calculation scheme for APMs in order to increase the value of these figures that investors rely on. Another possible explanation for the increase in published EBIT figures that are higher than the standardized EBIT might be that the companies comprising the DAX and MDAX are gradually changing their calculation schemes to one unique method that is used by all firms of these indices and thereby standardizing the calculation scheme without the need of external regulations. In order to be able to assess the results correctly, further insight and research into this field seems necessary.

One of the most stressed goals of the ESMA Guidelines was to increase the comprehensibility of disclosed APMs by making reconciliations to the most comparable GAAP figure mandatory. The empirical results of the study indeed show that the number of disclosures of APMs in the narrower sense without any reconciliation has significantly decreased from 2015 to 2016, while in the same time period especially the number of tabular reconciled APMs increased. It seems that with regard to the provision of recon-

ciliations for disclosed APMs, the ESMA has achieved quite a considerable change in the behavior of the companies.

Lastly, when it comes to the items that are adjusted by companies in the calculation of APMs, no significant changes can be identified in comparison of the periods prior and subsequent to the coming into force of the ESMA Guidelines. A positive observation is that for each of the sample years the questionable exclusion of goodwill impairments stays on a relatively low level with adjustments in roughly 6% of the annual reports. Especially when comparing this figure to the results by Ruhwedel and Thale (2013, p. 391), who found a portion of 31% of companies excluding goodwill impairments, this habit seems to have improved. Nonetheless, almost half of the companies exclude restructuring costs when calculating APMs. Those exclusions seem rather questionable as well. While it is legitimate to exclude restructuring costs if they are actually non-recurring, companies like Telekom that exclude enormous sums of restructuring costs every year (Deutsche Telekom AG, 2017, p. 45) do not seem credible when deeming those items as non-recurring. Therefore, the amount of excluded restructuring costs seems to be way too high. Consequently, according to the empirical results of the examination, the coming into action of the ESMA Guidelines did not seem to have any impact on the items excluded by the companies when calculating APMs.

When comparing the post-EMSA Guidelines period in Germany to the time subsequent to the inuring of SOX and Regulation G in the USA in 2003, it makes sense to compare the regulations themselves first. In terms of content, the European and the US-American contain merely a small number of differences while being largely similar overall. The ESMA Guidelines are going further into detail when it comes to comparability, consistency, and prominence of APMs compared to Regulation G and Item 10(e) of Regulation S-K and Item 10(e) of Regulation S-B. However, according to Dinh and Thielemann (2016, p. 416), a comparable level of detail in the US arose over the years by so-called "Compliance and Disclosure Interpretations" (C&DIs) issued by the SEC. Nonetheless, this higher degree of detail that was added later could not have had an impact on the developments in the US immediately after the enactment of SOX and Regulation G documented by various studies. In addition to this first difference, Regulation G explicitly requires the disclosure of quantitative tabular reconciliation while the ESMA Guidelines allow for a verbal form of explanation. Moreover, the amendments of the Items 10(e) of Regulation S-K and S-B require a more detailed explanation of what APMs are used for internally in a company than what the ESMA Guidelines require (Dinh & Thielemann, 2016, p. 416). Nonetheless, it is clearly recognizable that the US-American regulations have influenced the regulations within the EU. Already in 2005, Entwistle, et al. (2005, p. 17) stated that the regulatory system of the US is likely to be

regarded as a role model by the regulators of other countries due to increased globalization and the worldwide importance and impact of the US-American markets. As the former head of the Ontario Securities Commission (OSC), David A. Brown, stated: “[...] when the President signed the [SOX] bill he didn’t just change the law in the United States. He changed the dynamic for market around the world” (Brown, 2002). However, to some extent, differences in the regulations between the USA and the EU might make sense. In a study concerning the comparison between the reporting practices of US-American and Canadian companies, Entwistle, et al. (2005, p. 17) documented large differences between the two countries. Therefore, the authors warn regulators and standard setters of all nations to be cautious when adapting to other already existing systems of securities regulations as even greater differences between countries in North America and e.g. European countries regarding the reporting of APMs than between North American countries exist.

The comparison of the developments immediately subsequent to the coming into action of SOX and Regulation G with the ones in the post-EMSA Guidelines period shows a much bigger decline in the reporting of APMs in the US than in Germany. While in the US some studies document a decline in the publication of APMs by 23 percentage points after the enactment of SOX and Regulation G (from 77% in 2001 to 54% in 2003 subsequent to Regulation G) (Entwistle, et al., 2006a, pp. 46-47; 2006b, p. 361), the empirical results of this study show merely a decrease in the reporting of APMs by 1 percentage point for German large companies. Nonetheless, the previous upward trend in the disclosure of APMs had been stopped for the moment in both cases. In the US, Black, et al. (2012, p. 878) find, however, that the significant decline in the disclosure of APMs subsequent to the enactment of SOX was only temporary and the dissemination of the measures increased again later on.

When comparing the portion of APMs that are higher than the corresponding GAAP figure, the empirical evidence in the US and Germany yield similar results. While this study documented a decrease of adjusted EBIT(DA) figures being higher than the corresponding normal EBIT(DA) figure by five (twelve) percentage points between 2015 and 2016 for German large stock-listed companies, Entwistle, et al. (2006a, pp. 46-47) found a decline in the portion of higher APMs from 85% to 67% post-SOX. Thereby, the amount of adjustments between the adjusted EBIT(DA) figure and the corresponding normal EBIT(DA) figure shrank by 12 (7) percentage points for German large companies. For the US, Entwistle, et al. (2006a, pp. 46-47; 2006b, p. 361) found that the average magnitude of adjustments as they decline from 76% in 2001 to 33% in 2003 in comparison.

Also the US-American finding that the quality of disclosed APMs as well as the quality of exclusions had increased significantly post-Regulation G (Kolev, et al., 2008, pp. 157-159; Black, et al., 2012, p. 876; Brouwer, 2013, pp. 60-61), can be partly confirmed for Germany in the post-ESMA Guidelines period. The increase in verbal and tabular reconciliations in combination with the simultaneous decrease in disclosures without numerical reconciliation, signals an improvement in the quality and the transparency of APMs overall. An improvement regarding the quality of adjustments cannot be confirmed, however, as e.g. the questionable exclusion of restructuring costs is still part of about half of the reconciliations provided by companies.

The differences in the developments in the disclosure practices between the USA and Germany subsequent to the coming into action of regulations regarding the use of APMs are clearly recognizable. However, in both cases the enactment had a limiting effect on the dissemination of APMs as well as an improving effect on the transparency of disclosed earnings measures – only in different distinctness. The difference in the magnitude of the changes after the issuance of the regulations might be due to the different possibilities of the issuing authorities. While the SEC in the US has the legislative, jurisdictional, and especially executive power and competencies to impose sanctions on companies that are acting against the regulations regarding APMs (Großmann, 2007, pp. 346-347), the ESMA is dependent on the consequence of the enforcement of the respective securities authority in the member state of the EU. Therefore, it is thinkable that companies listed in the EU member states are testing the willingness of securities authorities, like the BaFin in Germany, to sanction violations of the regulations. The effectiveness of the ESMA Guidelines in Germany is highly dependent on the consequence of the BaFin and the DPR (Kleinmanns, 2016, p. 136). However, the fact that the DPR has listed the presentation of financial performance as one of the central points of the 2016 audits as required by the ECEP, shows that the German authorities are taking the call seriously and are willing to enforce the ESMA Guidelines for German stock-listed companies.

Another reason for the differences in magnitude found in the comparison between the empirical results in the US and Germany might be due to different ways of research regarding APMs in the two countries. Whereas US studies focus mainly on earnings and press releases, this study and many other German studies examine the annual reports of stock-listed firms. Moreover, German studies regard EB figures as APMs, while research in the US focuses primarily on adjusted figures, i.e. APMs in the narrower sense. Thereby, US-based studies use the Street Earnings by data providers such as I/B/E/S as proxies for APMs instead of company-published APMs. And as mentioned before, these figures might differ from APMs disclosed by the corporations

themselves as they are calculated by analysts. Moreover, the comparability of the studies is limited as not only the sizes of the samples vary but also the characteristics of the companies that comprise the samples.

