

# COMPARABILITY OF REPORTED CASH FLOWS UNDER IFRS - EVIDENCE FROM GERMANY

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## Abstract

IFRS are intended to provide users with transparent and comparable financial information. However, in contrast to US GAAP and German GAAP, IFRS offer considerable flexibility regarding the classification of interest and dividends in the statement of cash flows. We explore the reporting practice of German listed firms and shed light on the determinants of classification choices which aim to increase operating cash flow (OCF). Our findings support prior research in that firms tend to increase OCF under specific circumstances, especially when they are highly leveraged and/or less profitable. Moreover, we find that industry practice plays a major role in determining firms' reporting choices. Overall, our results cast doubt on whether the advantages of the flexibility offered under IFRS outweigh the disadvantages of reduced comparability.

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**Keywords:** Comparability, IAS 7, Cash flow, Classification, Interest, Dividends

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## 1. Introduction

"Profits are someone's opinion ... whereas cash is a fact."<sup>10</sup>

Statements such as the one above are based on the perceived reliability and comparability of cash flow information. The notion that cash flows are well comparable across firms and time can often be found in the literature.<sup>11</sup> Comparability of accounting information is of utmost importance to users of financial reporting since it facilitates economic decision making. The International Accounting Standards Board (IASB) recognizes this in its objective to develop financial reporting standards which "should require high quality, transparent and comparable information in financial statements and other financial reporting" (Preface to IFRSs, par. 6(a)). Accordingly, the Conceptual Framework of the IASB (Framework) establishes comparability of financial information as a qualitative characteristic which enhances the usefulness of financial reporting (Framework, QC4, QC20-QC25). Moreover, the importance of comparability has been particularly emphasized by the adoption of International Financial Reporting Standards (IFRS) in the EU which was motivated by the aim "to ensure a high degree of

transparency and comparability of financial statements"<sup>12</sup> across the member states.

The relevance of cash flow information is increasing as evidenced by the growing number of analyst forecasts (see Lee, 2012).<sup>13</sup> In particular, operating cash flow (OCF) is considered to be "a key indicator of the extent to which the operations of the entity have generated sufficient cash flows to repay loans, maintain the operating capability of the entity, pay dividends and make new investments without recourse to external sources of financing" (International Accounting Standard No. 7 "Statement of Cash Flows", par. 13, IAS 7.13). Therefore, it is typically the most important subtotal in the statement of cash flows to users (Nurnberg, 2006) and plays a vital role in firm valuation (e.g. Imam et al., 2008) as well as in contracts, e.g. within management compensation schemes (e.g. Nwaeze et al., 2006) or debt covenant agreements.<sup>14</sup>

<sup>12</sup> Regulation (EC) No. 1606/2002, Article 1. Regulation (EC) No. 1606/2002 generally requires European firms to prepare their consolidated financial statements since 2005 in accordance with IFRS, if their securities are admitted to trading on a regulated market within the EU.

<sup>13</sup> Lee (2012) mentions several studies which document increases in the existence of cash flow forecasts and interprets this trend as evidence for the perceived importance of cash flow measures.

<sup>14</sup> In their review of the literature on the use of financial reporting by capital providers, Cascino et al. (2014) note that cash flow is one of the most common bases of financial covenants.

<sup>10</sup> Quoted from Smith (1992), p. 200.

<sup>11</sup> See e.g. ADS International (2002), Chapter 23 "Cash Flow-Rechnung" [*Cash Flow Statement*], par. 3.

Advocates of the use of cash flow information often argue that cash flows are more reliable and comparable than earnings. In fact, IAS 7 emphasizes that cash flow information is not only useful but particularly "enhances the comparability of the reporting of operating performance by different entities because it eliminates the effects of using different accounting treatments for the same transactions and events" (IAS 7.4). However, cash flows should be interpreted with caution and not simply taken as a 'fact'. To date, academics provide initial evidence on managers using discretion over reporting within the statement of cash flows, especially aiming to increase OCF (Zhang, 2009; Lee, 2012; Gordon et al., 2014). One mechanism to influence reported cash flows is classification, i.e. the decision about whether to classify a cash flow as operating, investing or financing (Lee, 2012). It is feasible especially where accounting standards permit explicit classification choices.

In our paper, we examine the classification of interest and dividends under IFRS to assess the comparability of reported cash flows in Germany. Unlike US GAAP and German GAAP, IAS 7 allows firms to report these cash flows either within or outside OCF. Accordingly, these choices are not merely 'cosmetic' but rather affect important financial indicators (Kvaal and Nobes, 2010). In particular, such cash flow items are often material to the subtotals in the statement of cash flows, especially OCF (Nurnberg and Largay, 1998). Empirical evidence indicates that classification decisions can have consequences regarding the prediction of OCFs as well as the market's assessment of accruals' and OCF's persistence (Gordon et al., 2014). Moreover, although classification is observable, experimental evidence suggests that users evaluate firms' financial strength more favorably when they report higher OCF simply because of classifying interest paid into the financing category rather than into OCF (van der Heijden, 2015).

This paper analyzes the comparability of reported cash flows under IFRS in Germany. We focus on Germany for multiple reasons. First, Germany has been characterized as a bank-dominated, debt-financed economy (Monnet and Quintin, 2007) and, thus, we expect relatively high interest payments which increases the relevance of the issue. Second, prior research finds substantial within-country variation with regard to the classification of interest and dividends (see section 2.2) which suggests that the determinants of classification choices can be studied relatively well. Third, the percentage of firms that separately disclose interest payments in their financial reports is particularly high.<sup>15</sup> Finally, the relevant German GAAP guidance has recently been revised by

the Accounting Standards Committee of Germany (ASCG). Under the new German Accounting Standard 21 (GAS 21) "Cash Flow Statements" neither interest nor dividends are classified into OCF. This recent change and the deviation from former national as well as current international standards emphasize the controversy of the topic and its relevance for German accounting practice.

Documenting accounting practice for a sample of 1,064 firm-year observations from 2005 to 2012, we find substantial diversity with regard to the classification of cash flows which reduces comparability. The dominant classification under IFRS reflects the concurrent German GAAP provisions: More than two thirds of the firms classify interest paid (70%), interest received (71%), and dividends received (69%) as operating, while dividends paid are included into the financing category almost without exception. Importantly, reported OCF under IFRS significantly exceeds the amount that would have been reported without the IFRS-specific options (see also Gordon et al., 2014).

Our multivariate analyses provide further insights into the drivers of classification choices that generally affect OCF positively, largely in line with findings in Gordon et al. (2014). We complement existing research by examining several additional corporate governance and management-related factors. First, our findings support the notion that highly-leveraged and less profitable firms use discretion over cash flow reporting in response to contracting concerns (Gordon et al., 2014) or in order to augment reported financial information (Adhikari and Duru, 2006). Moreover, we provide strong evidence for the relevance of industry practice for the policy choices of listed firms which suggests that this factor may be understated in cross-country studies due to the dominating effect of country patterns. In addition, our results indicate that mandatory IFRS adopters are more reluctant and firms using cash flow measures for internal control purposes are more likely to classify interest paid as financing. Furthermore, we provide some evidence consistent with the view that large international auditors do not only act as a constraint but rather as an advisor with regard to IFRS financial statements (Cole et al., 2013). However, we find no evidence for associations between classification choices and ownership concentration or earnings management behavior.

Our insights into current practice and the drivers of reporting decisions are relevant not only for financial reporting users who we advise to have a close look at specific cash flow items to ensure inter-entity comparability, but also to standard-setters as well as regulators intending to accept IFRS in the future. Besides the ASCG which just issued a new standard, the IASB also recently debated about enhancing consistent classification. Thus, our results are relevant to the long-lasting debate about the

<sup>15</sup> Gordon et al. (2014) find that only 8% of German IFRS preparers do not disclose interest paid separately, while for 12 other countries non-disclosure of interest paid ranged from 11% (UK) to 42% (Sweden).

appropriate conceptual classification of interest and dividends (e.g. Nurnberg and Largay, 1998).