In order to compare the results of the study more adequately to empirical evidence in the USA, certain limitations have to be kept in mind. Restrictions in the comparability of the studies stem from the aforementioned differences in disclosure practices between North American companies and EU companies. Moreover, as mentioned before, US-American studies do not regard EB figures as APMs and focus their research mainly on press releases and not on the components of the annual reports of firms. Additionally, certain aspects evaluated by US-American studies and presented in Chapter 2.2.3., have not been part of this empirical study. Therefore, further research should focus also on aspects such as the emphasis placed on APMs, the use of APMs by companies in order to meet or beat analysts' expectations, and the perception of APMs by investors in the post-ESMA Guidelines period. Furthermore, it will be interesting to see how the BaFin and the DPR will react to violations of the guidelines. Thus, it is of utmost interest to examine the further development of the disclosure practices among large German companies in the forthcoming years. Moreover, a comparison drawn to the effectiveness of the ESMA Guidelines in other EU member states that have complied with the regulations would yield more comparable results leading to better practice implications for German companies.

5. Concluding Remarks and Outlook

With the enactment and the coming into action of the Guidelines on Alternative Performance Measures issued by the European Securities and Markets Authority in 2016, the European Union has taken a long overdue step towards the legally binding regulation of APMs and an adaption to the regulatory system of the USA and the regulations proposed by the IOSCO. While US-American stock-listed companies are already legally bound to comply to Regulation G and the Amendments through the enactment of SOX in 2002, the EU issued mainly non-binding advises to companies before the issuance of the ESMA Guidelines. As the dissemination of APMs worldwide was increasing now for decades, this step was necessary to limit the relatively free use of APMs.

The empirical results of this study show that the ESMA Guidelines were not only necessary but also somewhat effective. The evidence found in the key figures, management report, and financial overviews of the annual statements of a sample of DAX and

MDAX companies for the financial years 2014, 2015, and 2016, shows a slight decrease in the disclosure of APMs as well as APMs in the narrower sense in the post-ESMA Guidelines period. Moreover, the results indicate that it is marginally less likely in 2016 that an adjusted APM exceeds the corresponding normal figure compared to 2014 and 2015. Thereby, the magnitude of the adjustments has decreased significantly as well. Furthermore, significantly more companies offer tabular or written reconciliations in the post-ESMA Guidelines period while simultaneously less APMs are published without any reconciliation compared to the period prior to the regulation. Nonetheless, the guidelines do not seem to have an impact on the popularity of certain APMs nor the decision which items companies exclude when adjusting earnings measures.

Even though, the changes brought upon by the ESMA Guidelines have been rather marginal, they still signal a reversal of the before increasing trend in the disclosure of APMs in the annual reports of German DAX and MDAX companies. Probably, due to the different structures and competencies of the US-American securities authority and the EU authority ESMA, the impact of Regulation G in the USA has been more significant than the one of the ESMA Guidelines in Germany. Nonetheless, the guidelines offer the opportunity to significantly improve the reporting of APMs in the EU and Germany. The effectiveness, however, is largely dependent on the consequent enforcement of the regulations by the securities authorities in the EU member states. If these authorities take their task seriously, the impact of the ESMA Guidelines is likely to increase over the forthcoming financial years.

This study contributes to existing literature by being one of the first to examine the effects of the ESMA Guidelines on Alternative Performance Measures on the APM reporting behavior of German large companies listed in DAX30 and MDAX. Thus, the results provide a first glance at the effectiveness of the regulations for the EU and reveal some of the fields of development and necessities to make the implementation successful.

For future research purposes, it is interesting how the IASB is going to change the regulations regarding the presentation of APMs within the framework of the IFRS. Hans Hoogervorst, Chairman of the IASB, regards the fact that about 90% of APMs are more promising to investors than figures disclosed in accordance with IFRS as a problem and says that “such rosy numbers are not good” (Fockenbrock, 2016). The IASB is therefore reviewing in a project called “Better Communication” if terms such as EBIT or operating profit should be defined in the IFRS in order to give the calculation of income more structure (Fockenbrock, 2016). Thus, Hoogervorst is proposing to limit the poten-

tial to present APMs in a misleading manner by offering more guidance on the preparation of earnings figures in the audited part of the annual report (Deloitte, 2016b). It will be interesting to see, how the (possible) regulations of IASB and ESMA work together and change the APM reporting behavior of stock-listed companies in Germany and the European Union. Moreover, it remains to be seen how the consequence – or a lack thereof – regarding the enforcement of the regulations by the national securities authorities are influencing the disclosure of APMs in the forthcoming years. Therefore, a similar study to this one should be conducted with the annual reports of the next couple of years in order to be fully able to assess the impact of the ESMA Guidelines correctly and draw comparisons to the US developments following Regulation G.

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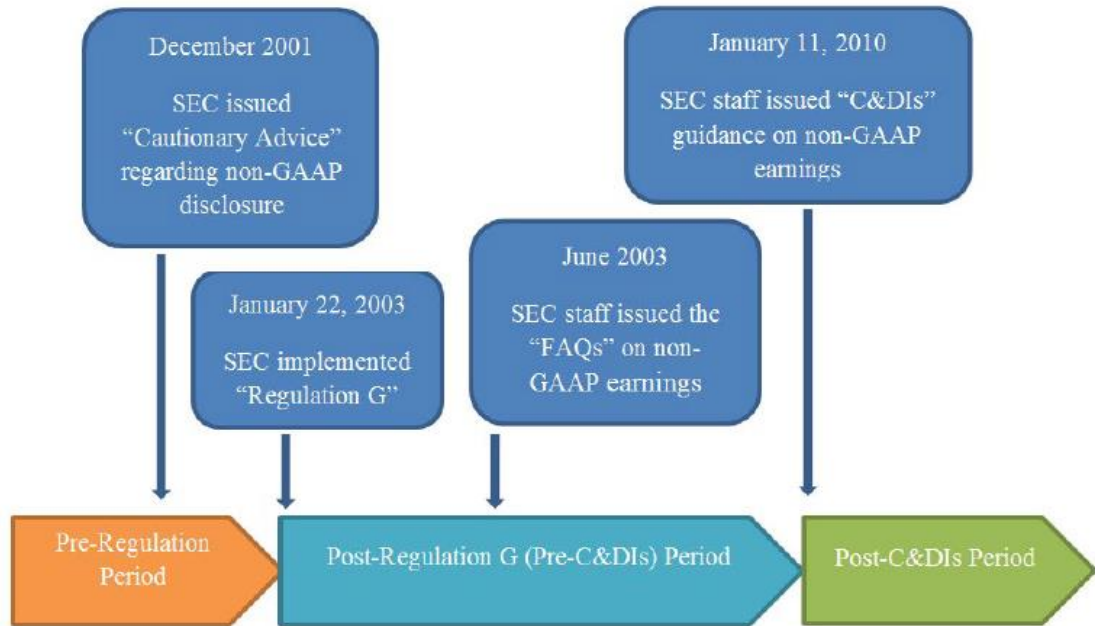
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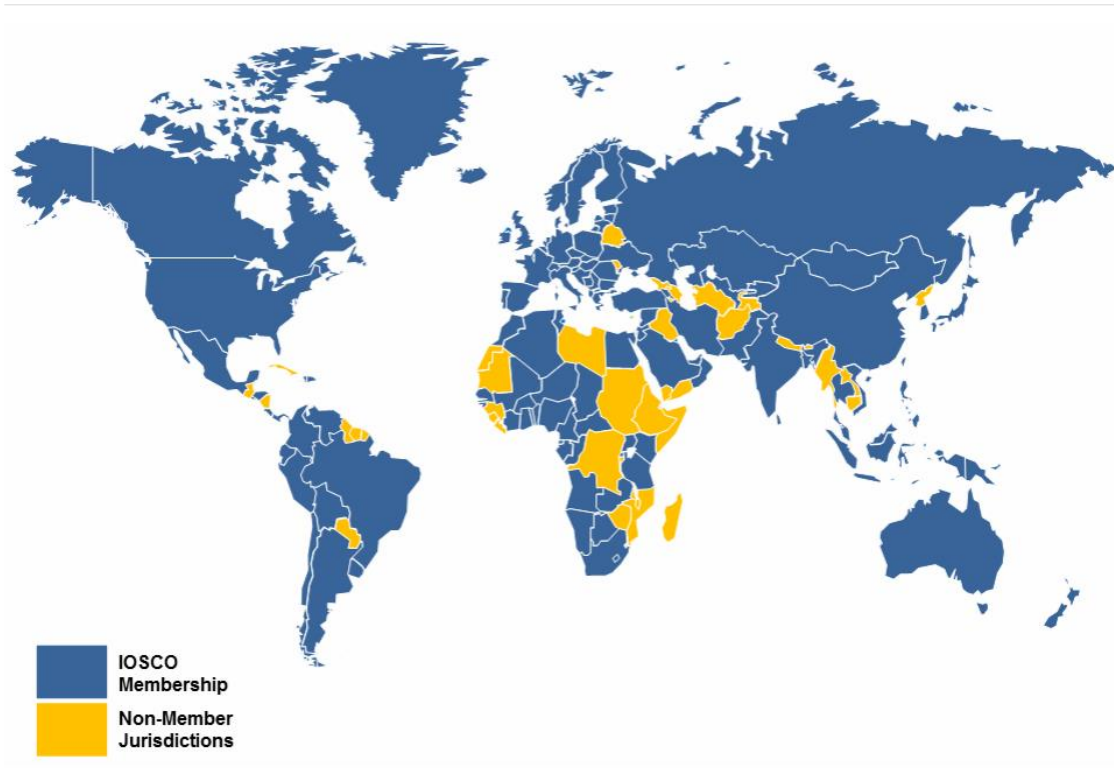
Appendix A: Additional Information on Regulations

Appendix A.1: Timeline of APM Regulations in the USA



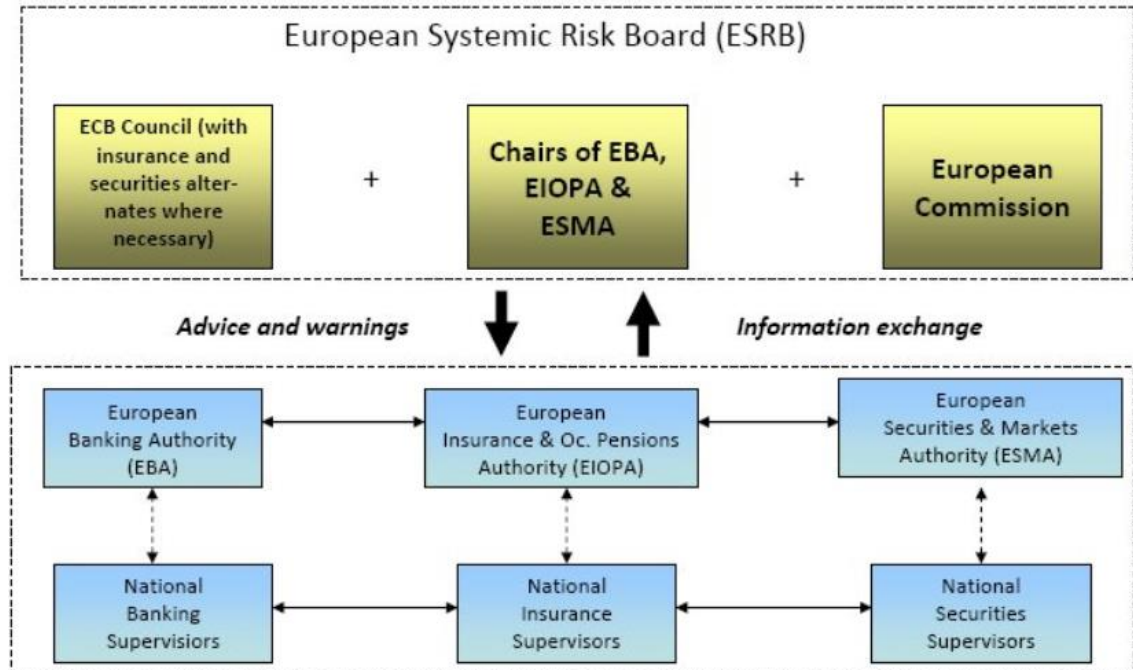
Source: Bond, et al. (2017, p. 18)

Appendix A.2: IOSCO Membership Map



Source: IOSCO (2017b)

Appendix A.3: European System of Financial Supervision



Source: ESMA (2017a)

Appendix A.4: ESMA Guidelines Compliance Table

Guidelines on Alternative Performance Measures (ESMA/2015/1415)

The following competent authorities have informed the ESMA that they comply, do not comply or intend to comply with the ESMA's guidelines on Alternative Performance Measures:

Member State		Competent authority	Complies	Comments
AT	Austria	Financial Market Authority (FMA)	Yes	
BE	Belgium	Financial Services and Markets Authority (FSMA)	Yes	
BG	Bulgaria	Financial Supervision Commission (FSC)	Yes	
CZ	Czech Republic	Czech National Bank (CNB)	Yes	
DK	Denmark	Finanstilsynet	Intends to comply	by 1 July 2017
DE	Germany	Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)	Yes	
EE	Estonia	Estonian Financial Supervision Authority	Yes	

IE	Ireland	Irish Accounting and Auditing Supervisory Authority (IAASA)	Yes	
		Central Bank of Ireland	Yes	
EL	Greece	Hellenic Capital Market Commission (HCMC)	Yes	
ES	Spain	Comisión Nacional del Mercado de Valores (CNMV)	Yes	
FR	France	Autorité des Marchés Financiers (AMF)	Yes	
HR	Croatia	Hrvatska agencija za nadzor financijskih usluga (HANFA)	Intends to comply	By 31 December 2017
IT	Italy	Commissione Nazionale per le Società e la Borsa (CONSOB)	Yes	
CY	Cyprus	Cyprus Securities and Exchange Commission (CySEC)	Yes	
LV	Latvia	Financial and Capital Market Commission (FCMC)	Yes	
LT	Lithuania	Bank of Lithuania	Yes	
LU	Luxembourg	Commission de Surveillance du Secteur Financier (CSSF)	Yes	

HU	Hungary	Magyar Nemzeti Bank (MNB)	Yes	
MT	Malta	Malta Financial Services Authority (MFSA)	Yes	
NL	Netherlands	Netherlands Authority for the Financial Markets (AFM)	Yes	
PL	Poland	Komisja Nadzoru Finansowego (KNF)	Yes	
PT	Portugal	Comissão do Mercado de Valores Mobiliários (CMVM)	Yes	
RO	Romania	Romanian Financial Supervisory Authority (CNVM)	Yes	
SI	Slovenia	Securities Market Agency (SMA)	Yes	
SK	Slovakia	National Bank of Slovakia (NBS)	Yes	
FI	Finland	Finanssivalvonta	Yes	
SE	Sweden	Finansinspektionen	Yes	
UK	United Kingdom	Conduct Committee of the Financial Reporting Council	Yes	
		Financial Conduct Authority	Yes	

European Territories under Article 355(3) TFEU		Competent authority	Complies	
GI	Gibraltar	Financial Services Commission (Gibraltar)	Yes	

EEA EFTA States		Competent authority	Complies	
NO	Norway	Finanstilsynet	Yes	
LI	Liechtenstein	Liechtenstein Financial Market Authority (LFMA)	Intends to comply	by 1 January 2018