Our findings contribute to two streams of literature. First, we contribute to the literature on comparability of international financial reporting. A number of studies explore comparability across countries (e.g. Kvaal and Nobes, 2010 and 2012; Haller and Wehrfritz, 2013). However, while these studies document substantial variation both across and within countries, less evidence exists regarding the determinants of accounting policy choices beyond country. Thus, our findings on the determinants of classification choices are important complements to explain what cannot be attributed to country, and, especially, pre-IFRS national practices. Second, we contribute to an understanding of the use of managerial discretion over reported cash flows. Zhang (2009) provides evidence for incentives related to meet certain cash flow benchmarks similar to incentives to avoid reporting a loss or missing analyst earnings forecasts (e.g. Burgstahler and Dichev, 1997). Lee (2012) provides compelling evidence for cash flow management under US GAAP which is associated with specific firm characteristics that increase the perceived importance of OCF. Gordon et al. (2014) are the first to examine classification choices specific to IFRS and provide evidence for the role of capital market incentives as well as reporting environment factors. As outlined above, we complement these findings by examining additional variables in a single country context, thereby, controlling for the strong influence of country-level factors.

The paper is organized as follows. Chapter 2 describes the conceptual background regarding the classification of interest and dividends in the statement of cash flows and reviews related literature. Chapter 3 develops our hypotheses about possible determinants of classification choices and describes our research design. Chapter 4 describes our data and results as well as robustness checks and additional analyses. Chapter 5 concludes.

## 2. Conceptual background and related research

### 2.1 Classification of interest and dividends in the statement of cash flows<sup>16</sup>

Until 1998, German firms were only legally required to provide some kind of cash flow statement when they registered their securities for trading on a public

market. The relevant §§ 21 and 23 *Börsenzulassungsverordnung* (BörsZulV) required those firms to publish, in the issued *prospectus*, a statement of sources and uses of funds for the three latest years. The legal requirement to provide a statement of cash flows regularly was introduced by the *Gesetz zur Kontrolle und Transparenz im Unternehmensbereich* (KonTraG) in April 1998. According to this law, German listed firms had to provide a statement of cash flows as part of their consolidated financial statements for fiscal years beginning on January 1, 1999, or later. In 1999, the German Accounting Standard 2 "Cash flow statements" (GAS 2)<sup>17</sup> was passed by the ASCG providing detailed guidance on the preparation of the statement of cash flows.<sup>18</sup>

### Classification according to German GAAP

Overall, GAS 2 is largely comparable to the requirements regarding the statement of cash flows under IFRS and US GAAP. In particular, all of the standards follow a relatively narrow definition of funds ("cash and cash equivalents") and require a classification of cash flows into three categories, operating, investing, and financing. With regard to interest and dividends, however, GAS 2 differs from international guidance while allowing firms to comply with both, IFRS and US GAAP. Specifically, GAS 2.36 states that, generally, interest paid, interest received and dividends received are classified as operating. Classification of these cash flows as investing or financing is only possible in exceptional cases, if such classification is justified in the particular circumstances. Accordingly, under GAS 2, the default classification for these cash flows has been the operating category. This is also reflected in the preceding summary to GAS 2: "In addition, interest paid and received, dividend income [...] shall be treated as part of operating activities." With regard to dividends paid, GAS 2.37 prescribes the treatment as financing cash flow without exception. Empirical

<sup>16</sup> In the following, we focus on the guidance for non-financial firms, since cash flow statements of financial institutions have a different conceptual meaning due to the distinct nature of their business models. Therefore, standard setters often issue specific guidance regarding the cash flow statements of financial institutions and, in particular, with regard to the classification of interest and dividends.

<sup>17</sup> Prior to GAS 2, national guidance regarding the statement of cash flows existed only in the form of a non-binding recommendation issued jointly by the Institute of Public Auditors in Germany (IdW) and a working group formed by the Schmalenbach-Gesellschaft für Betriebswirtschaft e.V. (SG), an association aiming to promote exchange between research and practice in the field of business. This recommendation (HFA 1/1995) essentially aligned national and international guidance. See Jakoby et al. (1999) for a comparison of HFA 1/1995 to IAS 7 and US GAAP guidance.

<sup>18</sup> See Leuz (2000) for the whole paragraph. Although not required by German law, a number of German firms provided cash flow statements voluntarily before 1999 (see Leuz, 2000, with further references). Jakoby et al. (1999) examine the reporting practice of German DAX30-firms from 1988 to 1997 and document that some firms refer to international guidance, i.e. IFRS or US GAAP, while others refer to the German recommendation and, thus, cash flow statements were prepared on different bases. However, they find only two firms that classify interest paid and received as well as dividends received out of OCF.

findings show that for the cash flows where deviation was allowed in exceptional cases, such classification outside OCF was extraordinary, if existent at all. In particular, Haller and Wehrfritz (2013) examine 110 German GAAP reports for the year 2001 and do not find a single case of classification of interest paid, interest received, or dividends received outside the operating category.

In February 2014, the ASCG adopted a new standard on "Cash Flow Statements" (GAS 21) to be applied by firms that prepare (consolidated) financial statements according to German GAAP for fiscal years beginning after December 31, 2014. While the main principles have been retained, the standard prescribes a definite classification for interest and dividends which largely deviates from the guidance of GAS 2. According to GAS 21.44, interest and dividends received are classified as investing cash flows, while GAS 21.48 requires interest and dividends paid to be attributed to financing activities.

### *Classification according to international standards*

IAS 7.31 explicitly requires firms to disclose interest and dividends received and paid separately.<sup>19</sup> In addition, they shall be classified consistently over time as either operating, investing, or financing cash flows (IAS 7.13). However, changes with regard to the classification are possible in accordance with the provisions for changes in accounting policies set out in IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors" (see e.g. Lüdenbach, 2006). While IAS 7.33 states that financial institutions usually classify interest received and paid as well as dividends received into OCF, it points out that "there is no consensus on the classification of these cash flows for other entities." Moreover, the standard allows firms to classify interest paid as either operating or financing<sup>20</sup> and interest and dividends received as either operating or investing cash flows. Classification as operating is based on the notion that the related income and expenses amounts enter into the determination of net income. The alternative treatments are justified because interest paid constitutes financing costs and interest and dividends received are earned as returns from investments. With regard to dividends paid, IAS 7.34 allows classification as financing cash flow on the grounds that they are costs of obtaining financial resources and, alternatively, as operating

cash flow. The latter treatment would assist users of the statement of cash flows to assess the firm's ability to pay dividends with cash proceeds from operating activities.<sup>21</sup>

Prior to the requirement to provide consolidated financial statements in accordance with IFRS some German firms prepared solely US GAAP consolidated financial statements.<sup>22</sup> Therefore, it is important to note that the relevant US GAAP guidance, FASB Accounting Standards Codification Topic 230 (ASC 230) "Statement of Cash Flows", requires interest paid and received as well as dividends received to be classified as operating, while dividends paid shall be classified as financing.<sup>23</sup> Table 1 summarizes the relevant guidance under IFRS in comparison to German GAAP and US GAAP.

### *Current developments – the ongoing debate*

Historically, there has been international diversity with regard to the classification of interest in the statement of cash flows (e.g. Stolowy and Walser-Prochazka, 1992) reflecting controversial conceptual and practical arguments.<sup>24</sup> Thus, the options provided by IAS 7 can be seen as a compromise to accommodate various views<sup>25</sup> in order to reach

<sup>19</sup> Importantly, such disclosure is considered as material information. Our analysis of error announcements following an investigation by the German Financial Reporting Enforcement Panel (FREP) (Deutsche Prüfstelle für Rechnungslegung e.V.) reveals at least five cases (until December 31, 2014) in which missing disclosures regarding interest and dividends were observed and firms had to announce this to the public.

<sup>20</sup> With regard to interest paid that is capitalized, however, a classification as investing may also be observed in practice (see PwC, 2014, par. 30.96.1-30.96.3 for a discussion).

<sup>21</sup> Some view the classification of income taxes as a similar choice, although IAS 7 is definite in when taxes have to be classified out of OCF. However, since the detailed analysis of tax cash flows on a transaction basis is often impracticable and taxes are typically paid in subsequent periods, income taxes paid are usually classified as operating (PwC, 2014, par. 30.97.1). Consequently, prior research did not find any alternative classification of income taxes (e.g. Hitz and Teuteberg, 2013) which is why we do not examine tax cash flows.

<sup>22</sup> It was only in 2007 that the US Securities and Exchange Commission (SEC) began to allow foreign firms listed on a US stock exchange to provide consolidated financial statements in accordance with IFRS without reconciliation to US GAAP (SEC, 2007). In the course of the mandatory IFRS adoption, German firms that already prepared their consolidated financial statements according to US GAAP for the purpose of an exchange listing outside the EU were allowed to adopt IFRS as of 2007 (Regulation (EC) No. 1606/2002, Article 9(b)). In this context, however, it is noteworthy that the SEC accepted a cash flow statement prepared according to IAS 7 without a reconciliation to US GAAP since 1994 (e.g. Leuz, 2000; Meyer, 2007).