Appendix B: Empirical Results

Appendix B.1: Overview Key Words for Analysis of Annual Reports

List of used Key Words			
EBIT	EBITDA modified	non-recurring	special item
adjusted	EBT	one-time effect	sustainable
adjusted EBIT	goodwill impairment	Operating profit	überleitung
adjusted EBITDA	impairment	Operating result	Überleitungsrechnung
adjustements	interest	operatives Ergebnis	vor Steuern
before tax	interest expense	reconciliation	Zinsaufwand
EBIT adjusted	interest income	recurring	Zinsaufwendungen
EBIT modified	modified	restructuring	Zinseinnahmen
EBITDA	modified EBIT	Restrukturierungskoste	Zinsertrag
EBITDA adjusted	modified EBITDA	Sondereffekte	Zinserträge

Appendix B.2: Overview of Examined Companies

Examined Companies	
DAX	MDAX
Adidas AG	Airbus SE
BASF SE	Alstria Office REIT-AG
Bayer AG	Aurubis AG
Beiersdorf AG	Axel Springer SE
BMW AG	Brenntag AG
Continental AG	Covestro AG
Daimler AG	CTS Eventim AG & Co. KGaA
Deutsche Börse AG	Deutsche EuroShop AG
Deutsche Lufthansa AG	Deutsche Wohnen SE
Deutsche Post AG	Dürr AG
E.ON SE	Evonik Industries AG
Fresenius Medical Care AG & Co. KGaA	Fielmann AG
Fresenius SE & Co. KGaA	Fraport AG
Heidelberg Cement AG	Fuchs Petrolub SE
Henkel AG & Co. KGaA	GEA Group AG
Infineon Technologies AG	Gerresheimer AG
Linde AG	Grand City Properties SA
Merck KGaA	Hella GmbH & Co. KGaA
ProSiebenSat.1 Media SE	Hochtief AG
RWE AG	Hugo Boss AG
SAP SE	Innogy SE
Siemens AG	Jungheinrich AG
Telekom AG	K+S AG
Thyssenkrupp AG	KION GROUP AG
Volkswagen AG	Krones AG
Vonovia SE	LANXESS AG
	LEG Immobilien AG
	Leoni AG
	Metro Cash & Carry International GmbH
	MTU Aero Engines AG
	Norma Lebensmittelfilialbetrieb Stiftung & Co. KG
	Osram Licht AG
	Rheinmetall AG
	RTL Group SA
	Salzgitter AG
	Schaeffler AG
	Stada Arzneimittel AG
	Steinhoff International Holdings NV
	Ströer SE & Co. KGaA
	Südzucker AG
	Symrise AG
	TAG Immobilien AG
	Wacker Chemie AG
	Zalando SE
26	44

Appendix B.3: Overview DAX Companies 2014

DAX	Jahr	Unternehmen	Anzahl PFE	EBT	EBT (bereinigt)	EBIT	EBIT (bereinigt)	EBITDA	EBITDA (bereinigt)	Sonstiges
Adidas	2014	x	1					x		
BASF	2014	x	4	x		x	x	x		
Bayer	2014	x	5	x		x	x	x		
Beiersdorf	2014	x	2			x	x			
BMW	2014	x	2	x		x				
Continental	2014	x	4			x	x	x		
Daimler	2014	x	2			x	x			
Deutsche Börse	2014	x	1			x				
Deutsche Lufthansa	2014	x	2			x		x		
Deutsche Post	2014	x	2			x				
E.ON	2014	x	4			x	x	x		Nachhaltiger Konzernüberschuss
Fresenius Medical Care	2014	x	2			x				
Fresenius	2014	x	3			x	x	x		Bereinigter Konzernüberschuss
Heidelberg Cement	2014	x	2							Operatives Ergebnis (OI)
Henkel	2014	x	2			x	x			Operatives Ergebnis vor Abschreibungen (OIB)
Infinion	2014	x	0							
Linde	2014	x	3			x	x			Operatives Ergebnis*
Merck	2014	x	3			x	x	x		
ProSiebenSat1	2014	x	5	x		x	x	x		Bereinigter Konzernüberschuss
RWE	2014	x	5			x	x	x		Wertbeitrag
SAP	2014	x	2							berinigtes Nettoergebnis
Siemens	2014	x	0							Betriebsergebnis (non-IFRS)
Telekom	2014	x	4			x				
ThyssenKrupp**	2014	x	5	x		x	x	x		Bereinigter Konzernüberschuss
Volkswagen	2014	x	3	x		x	x	x		Value Added
Vonovia	2014	x	8	x						Operatives Ergebnis
Ergebnis bereinigte Stichprobe		26	76	7	1	16	10	13	7	FFO 1
		87%	2,9	27%	4%	62%	38%	50%	27%	FFO 2

** Geschäftsberichte aus den Jahren 2013/2014, 2014/2015 und 2015/2016

Appendix B.4: Overview DAX Companies 2015

DAX	Jahr	Unternehmen	Anzahl/PPE	EBT	EBT (bereinigt)	EBIT	EBIT (bereinigt)	EBITDA	EBITDA (bereinigt)	Sonstiges	AFFO	EPRA NAV	EPRA NNAV	EPRA Überschuss
Adidas	2015	x	1					x						
BASF	2015	x	4	x		x	x	x						
Bayer	2015	x	5	x		x	x	x						
Beiersdorf	2015	x	2			x	x							
BMW	2015	x	2	x		x	x							
Continental	2015	x	4			x	x			Revenue adjusted Value Added				
Daimler	2015	x	2			x	x							
Deutsche Börse	2015	x	1			x	x							
Deutsche Lufthansa	2015	x	3			x	x							
Deutsche Post	2015	x	2			x	x			EAC				
E.ON	2015	x	4			x	x			Value Added				
Fresenius Medical Care	2015	x	2			x	x							
Fresenius	2015	x	3			x	x			Bereinigter Konzernüberschuss				
Heidelberg Cement	2015	x	2							Operatives Ergebnis (OI)				
Henkel	2015	x	2			x	x			Operatives Ergebnis vor Abschreibungen (OIB)				
Infinion	2015	x	0											
Linde	2015	x	3			x	x			Operatives Ergebnis*				
Merck	2015	x	3			x	x							
ProSiebenSat1	2015	x	5	x		x	x			Bereinigter Konzernüberschuss				
RWE	2015	x	5			x	x			Wertbeitrag				
SAP	2015	x	2			x	x			Umsatzerlöse (non-IFRS)				
Siemens	2015	x	0							Bereinigtes Nettoergebnis				
Telekom	2015	x	4			x	x			Betriebsergebnis (non-IFRS)				
ThyssenKrupp**	2015	x	5	x		x	x			Value Added				
Volkswagen	2015	x	4	x		x	x			Operatives Ergebnis				
Vonovia	2015	x	9	x		x	x			Operatives Ergebnis vor Sonderinflüssen				
Ergebnis bereinigte Stichprobe		26	79	7	1	15	12	13	14	FFO 1	7	7	14	
		87%	3,0	27%	4%	58%	46%	50%	27%	54%				

** Geschäftsberichte aus den Jahren 2013/2014, 2014/2015 und 2015/2016

Appendix B.5: Overview DAX Companies 2016

DAX	Jahr	Unternehmen	Anzahl PFE	EBT	EBT (bereinigt)	EBIT	EBIT (bereinigt)	EBITDA	EBITDA (bereinigt)	BITDA	BITDA (bereinigt)	Sonstiges
Adidas	2016	x	1					x				
BASF	2016	x	4	x		x		x				
Bayer	2016	x	5	x		x		x				
Beiersdorf	2016	x	2			x						
BMW	2016	x	2	x		x						
Continental	2016	x	4			x		x				
Daimler	2016	x	1			x						
Deutsche Börse	2016	x	1			x						
Deutsche Lufthansa	2016	x	3			x		x				
Deutsche Post	2016	x	2			x						
E.ON	2016	x	4			x		x				
Fresenius Medical Care	2016	x	2			x		x				
Fresenius	2016	x	2			x						
Heidelberg Cement	2016	x	2			x						
Henkel	2016	x	2			x						
Inflinon	2016	x	0									
Linde	2016	x	3			x						
Merck	2016	x	3			x		x				
ProSiebenSat1	2016	x	5	x		x		x				
RWE	2016	x	4									
SAP	2016	x	2									
Siemens	2016	x	0									
Telekom	2016	x	4			x		x				
ThyssenKrupp**	2016	x	2									
Volkswagen	2016	x	4	x				x				
Vonovia	2016	x	9									
Ergebnis bereinigte Stichprobe				26	73	6	1	16	10	12	7	
				87%	23%	4%	4%	62%	38%	46%	27%	

** Geschäftsberichte aus den Jahren 2013/2014, 2014/2015 und 2015/2016

Appendix B.6: Overview MDAX Companies 2014

MDAX	Jahr	Unternehmen	Anzahl PFE	EBT	EBT bereinigt	EBIT	EBIT bereinigt	EBITDA	EBITDA bereinigt	FFO	Sonstiges	EPRA NAV	EPRA NAV	EPRA NAV	EPRA NAV
	2014	x	1				x								
Alibus	2014	x	3							FFO		EPRA NAV			EPRA NAV
Alstria	2014	x	6												
Aurlubis**	2014	x	3	x	x	x	x	x	x	Net Income adjusted					
Axel Springer	2014	x	2												
Brenntag	2014	x	3												
Covestro	2014	x	3												
CTS Eventim	2014	x	5	x	x	x	x	x	x						
Deutsche Euro Shop	2014	x	2	x	x	x	x	x	x						
Deutsche Wohnen	2014	x	7	x	x	x	x	x	x						
Dürr	2014	x	3	x	x	x	x	x	x	Economic Value Added*					EPRA NAV
Evonik	2014	x	2												
Fleermann	2014	x	1	x											
Fraport	2014	x	3	x	x	x	x	x	x						
Fuchs	2014	x	2												
GFA Group	2014	x	5	x	x	x	x	x	x						
Gerrshelmer	2014	x	1												
Grand City Properties	2014	x	5							FFO 1		FFO 2			EPRA NAV
Hella***	2014	x	2												
Hochtief	2014	x	4	x	x	x	x	x	x						
Hugo Boss	2014	x	1												
Imogy	2014	x	1	x											
Jungheinrich	2014	x	2	x	x	x	x	x	x						
K+S	2014	x	2												
Kion Group	2014	x	4												
Krones	2014	x	3	x	x	x	x	x	x						
Krones	2014	x	3	x	x	x	x	x	x						
Lanxess	2014	x	4												
LEG	2014	x	7	x	x	x	x	x	x	FFO 1		FFO 2			EPRA NAV
Leoni	2014	x	2												
Metro**	2014	x	7	x	x	x	x	x	x	Net profit adjusted					
MTU	2014	x	3							Net profit adjusted					
Norma	2014	x	3							EBITA		EBITA bereinigt			adjusted profit
Osram Licht	2014	x	4	x	x	x	x	x	x	EBITA		EBITA bereinigt			
Rheinmetall	2014	x	3	x	x	x	x	x	x						
RTL Group	2014	x	1												
Salzgeber	2014	x	3	x	x	x	x	x	x	EBITA					
Schaeffler	2014	x	2												
Stada	2014	x	9	x	x	x	x	x	x	Operating profit		Operating Profit, adjusted			Net income adjusted
Steinhorff	2014	x	2							Operating profit before capital items					
Stroer	2014	x	3							adjusted profit					
Südzucker***	2014	x	2												
Symrise	2014	x	3							Operating profit					
TAG Immobilien	2014	x	6	x	x	x	x	x	x	Net income adjusted					
Wacker	2014	x	3	x	x	x	x	x	x	FFO I		FFO II			AFFO
Zalando	2014	x	2												
Ergebnis bereinigte Stichprobe		44	142	20	5	24	20	20	19	17					
		88%	3,2	45%	11%	55%	45%	45%	43%	39%					

*EVA: bereinigt in Capital Employed Berechnung

** Geschäftsberichte aus den Jahren 2013/2014, 2014/2015 und 2015/2016

*** Geschäftsberichte aus den Jahren 2014/2015, 2015/2016 und 2016/2017

Appendix B.7: Overview MDAX Companies 2015

MDAX	Jahr	Unternehmen	Anzahl PFE	EBT	EBT bereinigt	EBIT	EBIT bereinigt	EBITDA	EBITDA bereinigt	FFO	Sonstiges
Airbus	2015	x	1				x				
Austria	2015	x	3							FFO	EPRA NAV
Aurubis**	2015	x	6	x		x	x	x	x		EPRA NAV
Axel Springer	2015	x	3		x		x			Net Income adjusted	
Brenntag	2015	x	2				x				
Covestro	2015	x	4			x	x	x	x		
CTS Eventim	2015	x	5	x		x	x	x	x		
Deutsche Euro Shop	2015	x	2	x		x					
Deutsche Wohnen	2015	x	7	x		x					
Dürr	2015	x	4	x		x	x	x		FFO	FFO bereinigt
Evonik	2015	x	3				x			Economic Value Added* adjusted net income	EPRA Earnings
Fielmann	2015	x	2	x			x				
Fraport	2015	x	3	x		x					
Fuchs	2015	x	2			x	x				
GEA Group	2015	x	3	x		x	x				
Geresheimer	2015	x	1								
Grand City Properties	2015	x	5					x	x	FFO 1	FFO 2
Hella***	2015	x	4			x	x				
Hochtief	2015	x	2	x							
Hugo Boss	2015	x	1								
Innogy	2015	x	1	x							
Jungheinrich	2015	x	2	x		x					
K+S	2015	x	2				x				
Kion Group	2015	x	4			x	x	x	x		
Kronos	2015	x	3	x		x					
Lanxess	2015	x	4			x	x	x	x		
LEG	2015	x	7	x						FFO I	FFO II
Leoni	2015	x	2			x	x				
Metro**	2015	x	7	x		x	x	x	x	Net profit adjusted	
MTU	2015	x	3			x	x			Net profit adjusted	
Norma	2015	x	4							EBITA	EBITA bereinigt
Osram Licht	2015	x	4	x				x		EBITA	EBITA bereinigt
Rheinmetall	2015	x	3	x		x					
RTL Group	2015	x	1							EBITA	
Salzgitter	2015	x	3	x		x					
Schaeffler	2015	x	6			x	x	x	x	Schaffler Value Added	Schaffler Value Added adjusted
Stada	2015	x	9	x		x	x	x	x	Operatives Ergebnis	Net income adjusted
Steinhoff	2015	x	2							Operating profit before capital items	
Ströer	2015	x	3				x			adjusted profit	
Südzucker***	2015	x	2					x		Operating profit	
Symrise	2015	x	2			x		x			
TAG Immobilien	2015	x	6	x		x					
Wacker	2015	x	3	x		x				FFO I	FFO II
Zalando	2015	x	2			x	x				
Ergebnis bereinigte Stichprobe		44	148	19	5	24	21	22	20	18	
		88%	3,4	43%	11%	55%	48%	50%	45%	41%	