<sup>23</sup> The predecessor of ASC 230, Statement of Financial Accounting Standards No. 95 (SFAS 95) "Statement of Cash Flows", prescribed the same classification with regard to these cash flows.

<sup>24</sup> See, for example, Nurnberg and Largay (1998) for a discussion of the contentious FASB decision in 1987 to require uncapitalized interest payments to be classified into OCF by financial as well as non-financial firms.

<sup>25</sup> For example, the option to classify interest paid as operating reflects the view of proponents of the so-called 'inclusion concept' according to which OCF should generally reflect the cash flows from transactions and events that enter into the determination of profit or loss (see Nurnberg, 1993; Nurnberg and Largay, 1998), whereas the alternative to classify interest paid as a financing cash flow reflects the view that "interest is paid for the use of debt capital" (Nurnberg and Largay, 1998, p. 409). See also the rationale provided by IAS 7.33 for allowing the policy choice.

agreement on the treatment of interest and dividends when the standard was issued (Kirsch, 2006). However, the appropriate classification still constitutes an area of debate to date (IFRS Foundation, 2014). During deliberations upon clarifications of the definitions of operating, investing, and financing activities to enhance consistent classification in the statement of cash flows in general,

the staff of the IASB also dealt with the treatment of interest and dividends. In March 2013, in its final proposal to clarify cash flow classification under IAS 7, the staff recommended removing the options and to classify interest and dividends paid into the financing and interest and dividends received into the operating category, respectively (IFRS IC, 2013).

**Table 1.** Classification of interest and dividends of non-financial firms under IFRS, German GAAP, and US GAAP

Cash flow	IFRS	German GAAP		US GAAP
	IAS 7	GAS 2 (until 2014)	GAS 21 (from 2015)	ASC 230
Interest received	Operating or Investing (par. 33)	Generally: Operating (par. 36), exceptionally, if justified in the circumstances: Investing (par. 39)	Investing (par. 44)	Operating (par. 230-10-45-16)
Interest paid	Operating or Financing (par. 33)	Generally: Operating (par. 36), exceptionally, if justified in the circumstances: Investing or Financing (par. 39)	Financing (par. 48)	Operating (par. 230-10-45-17), exception: interest capitalized as part of the cost of assets which is to be classified as Investing (par. 230-10-45-13)
Dividends received	Operating or Investing (par. 33)	Generally: Operating (par. 36), exceptionally, if justified in the circumstances: Investing (par. 39)	Investing (par. 44)	Operating (par. 230-10-45-16)
Dividends paid	Financing or Operating (par. 34)	Financing (par. 37)	Financing (par. 48)	Financing (par. 230-10-45-15)

Source: own illustration

Moreover, with regard to the classification of interest paid that is capitalized, the IASB even issued an exposure draft clarifying that the type of the related asset should be decisive for the classification into the operating or investing category (IASB, 2012). However, neither proposal has been approved by the IASB so that firms are still given the flexibility described above (see IASB, 2013).<sup>26</sup> Taking this into consideration, it is remarkable that the ASCG decided to issue a revised German standard prescribing a classification of interest and dividends which deviates from both former national and current IFRS guidance.

These developments evidence the controversy and relevance of the matter for standard setting and practice. In this paper, we do not question which classification of interest and dividends is theoretically preferable but instead, aim to contribute to an understanding of current reporting practice which

might help standard setters in further deliberations on the matter and encourage the removal of accounting options.

## 2.2 Prior research

The widespread acceptance of IFRS around the globe with the aim of achieving harmonization of financial reporting has stimulated a large body of research on the international comparability of reporting practices. Nobes (2006) argued that there will remain considerable room for international diversity under this shared set of standards due to several reasons, such as different versions and translations of IFRS, gaps in IFRS, differences in enforcement, and, importantly, accounting choices. Subsequently, several studies examined IFRS policy choices of firms across various countries, including the classification of interest and dividends in the statement of cash flows.

Kvaal and Nobes (2010) provide evidence for substantial systematic cross-country variation with regard to 16 observable accounting policy choices in financial statements of 232 firms from five countries for the year 2005/06. Moreover, they conclude that the international differences are driven by national pre-

<sup>26</sup> However, at the time of writing, the IASB is undertaking several projects as part of a broader 'Disclosure Initiative' one of which includes reviewing the guidance of IAS 7 regarding the statement of cash flows. For further information see <http://www.ifrs.org/Current-Projects/IASB-Projects/Disclosure-Initiative/Principles-of-Disclosure/Pages/Home.aspx> (last retrieved April 14, 2015).

IFRS practices. Concerning the choices under consideration in this paper, Kvaal and Nobes (2010) document that the percentages of firms that disclosed interest paid as operating ranged from 39% (Spain) to 91% (Australia), while those of firms that disclosed dividends received as operating ranged from 37% (UK) to 93% (France). In addition, they also find remarkable within-country variation. In particular, 62% (67%) of the German firms for which interest paid (dividends received) were identified, classified the respective cash flow as operating. In a subsequent paper, Kvaal and Nobes (2012) examine the policy choices for a similar sample of firms for the year 2008/09 and find that national IFRS reporting practices continue to exist. Also, they find no substantial changes in the patterns regarding the classification of interest paid and dividends received from 2005/06 to 2008/09. Nobes (2011) extends this database and documents international differences for eight countries (Italy, the Netherlands, Sweden in addition to the above) reflecting Anglo and continental European groupings.

Nobes and Stadler (2013) also classify countries into groups on the basis of IFRS policy choices. For a sample of 514 firms from twelve countries<sup>27</sup>, they find substantial international diversity in financial statements for the year 2011. Two of the 14 choices under investigation concern interest paid and dividends received in the statement of cash flows. Nobes and Stadler (2013) report percentages of firms disclosing these cash flows as operating ranging from 43% (Hong Kong) to 96% (South Africa) and from 5% (China) to 91% (South Korea), respectively. With regard to the 33 non-financial German firms in their sample, percentages of firms classifying interest paid (61%) and dividends received (71%) as operating do not deviate substantially from earlier studies. Nobes and Stadler (2013) also find differences regarding policy choices between industries when dividing their sample broadly into financial, extractive and other. However, they only provide a few examples rather than discussing detailed results for each policy choice.

Based on the notion that management's default decision would be to follow previous national practice or industry norms, Stadler and Nobes (2014) examine the relative importance of country, industry and firm factors on 16 IFRS policy choices of 323 firms from ten countries in 2008/09 financial statements. While they find significant differences regarding the classification of interest paid and dividends received across countries, they only find two countries with very low within-country variation, i.e. 10% or less deviation from the default choice (operating), indicating the relevance of determinants beyond

country.<sup>28</sup> Overall, however, they conclude that country factors are most influential, while industry and firm factors play a role with regard to some topics, especially when an important accounting number is affected. Similarly, Cole et al. (2013) find country to be the primary factor influencing policy choices, including dividends received as well as interest paid and received, in 2009 financial statements of 197 firms from seven European countries. While they provide some evidence for the relevance of industry factors as well as the auditor type<sup>29</sup>, they neither find a strong influence of the firms' size and capital structure nor do they examine the role of incentives.

Haller and Wehrfritz (2013) start with an examination of the dominant national pre-IFRS accounting practices of UK and German firms for consolidated financial statements of the year 2001. With regard to interest paid and received as well as dividends received, they report that none of the 110 firms for which German GAAP financial statements were examined classified these cash flows outside the operating category of the statement of cash flows. Thus, classification as investing or financing was, in fact, only accepted exceptionally and if justified in the circumstances under GAS 2. Subsequently, Haller and Wehrfritz (2013) examine IFRS policy choices of German and UK firms for 2005 and 2009 and provide evidence for the survival of such national accounting patterns under IFRS. In particular, German firms are more likely to classify interest paid and received as well as dividends received as operating than UK firms.<sup>30</sup>

A comprehensive study on the comparability of reported cash flows under IFRS is conducted by Gordon et al. (2014). For a sample of 798 firms from 13 European countries, they examine the classification of interest paid and received as well as dividends received for the period from 2005 to 2012. Again, the study documents substantial differences across countries. For example, firms from Denmark, Finland, and Sweden classify interest received and paid into OCF almost without exception, while less than 20% of the firms from Portugal choose this category. With

<sup>27</sup> Importantly, in addition to the countries covered by the earlier studies, Nobes and Stadler (2013) also examine IFRS policy choices of firms from China, Hong Kong, South Africa, South Korea, and Switzerland.