*EVA: bereinigt in Capital Employed Berechnung

** Geschäftsberichte aus den Jahren 2013/2014, 2014/2015 und 2015/2016

*** Geschäftsberichte aus den Jahren 2014/2015, 2015/2016 und 2016/2017

Appendix B.9: Number of APMs Published per Company

	DAX			
	2014	2015	2016	Δ 2016-2015
0 APMs	2	2	2	0
1 APM	2	2	3	1
2 APMs	9	8	9	1
3 APMs	4	4	3	-1
4 APMs	4	5	6	1
5+ APMs	5	5	3	-2
	MDAX			
	2014	2015	2016	Δ 2016-2015
0 APMs	0	0	1	1
1 APM	6	5	6	1
2 APMs	12	12	9	-3
3 APMs	13	11	11	0
4 APMs	4	7	7	0
5+ APMs	9	9	10	1
	Total			
	2014	2015	2016	Δ 2016-2015
0 APMs	2	2	3	1
1 APM	8	7	9	2
2 APMs	21	20	18	-2
3 APMs	17	15	14	-1
4 APMs	8	12	13	1
5+ APMs	14	14	13	-1

Own illustration

Appendix B.10: Publication of Single APMs

		2014		2015		2016		Δ 2015 - 2014		Δ 2016 - 2015	
Number of Companies	DAX	26	100%	26	100%	26	100%	0	0%	0	0%
	MDAX	44	100%	44	100%	44	100%	0	0%	0	0%
	Total	70	100%	70	100%	70	100%	0	0%	0	0%
Number of Companies publishing APMs	DAX	24	92%	24	92%	24	92%	0	0%	0	0%
	MDAX	44	100%	44	100%	43	98%	0	0%	-1	-2%
	Total	68	97%	68	97%	67	96%	0	0%	-1	-1%
EBT	DAX	7	29%	7	29%	6	25%	0	0%	-1	-4%
	MDAX	20	45%	20	45%	20	47%	0	0%	0	1%
	Total	27	40%	27	40%	26	39%	0	0%	-1	-1%
mod. EBT	DAX	1	4%	1	4%	1	4%	0	0%	0	0%
	MDAX	5	11%	5	11%	5	12%	0	0%	0	0%
	Total	6	9%	6	9%	6	9%	0	0%	0	0%
EBIT	DAX	16	67%	15	63%	16	67%	-1	-4%	1	4%
	MDAX	24	55%	24	55%	24	56%	0	0%	0	1%
	Total	40	59%	39	57%	40	60%	-1	-1%	1	2%
mod. EBIT	DAX	10	42%	12	50%	10	42%	2	8%	-2	-8%
	MDAX	20	45%	21	48%	20	47%	1	2%	-1	-1%
	Total	30	44%	33	49%	30	45%	3	4%	-3	-4%
EBITDA	DAX	13	54%	13	54%	12	50%	0	0%	-1	-4%
	MDAX	20	45%	20	45%	20	47%	0	0%	0	1%
	Total	33	49%	33	49%	32	48%	0	0%	-1	-1%
mod. EBITDA	DAX	7	29%	7	29%	7	29%	0	0%	0	0%
	MDAX	19	43%	19	43%	19	44%	0	0%	0	1%
	Total	26	38%	26	38%	26	39%	0	0%	0	1%
Other APMs	DAX	14	58%	14	58%	12	50%	0	0%	-2	-8%
	MDAX	17	39%	18	41%	20	47%	1	2%	2	6%
	Total	31	46%	32	47%	32	48%	1	1%	0	1%

Own illustration

Appendix B.11: Other APMs

Other APMs	2014	2015	2016	Sum
adjusted net income	9	9	12	30
FFO I (Funds from Operations)	6	6	6	18
adjusted operating profit	5	6	5	16
Value Added	5	6	3	14
EPRA NAV	5	4	4	13
operating profit	4	4	4	12
AFFO (adjusted Funds from Operations)	4	4	3	11
FFO II (Funds from Operations)	4	4	3	11
EBITA	3	3	3	9
EPRA NNAV	2	2	3	7
adjusted EBITA	2	2	2	6
EPRA profit	1	2	2	5
EAC	1	1	1	3
operating profit before depreciation	1	1	1	3
Revenue (non-IFRS)	1	1	1	3
revenue adjusted	1	1	1	3
sustainable profit	1	1	1	3
adjusted gross profit		1	1	2
EPRA NAV diluted		1	1	2
operating profit before capital items	1	1		2
adjusted Value added		1	1	2
EPRA NAV incl. Perpetual notes			1	1
group sales adjusted			1	1
NAV			1	1
Total	56	61	61	178

Own illustration

Appendix B.12: Adjustments of Earnings Figures by DAX Companies

Companies		Turnover	EBIT	mod. EBIT	Adjustment			EBITDA	mod. EBITDA	Adjustment		
					abs.	%	ΔR			abs.	%	ΔR
BASF	2014	74.326,0	7.626,0	7.357,0	-269	-3,53%	-0,36%					
	2015	70.449,0	6.248,0	6.739,0	491	7,86%	0,70%					
	2016	57.550,0	6.275,0	6.309,0	34	0,54%	0,06%					
Bayer	2014	42.239,0	5.506,0	5.944,0	438	7,95%	1,04%	8.442,0	8.812,0	370	4,38%	0,88%
	2015	46.324,0	6.250,0	7.069,0	819	13,10%	1,77%	9.583,0	10.266,0	683	7,13%	1,47%
	2016	46.769,0	7.042,0	8.130,0	1.088	15,45%	2,33%	10.785,0	11.302,0	517	4,79%	1,11%
Beiersdorf	2014	6.285,0	796,0	861,0	65	8,17%	1,03%					
	2015	6.686,0	962,0	962,0	0	0,00%	0,00%					
	2016	6.752,0	1.015,0	1.015,0	0	0,00%	0,00%					
Continental	2014	34.505,7	3.344,8	3.874,5	530	15,84%	1,54%					
	2015	39.232,0	4.115,6	4.455,5	340	8,26%	0,87%					
	2016	40.549,5	4.095,8	4.341,2	245	5,99%	0,61%					
Deutsche Lufthansa	2014											
	2015	32.056,0	1.676,0	1.817,0	141	8,41%	0,44%					
	2016	31.660,0	2.275,0	1.752,0	-523	-22,99%	-1,65%					
Henkel	2014	16.428,0	2.244,0	2.588,0	344	15,33%	2,09%					
	2015	18.089,0	2.645,0	2.923,0	278	10,51%	1,54%					
	2016	18.714,0	2.775,0	3.172,0	397	14,31%	2,12%					
Linde	2014	17.047,0	1.885,0	2.180,0	295	15,65%	1,73%					
	2015	17.944,0	2.043,0	2.235,0	192	9,40%	1,07%					
	2016	16.948,0	2.075,0	2.201,0	126	6,07%	0,74%					
Merck	2014	11.291,5						3.122,9	3.387,7	265	8,48%	2,35%
	2015	12.844,7						3.354,1	3.629,8	276	8,22%	2,15%
	2016	15.024,0						4.415,0	4.490,0	75	1,70%	0,50%
ProSiebenSat.1	2014	2.875,6						818,4	847,3	29	3,53%	1,01%
	2015	3.260,7						881,1	925,5	44	5,04%	1,36%
	2016	3.799,0						982,0	1.018,0	36	3,67%	0,95%
Telekom	2014	62.658,0						17.800,0	17.600,0	-200	-1,12%	-0,32%
	2015	69.200,0						18.400,0	19.900,0	1.500	8,15%	2,17%
	2016	73.095,0						22.500,0	21.400,0	-1.100	-4,89%	-1,50%
ThyssenKrupp**	2014	41.304,0	1.151,0	1.333,0	182	15,81%	0,44%					
	2015	42.778,0	1.050,0	1.676,0	626	59,62%	1,46%					
	2016											
Volkswagen	2014											
	2015	213.292,0										
	2016	217.267,0										
Vonovia	2014	789,3						500,3	554,0	54	10,73%	6,80%
	2015	1.414,6						838,4	1.029,1	191	22,75%	13,48%
	2016	1.538,1						1.083,7	1.186,5	103	9,49%	6,68%