<sup>28</sup> Stadler and Nobes (2014) do not, however, provide much insight on the determinants of these classification choices beyond country factors. While their results suggest that firms that are cross-listed in the US tend to classify dividends received as operating, i.e. consistent with US GAAP, they find little influence of industry factors and other firm factors. With regard to the classification of interest paid as operating, their robustness tests show a significantly negative association with a firm's leverage and market-to-book-ratio.

<sup>29</sup> Specifically, Cole et al. (2013) argue that big international audit firms do not only have a constraining effect on firms' policy choices but, especially with regard to IFRS financial statements, also serve as an advisor, e.g. during the transition from local GAAP to IFRS.

<sup>30</sup> The detailed results reveal that 73% of the German firms classified interest paid as operating (interest received: 73%; dividends received: 64%) in 2009 as opposed to 63% of the UK firms (interest received: 40%; dividends received: 23%) (Haller and Wehrfritz, 2013).

regard to Germany, Gordon et al. (2014) confirm the variation described above and show that about two thirds of the cash flows related to interest received and paid as well as dividends received are classified as operating.<sup>31</sup> Besides documenting European reporting practice, the authors show that the flexibility under IFRS results in higher reported OCF as compared to a benchmark classifying interest and dividends as under US GAAP.

Gordon et al. (2014) further examine the drivers of classification choices and find that firms that are closer to financial distress, highly leveraged and less profitable tend to increase OCF via classification. In addition, firms that are inclined to access equity markets more frequently are more likely to exploit the discretion provided under IFRS. Remarkably, Gordon et al. (2014) do not find industry practice to be relevant to firms' reporting decisions, possibly due to the dominance of country factors. Importantly, their analyses also indicate that the flexibility with regard to classification can have consequences for the prediction of OCF as well as the market's assessment of the persistence of accruals and OCF.

### 3. Determinants of classification choices: hypotheses and research design

We build on recent cross-country research by Gordon et al. (2014) to examine the determinants of classification choices of German listed firms. Accordingly, we construct the following two dependent variables which proxy for OCF-increasing classification choices (see Gordon et al., 2014): (1) *DeltaOCF* is intended to capture the magnitude of firms' OCF increases as a result of the flexibility regarding interest and dividends computed by comparing as-reported OCF to a hypothetical benchmark which we adjust for these classification choices (see chapter 4.3); (2) *InterestPaidFin* is an indicator variable that equals 1 if the firm classifies interest paid as a financing cash flow and, thus, *ceteris paribus*, increases OCF relative to the alternative classification of interest paid in the operating section.<sup>32</sup>

As a starting point, we consider several incentives as well as reporting environment factors in our single-country setting that potentially affect firms' tendency to report higher OCF as examined by Gordon et al. (2014). On this basis, we first examine

the role of firms' probability of financial distress. Prior literature suggests that firms with higher probability of financial distress have incentives to inflate OCF (Lee, 2012) since it is an important indicator for the assessment of credit and default risk (e.g. Gebhardt and Mansch, 2012). Accordingly, we expect firms with a high probability of financial distress to be more likely to use classification choices to increase OCF. Our proxy for financial distress (*DistressHi*) follows Gordon et al. (2014) and is based on Altman's Z-score (Altman and Hotchkiss, 2006). Second, we further consider that OCF is a meaningful indicator of a firm's ability to pay interest and repay debt (Gebhardt and Mansch, 2012). Prior research and anecdotal evidence suggest that OCF plays a vital role in debt covenant contracts (see Cascino et al., 2014).<sup>33</sup> In line with the findings of Gordon et al. (2014) we expect firms with stronger contracting concerns to have incentives to report higher OCF. To examine the role of contracting concerns, we include an indicator variable (*LeverageHi*) that equals 1 if the leverage, i.e. the ratio of total liabilities over total assets, of a firm is above the median of all firms in the respective year.

Third, we test for the association between classification choices and profitability. Adhikari and Duru (2006) document that less profitable firms are more likely to issue voluntary free cash flow measures to augment their reported performance. Similarly, firms with a weaker profitability may have stronger incentives to inflate OCF to mitigate the performance conveyed by the income statement.<sup>34</sup> We use return on assets to proxy for *Profitability* and expect that less profitable firms have stronger incentives to increase OCF, consistent with findings in Adhikari and Duru (2006) and Gordon et al. (2014).

Next, we examine three reporting environment factors. First, we test whether the existence of analyst cash flow forecasts is associated with classification choices that increase reported OCF. The existence of analyst cash flow forecasts can be interpreted as a summary statistic for the perceived importance of cash flow measures for a firm (Lee, 2012). Following Gordon et al. (2014), we construct an indicator variable that equals 1 if at least one analyst cash flow forecast is available on I/B/E/S for the respective firm-year observation. We expect firms with analysts' following to be more likely to make OCF-increasing classification choices.<sup>35</sup>

<sup>31</sup> Contrary, Gordon et al. (2014) find remarkably less variation in other countries: More than 80% of the firms from Austria, Denmark, Finland, Italy, the Netherlands, Portugal, and Sweden treat interest paid identically.

<sup>32</sup> We focus on interest paid because this cash flow is most often disclosed separately by the firms and typically constitutes a larger amount in comparison to interest and dividends received (see chapter 4). Moreover, firms may better be able to influence the timing and amount of cash outflows relative to inflows "thus making interest paid more susceptible to use as an OCF-increasing item" (Gordon et al., 2014, p. 4).

<sup>33</sup> See Appendix B for anecdotal evidence highlighting the use of OCF in debt covenant agreements.

<sup>34</sup> Note that the nature of the relationship is not unambiguous since profitable firms may be inclined to use OCF-increasing classification choices to align cash flow performance with accrual-based performance measures (Gordon et al., 2014).

<sup>35</sup> The classification of interest and dividends shall be consistent from period to period, i.e. frequent changes are not allowed. Thus, analyst forecasts can be expected to implicitly control for the firm's accounting policies which is why we do not consider incentives to meet or beat analyst forecasts as determinants of the classification choices.

Second, we take into account the differences between IFRS and US GAAP. The latter accounting regime does not allow flexibility regarding the classification of interest and dividends. Prior research suggests that firms that are cross-listed in the US tend to report closer to US GAAP (Lang et al., 2003; Bradshaw et al., 2004). Consistent with this notion, Stadler and Nobes (2014) and Gordon et al. (2014) provide some evidence for firms that are cross-listed in the US being more inclined to classify dividends received and interest paid into the operating category as required under US GAAP. Hence, we include the indicator variable *USList* that equals 1 if a firm is listed on a US exchange and expect these firms to be less likely to make OCF-increasing choices under IFRS.

Third, we aim to explore the role of industry practice. Prior research provides evidence for the importance of industry to individual firms' reporting choices (Jaafar and McLeay, 2007) including the comprehensiveness of firms' cash flow reporting (Wallace et al., 1999). While Gordon et al. (2014) do not find any association between firms' individual reporting behavior and that of their industry peers, this might be driven by the dominant role of national accounting patterns in their cross-country study. To re-examine the role of industry practice for classification choices of German firms, we construct a variable to proxy for the homogeneity of cash flow classification within an industry as the percentage of firms in the same industry that classify interest paid as a financing cash flow (*IndPractice*) (Gordon et al., 2014). As we believe that industry practice is an important determinant of accounting choices and *IndPractice* is based on an OCF-increasing choice, we expect a positive relationship between our proxy and our dependent variables.

Furthermore, we include *EqIssues* as the percent change of a firm's contributed capital over the sample period to capture the effect of accessing capital markets by means of seasoned equity offerings. In line with Gordon et al. (2014), we expect firms which attempt to raise further capital to have stronger incentives to increase OCF in order to improve their valuation and, therefore, expect a positive relation with *DeltaOCF* and *InterestPaidFin*. Without predicting the sign of the relation with classification choices, we further include *Size* (measured by the natural logarithm of the firms' market capitalization) to capture general effects of the reporting environment, the complexity, and the expertise and competence of the firms' accounting departments. In addition to the factors based on Gordon et al. (2014) above, we explore several further potential determinants of firms' classification choices which we

divide into (a) corporate governance factors and (b) management-related factors.<sup>36</sup>

### **Corporate governance factors – information asymmetry**

The value relevance of cash flows, especially OCF, has been documented in various studies (e.g. Clacher et al., 2013). For a large sample of German listed firms, Rapp (2010) shows that the value relevance of OCF is higher when information asymmetry between corporate insiders, i.e. the management, and outsiders, i.e. shareholders, is high. Thus, it follows that the higher the information asymmetry is the more important OCF is with regard to the valuation of the firm. Moreover, a widely dispersed ownership base may monitor accounting choices less closely than large blockholders which may enhance the effect of visible OCF-increasing reporting techniques.<sup>37</sup> Accordingly, we expect firms exhibiting a high information asymmetry to be more likely to use classification choices to increase OCF. Following Rapp (2010), we define an indicator variable (*Dominated*) that equals 1 if the free float of the firm is lower than 50% to proxy for information asymmetry.