Own illustration

Appendix B.13: Adjustments of Earnings Figures by MDAX Companies

Companies		Turnover	EBIT	mod. EBIT	Adjustment			EBITDA	mod. EBITDA	Adjustment		
					abs.	%	ΔR			abs.	%	ΔR
Aurubis**	2014	11.335,0	94,0	174,0	80	85,11%	0,71%	224,0	297,0	73	32,59%	0,64%
	2015	10.995,0	200,0	370,0	170	85,00%	1,55%	336,0	500,0	164	48,81%	1,49%
	2016	9.475,0	177,0	229,0	52	29,38%	0,55%	312,0	358,0	46	14,74%	0,49%
Brenntag	2014	10.015,6						726,9	726,7	0	-0,03%	0,00%
	2015	10.346,1						807,4	807,4	0	0,00%	0,00%
	2016	10.498,4						810,0	810,0	0	0,00%	0,00%
Covestro	2014	11.761,0	517,0	561,0	44	8,51%	0,37%					
	2015	12.082,0	680,0	942,0	262	38,53%	2,17%	1.419,0	1.641,0	222	15,64%	1,84%
	2016	11.904,0	1.331,0	1.331,0	0	0,00%	0,00%	2.014,0	2.014,0	0	0,00%	0,00%
CTS Eventim	2014	690,0	126,2	138,6	12	9,77%	1,79%	154,6	155,8	1	0,81%	0,18%
	2015	834,0	150,2	161,7	12	7,68%	1,38%	180,5	181,0	0	0,27%	0,06%
	2016	830,0	162,0	174,1	12	7,46%	1,46%	193,6	194,5	1	0,45%	0,10%
Deutsche Wohnen	2014	951,8										
	2015	1.374,9										
	2016	1.128,8										
Dürr	2014											
	2015	3.767,0	267,8	294,3	27	9,90%	0,70%	267,8	294,3	27	9,90%	0,70%
	2016	3.573,5	271,4	286,4	15	5,53%	0,42%	271,4	286,4	15	5,53%	0,42%
Evonik	2014	12.917,0	1.077,0	1.256,0	179	16,62%	1,39%					
	2015	13.507,0	1.664,0	1.752,0	88	5,29%	0,65%					
	2016	12.732,0	1.298,0	1.448,0	150	11,56%	1,18%					
Fuchs	2014	1.865,9	313,0	292,6	-20	-6,52%	-1,09%					
	2015	2.089,0	342,2	324,4	-18	-5,20%	-0,85%	342,2	324,4	-18	-5,20%	-0,85%
	2016	2.267,0	371,0	352,0	-19	-5,12%	-0,84%					
GEA Group	2014	4.515,7	439,9	513,5	74	16,73%	1,63%	539,9	590,7	51	9,41%	1,12%
	2015	4.599,0	309,4	538,8	229	74,14%	4,99%	429,8	621,0	191	44,49%	4,16%
	2016	4.491,9	387,0	485,0	98	25,32%	2,18%	500,6	566,3	66	13,12%	1,46%
Hella***	2014											
	2015	6.352,0	420,0	476,0	56	13,33%	0,88%	816,0	858,0	42	5,15%	0,66%
	2016	6.585,0	507,0	534,0	27	5,33%	0,41%					
Kion Group	2014	4.677,9	347,0	442,9	96	27,64%	2,05%	714,2	780,4	66	9,27%	1,42%
	2015	5.098,0	422,8	482,9	60	14,21%	1,18%	824,2	850,0	26	3,13%	0,51%
	2016	5.587,2	434,8	537,3	103	23,57%	1,83%	889,5	931,6	42	4,73%	0,75%
Lanxess	2014	8.006,0	218,0	402,0	184	84,40%	2,30%	644,0	808,0	164	25,47%	2,05%
	2015	7.902,0	415,0	422,0	7	1,69%	0,09%	415,0	422,0	7	1,69%	0,09%
	2016	7.699,0	464,0	514,0	50	10,78%	0,65%	945,0	995,0	50	5,29%	0,65%
LEG	2014	390,1						390,3	259,3	-131	-33,56%	-33,58%
	2015	436,1						561,0	293,7	-267	-47,65%	-61,29%
	2016	511,7						947,3	355,7	-592	-62,45%	-115,61%
Leoni	2014	4.103,4	182,5	192,7	10	5,59%	0,25%					
	2015	4.502,9	151,3	146,9	-4	-2,91%	-0,10%					
	2016											
Metro	2014	63.035,0	1.273,0	1.727,0	454	35,66%	0,72%	2.545,0	2.836,0	291	11,43%	0,46%
	2015	59.219,0	711,0	1.511,0	800	112,52%	1,35%	2.177,0	2.458,0	281	12,91%	0,47%
	2016	58.417,0	1.513,0	1.560,0	47	3,11%	0,08%	2.530,0	2.509,0	-21	-0,83%	-0,04%
MTU	2014	3.913,9	333,5	382,7	49	14,75%	1,26%					
	2015	4.435,0	385,6	440,3	55	14,19%	1,23%					
	2016	4.733,0	452,8	503,0	50	11,09%	1,06%					
Rheinmetall	2014	4.688,0	102,0	160,0	58	56,86%	1,24%					
	2015	5.183,0	287,0	287,0	0	0,00%	0,00%					
	2016	5.602,0	353,0	353,0	0	0,00%	0,00%					
Schaeffler	2014											
	2015	13.226,0	1.402,0	1.676,0	274	19,54%	2,07%	2.096,0	2.370,0	274	13,07%	2,07%
	2016	13.338,0	1.556,0	1.700,0	144	9,25%	1,08%	2.293,0	2.437,0	144	6,28%	1,08%
Stada	2014	2.062,2	190,3	322,4	132	69,42%	6,41%	418,8	431,9	13	3,13%	0,64%
	2015	2.155,0	225,3	285,3	60	26,63%	2,78%	377,1	389,4	12	3,26%	0,57%
	2016	2.139,2	178,9	295,1	116	64,95%	5,43%	361,5	398,0	37	10,10%	1,71%
Stroer	2014											
	2015											
	2016	1.123,3						254,0	285,2	31	12,28%	2,78%
Zalando	2014	2.214,0	62,1	81,9	20	31,88%	0,89%					
	2015	2.958,0	89,6	107,5	18	19,98%	0,61%					
	2016	3.639,0	207,0	216,3	9	4,49%	0,26%					