### **Corporate governance factors – auditor type**

Our second factor related to corporate governance pertains to the auditors of the financial statements which presumably have some influence on accounting policies chosen by their clients (e.g. Leuz, 2000). As described in chapter 2.1, GAS 2 generally required interest paid and received as well as dividends received to be classified into OCF. Smaller audit firms are typically more strongly influenced by national accounting customs and national GAAP. By contrast, the large international Big 4 audit firm networks are known for their IFRS expertise and often not only work as a constraint but rather as an advisor with regard to IFRS financial statements (Cole et al., 2013).<sup>38</sup> Therefore, we expect Big 4 auditors to be more willing to accept, or even promote, exercising the IFRS-specific classification choices in a manner

<sup>36</sup> We are aware that our categories of factors overlap with those of Gordon et al. (2014). More specifically, our management-related factors largely stem from incentives, while our corporate governance factors could also be seen as part of the reporting environment of the firm. However, we consider our categories to express more precisely the nature of the influential factors which we explore in addition to the set of incentives and reporting environment factors based on Gordon et al. (2014).

<sup>37</sup> An alternative view would be that large blockholders have presumably access to information via other information channels and, therefore, may rely less on publicly available financial statements (Leuz, 2000).

<sup>38</sup> In a similar vein, during the time before mandatory IFRS reporting, Leuz (2000, p.193) pointed out that big international audit firms "are likely to encourage internationally accepted accounting and disclosure standards as part of their competitive strategy".



that is not consistent with national practice. Accordingly, we expect cash flow statements audited by a Big 4 audit firm to be more likely subject to OCF-increasing classification choices.<sup>39</sup> To examine this hypothesis, we include the indicator variable *Big4* which equals 1 if the financial statements are audited by a Big 4 auditor in the respective year.<sup>40</sup>

### **Corporate governance factors – mandatory adoption of IFRS**

German firms account for a large share of the firms that adopted IFRS relatively early (Daske and Gebhardt, 2006). However, some firms did not switch from German GAAP to IFRS until they had to adopt the latter mandatorily in 2005. We construct the indicator variable *MandAdopter* which is equal to 1 if a firm had not reported under IFRS prior to the year 2005, i.e. German GAAP was applied in 2004. We expect those 'mandatory IFRS adopters' to be less likely to make use of the IFRS specific classification choices which had not existed under concurrent German GAAP (GAS 2) because they presumably face less pressure with regard to their IFRS financial data from users. Consequently, we expect a negative sign for the relation.

### **Management-related factors – inclination to earnings management**

Although incentives to manage earnings and incentives to increase reported OCF are not mutually exclusive (Lee, 2012), the classification choices under consideration can be considered as decisions that are independent from earnings management. This is because the decisions only affect the amount of operating (as well as investing and/or financing, respectively) cash flow while holding earnings and aggregate cash flows constant (Lee, 2012). While this is important to note with regard to the determinants of the classification choices explored, this is also a reason for examining the nature of the relationship between incentives to manage earnings and incentives to increase OCF: 1) Is the relationship complementary in nature, i.e. are managers that manage earnings more likely to increase OCF? In other words, are there differences between managers regarding their general inclination to influence financial reporting? 2) Is the relationship substitutive in nature, i.e. does the management focus with regard to financial reporting depend on which measures, earnings or cash flows,

are more important to the firm in the current situation?<sup>41</sup>

To proxy for earnings management, we use the PM/ATO diagnostic developed by Jansen et al. (2012), a measure that is not affected by cash flow classification choices. The rationale behind this approach is that a contemporaneous change of a firm's profit margin (PM) and asset turnover (ATO) in opposite directions indicates earnings management behavior.<sup>42</sup> Accordingly, we include an indicator variable *EarningsMgmt* that equals 1 if  $\Delta PM < 0$  and  $\Delta ATO > 0$  or  $\Delta PM > 0$  and  $\Delta ATO < 0$ .<sup>43</sup> Considering our alternative views stated above, we do not predict a sign for the relationship between *EarningsMgmt* and OCF-increasing classification choices.

### **Management-related factors – use of cash flow measures for internal control purposes**

As a second management-related factor, we aim to explore the association between the use of cash flow based measures for internal control purposes and the inclination to increase OCF by classification choices. In particular, we expect firms that use cash flow information to steer their business (alongside accruals-based measures and balance sheet information) to be more likely to make OCF-increasing choices. Just as the existence of cash flow forecasts is interpreted as indicator for the perceived importance of cash flows by firms' outsiders, the voluntary internal use of cash flow based performance measures can be regarded as an indicator for the importance of cash flows as perceived by the firm itself. Moreover, the internal use of cash flows makes them more likely to be important parameters for the evaluation of managers which may increase incentives to report high OCF. To proxy for the use of cash flows for internal control purposes, we create an indicator variable (*CFmetric*) which equals 1 if the firm includes cash flow based measures in its segment reporting according to IFRS 8 "Operating Segments"<sup>44</sup>, and 0 otherwise.<sup>45</sup>

<sup>39</sup> Many studies find a negative association between auditor size and earnings management (see Dechow et al., 2010). However, the classification choices examined are options that are in line with IFRS which is why we do not expect a mitigating effect of Big 4 auditors as opposed to classical earnings management studies.

<sup>40</sup> Note that Gordon et al. (2014) consider whether the choice of an individual audit firm is associated with OCF-increasing cash flow classification choices and do not find a significant relationship.

<sup>41</sup> For example, managers may consider OCF to be more important for external parties than earnings if the firm is close to financial distress, although they view earnings as the most important indicator in general (Graham et al., 2005).

<sup>42</sup> For example, if a firm understates bad debt allowance and, thereby, manages earnings upwards, accounts receivable on the balance sheet as well as the firm's net income of the period increase. Assuming a constant level of sales, this leads to an increasing PM and a decreasing ATO.

<sup>43</sup> We also check whether upward (downward) earnings management is followed by downward (upward) earnings management in the subsequent period to identify cases in which our earnings management indicator is likely to detect the reversal of earnings management in the preceding period.

<sup>44</sup> IAS 7.50(d) encourages, but does not require, the disclosure of segment cash flows. According to IFRS 8, the disclosure in a firm's segment reporting is based on information which is reported to the top management which is in charge of allocating resources to segments and reviewing their performance (PwC, 2014, par. 10.8).

## Management-related factors – undervaluation

Cash flow information is relevant for valuation purposes (e.g. Imam et al., 2008; Gebhardt and Mansch, 2012). Therefore, specific management intentions might arise in case the valuation of the firm is perceived as unsatisfactory. Accordingly, we expect managers to be more inclined to exploit classification choices in an OCF-increasing manner if the firm is supposedly undervalued. We therefore employ the market-to-book ratio (*MTB*) as an additional control variable in our model.

Summarizing the above, we arrive at the following model with *Classification* indicating our two dependent variables *DeltaOCF* and *InterestPaidFin*. All variables are defined in Appendix A.

$$\begin{aligned} & \text{Classification}_{it} \\ & = \beta_0 + \beta_1 \text{DistressHi}_{it} + \beta_2 \text{LeverageHi}_{it} \\ & + \beta_3 \text{EqIssues}_i + \beta_4 \text{Profitability}_{it} \\ & + \beta_5 \text{AnalystForecast}_{it} + \beta_6 \text{IndPractice}_{it} \\ & + \beta_7 \text{USList}_{it} + \beta_8 \text{Size}_{it} + \beta_9 \text{Big4}_{it} \\ & + \beta_{10} \text{Dominated}_{it} + \beta_{11} \text{EarningsMgmt}_{it} \\ & + \beta_{12} \text{CFmetric}_i + \beta_{13} \text{MTB}_{it} + \beta_{14} \text{MandAdopter}_i \\ & + \varepsilon_{it} \end{aligned}$$

## 4. Data and results

### 4.1 Data description

In order to examine the comparability of reported cash flows in Germany, our initial sample includes all firms listed in the main indices of the dominant German stock exchange, Deutsche Börse AG (DAX30, MDAX, SDAX, and TecDAX<sup>46</sup>). We analyze the years from the mandatory adoption of IFRS for listed firms in 2005 to 2012 to allow preparers to adjust their initial classification choices and to develop best practices, e.g. industry-specific reporting patterns. Our initial sample therefore comprises 1,280 firm-year observations. We exclude financial institutions (SIC

codes 6000-6999) because of industry-specific classification guidance (see IAS 7.33) and firms that did not report in accordance with IFRS. Our final sample consists of 1,064 firm-year observations from 13 industries following the industry classification of Barth et al. (1998). Table 2 summarizes our sample.

To examine the use of classification choices, we exploit hand-collected data from annual reports for interest paid, interest received, dividends received, and dividends paid. This includes the magnitude of these cash flow items, the location of disclosure as well as the classification in the statement of cash flows. Further hand-collected data includes the firms' auditors and whether firms reported cash flow based measures in their segment reporting. Altman's Z-scores were obtained from S&P Capital IQ.<sup>47</sup> All other financial and non-financial data are obtained from Thomson Reuters Datastream.

### Disclosure frequency and non-disclosure of interest and dividends

As noted above, IAS 7.31 requires firms to disclose interest and dividends received and paid separately. Therefore, we identified the cash flows related to interest and dividends by examining the statement of cash flows (*inSCF*), notes immediately next to the statement of cash flows (*nextSCF*) as well as the notes to the consolidated financial statements that explained the statement of cash flows (*NOTES*). Most commonly, the cash flows are disclosed on the face of the statement of cash flows (e.g. 69% of interest paid), while only few firms report the cash flows next to the statement or in the notes. Table 3 summarizes how the firms disclose the cash flow items.

The fact that not all of our sample firms disclose the cash flows related to interest and dividends separately, despite the explicit requirement of IAS 7.31, is noteworthy. In 2% of the cases, we could not identify interest paid, while interest received (6%), dividends paid (17%) and, in particular, dividends received (59%) could be identified even less frequently. Of course, those firms may not have experienced these cash flows in the respective periods or they might have been immaterial. Nevertheless, these findings hint towards potential compliance problems regarding the disclosure of interest and dividends. In the light of the errors regarding missing disclosure of interest and dividends identified by the German FREP (see footnote 19), our findings are of interest to enforcement institutions and signal potential room for improvement in this area.

Thus, although only disclosures about segment profit or loss as well as segment assets and liabilities are explicitly required by the standard, the requirement to disclose cash flow measures may arise if they are regularly reported to the management. This is because the core principle of IFRS 8 requires disclosure of information that is used by the management to decide about the allocation of resources and the evaluation of the segment performance (see PwC, 2014, par. 10.79.1).

<sup>45</sup> For each firm, we examine the most recent financial statements included in our sample in order to arrive at our indicator variable for the whole period, since IFRS 8 was applicable from 2009 onwards.

<sup>46</sup> The DAX30 equity index contains shares of the 30 largest German firms with regard to free float market capitalization and exchange turnover. The following 50 largest firms are included in MDAX, while SDAX includes further 50 firms that rank directly below MDAX-firms with regard to size. TecDAX contains shares of the 30 largest technology firms trading on the German stock exchange (see Deutsche Börse, 2012).

<sup>47</sup> We thank Tobias Stork-Wersborg for providing access to Capital IQ data.

**Table 2.** Sample composition

	<b>Firm-year observations</b>
<b>Initial Sample</b>	<b>1,280</b>
Financial Institutions	(166)
No audited IFRS report available	(50)
<b>Final Sample</b>	<b>1,064</b>

The initial sample consists of all firms of the largest German stock indices (DAX30, MDAX, TecDAX, and SDAX). For each year from 2005 to 2012, these indices were rebalanced as to their constituents. Financial institutions (SIC 6000-6999) were removed due to industry-specific classification guidance set out in IAS 7. Furthermore, observations were eliminated if no audited IFRS report was available.

**Table 3.** Location of disclosure

	inSCF <sup>1</sup>	nextSCF <sup>2</sup>	NOTES <sup>3</sup>	none
Interest paid	69%	13%	16%	2%
Interest received	64%	13%	17%	6%
Dividends paid	82%	0%	1%	17%
Dividends received	26%	4%	11%	59%

<sup>1</sup> *inSCF* signifies observations for which firms display the respective cash flow within the statement of cash flows including those which additionally reveal it in the notes.

<sup>2</sup> *nextSCF* refers to the location outside the statement of cash flows but underneath it.

<sup>3</sup> *NOTES* refers to observations where the cash flow is solely shown in the notes and nowhere else.

#### 4.2 Classification of interest and dividends by German firms

Table 4, Panel A provides an overview of the classification choices by German firms from 2005 to 2012. The reporting behavior varies with regard to the cash flow to be classified. Dividends paid<sup>48</sup> are almost unanimously classified as a financing cash flow consistent with the view that dividends are a cost of obtaining financial resources (IAS 7.34). Having documented the homogeneous classification practice, we exclude dividends paid from some of our subsequent analyses. On the contrary, interest paid are classified as operating by more than two thirds of our sample firms (70%) consistent with the notion that interest expense enter into the determination of profit or loss rather than being costs of obtaining financial resources (IAS 7.33).<sup>49</sup>

Interest received is also predominantly reported in the operating section of the statement of cash flows (71%). While 18% of our sample firms classify interest received as investing, 10% allocate interest received to the financing category and, thus, report inconsistent with guidance in the relevant standard. Similarly, dividends received were mainly reported in the operating (69%) or investing category (28%).

Again, the classification of dividends received as a financing cash flow (3%) is not consistent with the explicit options (IAS 7.33). Overall, our results show substantial variation regarding the classification of interest paid and received as well as dividends received, largely in compliance with the guidance of IAS 7, while some deviations have to be noted.

Over time, the classification choices remain relatively stable. This is in line with the general requirement to classify these cash flows "in a consistent manner from period to period" (IAS 7.31). However, a moderate trend towards more OCF-increasing choices can be observed from the early years of mandatory IFRS reporting to the more recent financial statements. In particular, interest paid was classified as a financing (operating) cash flow in 33% (67%) of the cases in 2012 as opposed to 25% (74%) in 2005. This is noteworthy, since interest paid can have a material impact on OCF (see chapter 4.3). The development of the classification choices regarding interest and dividends received shows a smaller increase of OCF-increasing choices. In 2005, 68% (69%) of the firms classified interest (dividends) received into OCF as opposed to 71% (73%) in 2012. Our observation that a total of 61 firms changed their classification from one year to another during the sample period reflects the moderate trend towards OCF-increasing choices. Frequent changes include shifting dividends received into OCF (20% of changes observed), interest received into OCF (20%), and interest paid out of OCF (18%), all of which increase, *ceteris paribus*, OCF.<sup>50</sup>

<sup>48</sup> These include dividends paid to owners of the parent company as well as to non-controlling shareholders.

<sup>49</sup> Furthermore, the classification of interest paid (which may be capitalized) into the investing category turns out to be a rare phenomenon (1%). This points to a contradiction between the recent proposal to clarify that the classification of interest paid that is capitalized should follow the nature of the respective asset (IASB, 2012) and current accounting practice (see also Hitz and Teuteberg, 2013). Thus, based on our findings, the IASB's decision not to proceed with the proposal (see IASB, 2013) seems to be welcome.

<sup>50</sup> However, the moderate trend towards OCF-increasing classification cannot solely be attributed to firms that change their accounting policies, since the number of cash flows identified as well as the sample composition does not remain unchanged over the years.