Own illustration

Appendix B.15: Calculation of a Standardized EBIT for MDAX Companies

MDAX		EBT	Interest	Interest Expense	Interest result	Standard	EBIT	Delta EBIT
Aurubis	2014	58	5	-38		91	94	-3
	2015	170	4	-31		197	200	-3
	2016	159	3	-27		183	177	6
Covestro	2014	381	30	-151		502	517	-15
	2015	505	4	-89		590	680	-90
	2016	1135	5	-53		1183	1331	-148
CTS Eventim	2014	121,4	1,7	-6,5		126,2	126,2	0
	2015	145,4	1,2	-5,9		150,1	150,2	-0,1
	2016	155,5	3,9	-10,3		161,9	161,9	0
Deutsche Euro Shop	2014	214,7	0,3	-58,6		273	177,5	95,5
	2015	394,7	0,2	-55,9		450,4	176,3	274,1
	2016	134,5	0	-52,9		187,4	178,6	8,8
Dürr	2014	204,7	8,7	-26,4		222,4	220,9	1,5
	2015	244,5	8,3	-33,5		269,7	267,8	1,9
	2016	258,1	6,2	-26,5		278,4	271,4	7
Fraport	2014	374,7	35,6	-176,7		515,8	482,8	33
	2015	433,8	30,6	-156,2		559,4	520,5	38,9
	2016	581,4	32	-138,9		688,3	693,7	-5,4
Fuchs	2014	310,1	0,8	-3,7		313	313	0
	2015	338,5	1,4	-5,1		342,2	342,2	0
	2016	369	2	-3		370	371	-1
GEA Group	2014	373,8	7,1	-73,1		439,8	439,9	-0,1
	2015	270	11,5	-50,9		309,4	309,4	0
	2016	350,2	7,6	-44,7		387,3	387	0,3
Hella	2014	393,6	12,9	-41		421,7	429,5	-7,8
	2015	380,1	12,3	-34,4		402,2	419,8	-17,6
	2016	463	11,2	-32,8		484,6	507,2	-22,6
Hochtief	2014	177,1	57,3	-284,7		404,5	558,7	-154,2
	2015							
	2016	620,7	49,4	-161,8		733,1	816,7	-83,6
Jungheinrich	2014	175	1,8	-11,4		184,6	193	-8,4
	2015	198	2,5	-10,3		205,8	213	-7,2
	2016	216	0,2	-8,1		223,9	235	-11,1
Kion Group	2014	258,3	84,4	-173,2		347,1	347	0,1
	2015	330,2	51,4	-144		422,8	422,8	0
	2016	339,2	88,9	-184,5		434,8	434,8	0
Krones	2014	191,8	3	-7,9		196,7	185,1	11,6
	2015	79,1	3,8	-25,7		101	86,8	14,2
	2016	146,3	2,5	-9,8		153,6	138,9	14,7
Lanxess	2014	80	3	-72		149	218	-69
	2015	288	4	-70		354	415	-61
	2016	339	9	-72		402	464	-62
Leoni	2014	150,7	0,7	-25,8		175,8	182,5	-6,7
	2015	125,8	0,9	-22,8		147,7	151,3	-3,6
	2016	53,8	0,7	-20,3		73,4	78,1	-4,7
Metro	2014	709	50	-459		1118	1273	-155
	2015	259	62	-344		541	711	-170
	2016	1167				1167	1513	-346
MTU	2014	278,7	1,3	-10,1		287,5	333,5	-46
	2015	320,8	2,4	-3,5		321,9	385,6	-63,7
	2016	415,6	0,8	-12,7		427,5	452,8	-25,3
Rheinmetall	2014	22	2	-82		102	102	0
	2015	221	3	-69		287	287	0
	2016	299	5	-59		353	353	0
Salzgitter	2014	-15	33,1	-146,4		98,3	98	0,3
	2015	12,6	35,4	-113,2		90,4	90,4	0
	2016	53	28,6	-94,6		119	119	0
Schaeffler	2014	904	255	-875		1524	1523	1
	2015	855	72	-513		1296	1402	-106
	2016	1215	49	-286		1452	1556	-104
Stada	2014	124,7	1,2	-70,4		193,9	190,3	3,6
	2015	157,8	1,1	-65,6		222,3	225,3	-3
	2016	127,4	2,7	-25,9		150,6	178,9	-28,3
Stoer	2014							
	2015							
	2016	82,7	38	-10,1		54,8	92,8	-38
Symrise	2014							
	2015	350,9	4,5	-49,9		396,3	395,2	1,1
	2016							
TAG Immobilien	2014	121,2	4	-113,6		230,8	230,1	0,7
	2015	175,1	3,6	-99,4		270,9	271,1	-0,2
	2016							
Wacker	2014	365,2	8,4	-46,2		403	443,3	-40,3
	2015	406,7	7,3	-31,8		431,2	473,4	-42,2
	2016	264,8	6	-42,4		301,2	366,2	-65
Zalando	2014	57,6	0,2	-4,6		62	62,1	-0,1
	2015	86,6	1,2	-6,1		91,5	89,6	1,9
	2016	198,6	2,1	-11,8		208,3	207	1,3
					mean	2014	-15	
						2015	-10	
						2016	-38	

Appendix B.16: Reconciliations of DAX Companies

Company	Year	Restructuring costs	Goodwill impairment	Impairment	Profit / Loss from divestures	Legal income / expenses	Merch & Acquisition	Profit / loss from (financial) assets	Revaluation of provisions	Other	Reconciliation
BASF	2014										No
	2015										No
Bayer	2014	x		x	x	x			x		Table
	2015	x		x	x	x			x		Table
Beiersdorf	2014	x		x	x	x			x		Table
	2015	x		x	x	x			x		Table
Continental	2014	x		x				x			Written
	2015	x		x				x			Written
Deutsche Lufthansa	2014										Table
	2015										Table
E.ON	2014	x						x			no adjusted figures
	2015	x						x			Table
Fresenius Medical Care	2014	x									Table
	2015	x									Table
Fresenius	2014										no adjusted figures
	2015										Table
Henkel	2014	x						x			Table
	2015	x									Table
Linde	2014	x									Table
	2015	x									Table
Merck	2014	x									Table
	2015	x									Table
ProSiebenSat1	2014	x									Table
	2015	x									Table
RWE	2014	x									Table
	2015	x									Table
SAP	2014	x									Table
	2015	x									Table
Telekom	2014	x									Table
	2015	x									Table
ThyssenKrupp	2014	x									Table
	2015	x									Table
Volkswagen	2014										Table
	2015										Table
Vonovia	2014	x									Table
	2015	x									Table

DAX

Appendix B.17: Reconciliations of MDAX Companies

Company	Year	Restructuring costs	Goodwill impairment	Impairment	Profit / Loss from divestitures	Legal income / expenses	Merch & Acquisition	Profit / loss from (financial) assets	Revaluation of provisions	Other	Reconciliation
Airbus	2014										No
	2015		x	x				x	x	x	Table
	2016										No
Aurubis**	2014						x				x Written
	2015						x				x Written
	2016						x				x Written
Axel Springer	2014			x	x			x			x Written
	2015			x	x						x Table
	2016			x	x						x Table
Brenntag	2014										x Table
	2015										x Table
	2016			x							x Table
Covestro	2014	x			x						x Table
	2015										No
	2016										no adjusted figures
CTS Eventim	2014	x				x	x				x Table
	2015						x				x Table
	2016										x Table
Deutsche Wohnen	2014	x		x							x Table
	2015	x		x							x Table
	2016		x	x							x Table
Dürr	2014										No
	2015										No
	2016										No
Evonik	2014	x	x		x						x Table
	2015	x	x		x						x Table
	2016	x	x		x						x Table
GEA Group	2014										x Written
	2015	x									x Written
	2016	x									x Written
Gerresheimer	2014	x			x						x Written
	2015	x			x						x Written
	2016	x			x						x Written
Grand City Properties	2014										No
	2015										No
	2016							x			x Table
Hella***	2014										no adjusted figures
	2015										No
	2016	x									x Table
Hochtief	2014										No
	2015	x		x	x						x Written
	2016	x		x	x						x Written
Hugo Boss	2014	x									x No
	2015	x									x No
	2016										No
Innogy	2014										No
	2015										No
	2016	x									x Table
K+S	2014										No
	2015										No
	2016										No
Kion Group	2014										x No
	2015										x No
	2016										no adjusted figures
Lanxess	2014	x		x							x No
	2015	x		x							x No
	2016										no adjusted figures
LEG	2014										x Written
	2015										x Written
	2016										x Written
Leoni	2014	x			x						x No
	2015	x			x						x No
	2016	x									x Table
Metro**	2014	x	x		x						x Written
	2015	x	x								x Written
	2016	x			x						x Written
MTU	2014										x Table
	2015										x Table
	2016										x Table
Norma	2014										x Table
	2015										x Table
	2016										x Table
Osram Licht	2014										x Table
	2015										x Table
	2016										x Table
Schaeffler	2014										no adjusted figures
	2015	x									x Table
	2016	x									x Table
Stada	2014		x	x							x Written
	2015										x Written
	2016	x									x Table
Ströer	2014										x Table
	2015										x Table
	2016										x Table
Symrise	2014										x Table
	2015										no adjusted figures
	2016										x Written
TAG Immobilien	2014										No
	2015										No
	2016										no adjusted figures
Zalando	2014										x Written
	2015										x Written
	2016										x Table

Own illustration

Declaration of Authenticity

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Kamp-Lintfort, January 25, 2018

Fabian Hähn