**Table 4.** Classification of interest and dividends by year and industry

**Panel A: Classification choices by Years<sup>1</sup>**

Year	Interest paid				Interest received				Dividends paid				Dividends received			
	Obs.	OCF	ICF	FCF	Obs.	OCF	ICF	FCF	Obs.	OCF	ICF	FCF	Obs.	OCF	ICF	FCF
2005	112	74%	1%	25%	96	68%	22%	10%	91	1%	1%	98%	38	69%	26%	5%
2006	114	74%	1%	25%	103	70%	20%	10%	94	1%	0%	99%	43	66%	30%	5%
2007	126	71%	2%	27%	120	72%	20%	9%	100	0%	0%	100%	50	66%	30%	4%
2008	135	70%	1%	29%	130	72%	19%	9%	112	0%	0%	100%	60	62%	33%	5%
2009	138	69%	1%	31%	130	73%	17%	11%	108	0%	0%	100%	54	70%	28%	2%
2010	139	69%	1%	30%	138	71%	17%	11%	101	1%	0%	99%	60	68%	30%	2%
2011	139	69%	0%	31%	140	73%	17%	10%	111	0%	0%	100%	54	76%	22%	2%
2012	137	67%	0%	33%	138	71%	18%	11%	117	0%	0%	100%	56	73%	23%	4%
<b>Total (Mean)</b>	<b>1040</b>	<b>70%</b>	<b>1%</b>	<b>29%</b>	<b>995</b>	<b>71%</b>	<b>18%</b>	<b>10%</b>	<b>834</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>	<b>415</b>	<b>69%</b>	<b>28%</b>	<b>3%</b>

**Panel B: Classification choices by Industries<sup>1</sup>**

Industry	Interest paid				Interest received				Dividends paid				Dividends received			
	Obs.	OCF	ICF	FCF	Obs.	OCF	ICF	FCF	Obs.	OCF	ICF	FCF	Obs.	OCF	ICF	FCF
Mining and construction	33	76%	0%	24%	33	67%	24%	9%	34	0%	0%	100%	27	59%	41%	0%
Food	8	100%	0%	0%	8	100%	0%	0%	8	0%	0%	100%	8	100%	0%	0%
Textiles, printing and publishing	39	51%	0%	49%	38	55%	24%	21%	29	0%	0%	100%	9	78%	22%	0%
Chemicals	61	39%	0%	61%	51	35%	33%	32%	58	0%	0%	100%	42	55%	33%	12%
Pharmaceuticals	50	84%	0%	16%	47	66%	28%	6%	38	0%	0%	100%	16	50%	50%	0%
Extractive industries	8	100%	0%	0%	8	100%	0%	0%	8	0%	0%	100%	6	0%	100%	0%
Durable manufacturers	349	75%	1%	25%	328	75%	17%	8%	261	0%	0%	100%	144	74%	23%	3%
Computers	107	79%	1%	20%	97	77%	19%	4%	70	0%	0%	100%	22	77%	18%	5%
Transportation	100	50%	4%	46%	100	67%	27%	6%	70	0%	0%	100%	56	50%	45%	5%
Utilities	22	77%	0%	23%	22	100%	0%	0%	22	0%	0%	100%	17	100%	0%	0%
Retail	90	53%	0%	47%	90	58%	9%	33%	83	0%	1%	99%	24	67%	33%	0%
Services	96	85%	0%	15%	99	77%	19%	4%	89	2%	0%	98%	20	85%	15%	0%
Other	77	80%	0%	20%	74	86%	10%	4%	64	0%	0%	100%	24	92%	8%	0%
<b>Total (Mean)</b>	<b>1040</b>	<b>70%</b>	<b>1%</b>	<b>29%</b>	<b>995</b>	<b>71%</b>	<b>18%</b>	<b>10%</b>	<b>834</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>	<b>415</b>	<b>69%</b>	<b>28%</b>	<b>3%</b>

<sup>1</sup> For the classification of each cash flow item the total reflects the number of observations in which a firm disclosed the item.

Table 4, Panel B shows the classification choices by industry. The classification of interest paid differs substantially across industries. Among those industries with a noteworthy number of firm-year observations (>30), *Pharmaceuticals* and *Services* firms classify interest paid into OCF most frequently (84% and 85%, respectively), while only classifying interest paid as financing in 16% and 15% of the cases. Firms from *Computers* (79%), *Mining and construction* (76%), and *Durable manufacturers* (75%) also classify interest paid as operating frequently. On the other hand, *Retail* (53%), *Textiles, printing and publishing* (51%), and *Transportation* (50%) firms allocate interest paid substantially less often to the operating category, thereby increasing OCF. Remarkably, 61% of the firms operating in the *Chemicals* industry classify interest paid as financing as opposed to only 39% keeping interest paid into OCF.

With regard to interest and dividends received, our analysis also shows substantial variation across industries. The percentage of firms classifying interest received as operating ranges from remarkably low 35% (*Chemicals*) to around 75% (*Durable manufacturers*, *Computers*, and *Services*) when considering industries with a noteworthy number of observations (>30). Firms from *Textiles, printing and publishing* (21%), *Chemicals* (32%), and *Retail* (33%) most frequently classify interest received as a financing cash flow, inconsistent with the guidance in IAS 7. With regard to dividends received, some industries (e.g. *Durable manufacturers*, *Computers*,

and *Services*) exhibit remarkably higher percentages of observations indicating classification as operating than others (e.g. *Transportation* or *Mining and construction*), while total observations, and, thus, observations per industry have been relatively low. Overall, our descriptive analysis suggests that industry factors play a role in firms' reporting decisions.

Following Gordon et al. (2014), we further analyze the combinations of classification choices regarding interest paid and received as well as dividends received. Table 5 provides an overview of the most common combinations derived from a sub-sample of 424 firm-year observations which disclosed all of the three individual cash flows. The analysis shows that more than half of the firms (52%) classify all items in the operating category rather than using the IFRS-specific options. The second most common combination consists of the consequent use of the alternative options provided by IAS 7.33 for interest and dividends received as investing and interest paid as financing cash flows. Thus, our analysis suggests that firms tend to either disregard the options to classify the cash flows out of OCF or use these options consistently. However, it should be noted that the latter policy has only been adopted by 13% of the firms and that the analysis is limited to firms that disclosed all of the three cash flows at the same time. Importantly, 8% of the firms classify interest paid as financing while classifying interest and dividends received as operating, thereby, *ceteris paribus*, achieving the highest OCF.

**Table 5.** Combinations of classification choices

Classification by section combinations						
Interest paid		Interest received		Dividends received	Total	%
Operating		Operating		Operating	222	52%
Financing		Investing		Investing	54	13%
Operating		Operating		Investing	40	9%
Financing		Operating		Operating	34	8%
Financing		Financing		Investing	17	4%
Operating		Investing		Investing	13	3%
Financing		Investing		Operating	12	3%
Financing		Financing		Financing	9	2%
Others					23	5%
<b>Total</b>					<b>424</b>	

The table shows the most common combinations used to classify interest paid and received as well as dividends received for a sub-sample of firms for which all of the three individual cash flows were identified.

#### 4.3 Materiality of interest and dividends

Table 6 reports absolute mean and median values for interest and dividend cash flows as well their magnitude relative to OCF. On average, interest paid represents a fraction of 29% of reported OCF (155m€ in absolute numbers) whereas interest received amounts to 10% (85m€). With regard to dividends paid (received), we document a share of 51% (6%). These figures illustrate the substantial impact that classification can have on reported cash flows, particularly in the case of interest paid. The effect becomes apparent to an even greater extent when

considering that some firms only report positive OCF because interest paid is classified out of OCF.<sup>51</sup> We identify six firms which avoid reporting a negative

<sup>51</sup> For example, in 2006 (2007) the former largest German department store holding company Arcandor AG (formerly: KarstadtQuelle AG) which filed bankruptcy in 2009 included interest paid of 272m€ (118m€) in financing cash flow. As a result, the firm was able to report a positive OCF of 102m€ (15m€) which would have been negative otherwise. Without the IFRS-specific choices, i.e. including interest paid and received as well as dividends received into OCF, the firm would have reported an OCF of -63m€ (-23m€) in these years.

OCF at least once solely by exerting their high materiality of the cash flows related to interest classification choices. In summary, we document a and dividends.

**Table 6.** Materiality of cash flow items

	Observations <sup>1</sup>	Mean <sup>1</sup>	Median <sup>1</sup>	Mean (% of OCF) <sup>2</sup>	Median (% of OCF) <sup>3</sup>
Interest paid	1,033	154,943	17,000	29%	12%
Interest received	994	85,068	3,342	10%	3%
Dividends paid	833	164,562	17,620	51%	19%
Dividends received	415	28,730	0	6%	2%

<sup>1</sup> Only including observations for which the respective item was located. Means and medians are absolute values in thousand Euros.

<sup>2</sup> Computed by firm and averaged over the total sample.

<sup>3</sup> Computed by firm and taken as the median over the total sample.

Next, we examine the overall effect of the classification choices on reported cash flows under IFRS. Therefore, following Gordon et al. (2014), we construct a hypothetical benchmark (*OCF\_adjusted*) against which we compare reported OCF (*OCF\_reported*) by adjusting reported OCF to include interest paid and received as well as dividends received, i.e. the three cash flows for which substantial variation can be observed. Importantly, these cash flows are required to be reported within OCF under US GAAP. Moreover, the operating category has been the default classification for these cash flows under GAS 2, the relevant German GAAP guidance throughout our sample period. This allows our results to be interpreted with reference to the US accounting regime as well as concurrent German GAAP practice.<sup>52</sup> To examine the financial statement effects comprehensively, we also adjust as-reported investing and financing cash flows by excluding any of the three cash flows.<sup>53</sup>

Subsequently, we compare our benchmark cash flows to the cash flows that were reported under IFRS. In line with several of our hypotheses regarding incentives to increase OCF, we expect *OCF\_reported* to be significantly higher than *OCF\_adjusted* as a result of management's discretion over cash flow classification. Table 7 shows mean and median values for as-reported and adjusted operating, investing, and financing cash flows. As expected, *OCF\_reported* significantly exceeds *OCF\_adjusted* indicating that the flexibility provided by IAS 7 increases OCF on average. The mean (median) *OCF\_reported* exceeds

*OCF\_adjusted* by 3.0% (3.6%).<sup>54</sup> While investing cash flow also increases significantly as a result of the classification choices, the as-reported financing cash flow is significantly lower than it would have been if interest paid would have to be classified as operating. We are able to reject the null hypotheses of equal mean and median values for the reported versus adjusted operating, investing, and financing cash flows at the 1%-level. To visualize the magnitude of the effects from cash flow classification, one can say that the mean (median) OCF in our sample being 859m€ (116m€) is increased by about 26m€ (4m€).

Our descriptive and univariate analyses show variation regarding the classification of interest and dividends, the materiality of these cash flows as well as the overall effect of the choices on the subtotals of the cash flow statement. In the following, we further study potential determinants of the current practice by means of multivariate analyses.

#### 4.4 Determinants of classification choices

As described above, we employ two dependent variables as proxies for OCF-increasing classification choices. First, we present our results based on Fama-MacBeth estimations which use the magnitude of OCF-increasing classification choices (*DeltaOCF*) as the dependent variable. Second, we run logistic regressions that employ an indicator variable (*InterestPaidFin*) as the dependent variable that equals 1 if the firm classifies interest paid as a financing cash flow. Table 8 shows our results from both approaches as well as descriptive statistics for the variables employed.

<sup>52</sup> However, since the classification choices examined are not the only difference between IFRS, US GAAP, and German GAAP cash flows and our focus is not on a comparison between accounting regimes, we do not label our benchmark as being a (pro forma) German GAAP or US GAAP cash flow as Gordon et al. (2014).

<sup>53</sup> Following Gordon et al. (2014), we set values equal to zero if for any of the three cash flows the amount could not be identified.

<sup>54</sup> Percent differences computed as the mean (median) of *OCF\_reported* divided by mean (median) of *OCF\_adjusted* minus 1.

**Table 7.** Comparison of reported and adjusted operating, investing, and financing cash flows

	Mean	SD	Median
<i>OCF_reported</i> <sup>1</sup>	0.0903	0.0832	0.0848
<i>ICF_reported</i> <sup>1</sup>	-0.0705	0.0919	-0.0553
<i>FCF_reported</i> <sup>1</sup>	-0.0105	0.1345	-0.0176
<i>OCF_adjusted</i> <sup>2</sup>	0.0876	0.0842	0.0818
<i>ICF_adjusted</i> <sup>2</sup>	-0.0716	0.0920	-0.0559
<i>FCF_adjusted</i> <sup>2</sup>	-0.0067	0.1346	-0.0144
<i>Delta_OCF</i> <sup>3</sup>	0.0027 ***	0.0094	0.0000 ***
<i>Delta_ICF</i> <sup>3</sup>	0.0010 ***	0.0040	0.0000 ***
<i>Delta_FCF</i> <sup>3</sup>	-0.0038 ***	0.0090	0.0000 ***

<sup>1</sup> Cash flows as reported under IFRS scaled by total assets.

<sup>2</sup> Cash flows adjusted in the way that interest paid and received as well as dividends received are included in OCF and excluded from investing (ICF) and financing cash flows (FCF).

<sup>3</sup> Deltas are calculated per observation as reported less adjusted values and then averaged respectively taken as the median for the entire sample.

\*\*\*  $p < 0.01$

### **Magnitude of OCF-increasing classification choices**

Based on the model by Fama-MacBeth (1973) and the application by Jegadeesh and Kim (2010), we perform separate cross-sectional regressions for each year between 2005 and 2012. Subsequently, we obtain coefficient estimates and test statistics as the average of the year-wise calculations. Excluding firms with missing data to calculate the entire sets of variables reduces our initial sample of 1,064 firm-year observations to 967 observations that pertain to 194 firms.

Our results for the German capital market are largely in line with the findings of Gordon et al. (2014) for the European sample. Consistent with our expectation, we document a positive coefficient for *LeverageHi* which is significant at the 1%-level. Accordingly, the *DeltaOCF* of firms with an above median leverage is increased by about 103% compared to firms which are not highly leveraged. With regard to the indicator variable *DistressHi*, for which we also expect a positive association, we fail to report significance.<sup>55</sup> *EqtIssues* is not significant either which suggests that incentives arising from capital market access are less pronounced in the German setting. As to the profitability of a firm, we find a negative association which is significant at the 1%-level. Thus, firms that are less profitable (i.e. achieving smaller positive or even negative return on assets) exert classification choices in a way that increases OCF more extremely than profitable firms, which is consistent with our hypothesis and prior research (Adhikari and Duru, 2006; Gordon et al.,

2014). For the size of a firm, we find a negative association with the magnitude of OCF-increasing reporting choices which is significant at the 1%-level. The larger a firm, the less it increases OCF by classification of interest and dividends.

In contrast to the findings of Gordon et al. (2014), the indicator variable for the existence of analyst cash flow forecasts is positive and significant at the 5%-level. Firms with cash flow forecasts reveal a *DeltaOCF* which is about 76% higher than for firms which are uncovered. This is consistent with the notion that the existence of analyst forecasts signals the importance of OCF to the respective firm (Lee, 2012). We find no significant association between cash flow classification choices and an exchange listing in the US which may be attributable to the low fraction of cross-listed firms in our sample (< 3%). Importantly, *IndPractice* is positive and significant at the 1%-level which is in line with our expectation of an association between the individual reporting choice of a firm and the dominant choices of its industry peers. The higher the homogeneity (i.e. the consensus) of choosing to classify interest paid in the financing category within a certain industry, the higher the magnitude of OCF increases. This finding seems contrary to Gordon et al. (2014) who do not find a significant association which might be due to the dominant role of country factors in their study. However, while it appears reasonable for firms to align to their national custom within an industry (in line with the effect that we document) it is less obvious and probable to align to a supra-national industry practice (which would be the case in Gordon et al., 2014).

<sup>55</sup> In order to account for potential collinearity among all variables and in particular with regard to *DistressHi* and *LeverageHi*, the variance inflation factor (VIF) test is performed. The VIF mean of 1.42 as well as the fact that no single score exceeds a value of 2.1 indicates that collinearity is not an area of concern here.

**Table 8.** Determinants of OCF-increasing classification choices**Panel A: Descriptive Statistics**

<b>Variable</b>	<b>Mean</b>	<b>SD</b>	<b>Median</b>
DeltaOCF	0.0026	0.0069	0.0000
InterestPaidFin	0.2916	0.4547	0.0000
DistressHi	0.3246	0.4684	0.0000
LeverageHi	0.5052	0.5002	1.0000
EqIssues	11.0473	110.3928	0.1000
Profitability	0.0528	0.0896	0.0442
AnalystForecast	0.9182	0.2743	1.0000
IndPractice	0.6330	0.0786	0.6000
USList	0.0292	0.1683	0.0000
Size	14.1468	1.6074	13.9200
Big4	0.8297	0.3760	1.0000
Dominated	0.2813	0.4498	0.0000
EarningsMgmt	0.3603	0.4803	0.0000
CFmetric	0.1119	0.3155	0.0000
MTB	2.4980	3.0559	1.8900
MandAdopter	0.1317	0.3383	0.0000

n = 1,064

**Panel B: Regressions**

	<b>DeltaOCF (OLS)</b>				<b>InterestPaidFin (Logit)<sup>1</sup></b>		
	<b>Exp. sign</b>	<b>Estimate</b>	<b>SE</b>	<b>p-value</b>	<b>Estimate</b>	<b>SE</b>	<b>p-value</b>
DistressHi	+	0.00040	0.00029	0.2080	-0.20100	0.18490	0.27700
LeverageHi	+	0.00269	0.00018	0.0000	0.38177	0.16397	0.02000
EqIssues	+	0.00000	0.00001	0.6820	0.00049	0.00065	0.44700
Profitability	-	-0.01216	0.00234	0.0010	-2.08753	1.09287	0.05600
AnalystForecast	+	0.00200	0.00071	0.0230	1.56975	1.09548	0.15200
IndPractice	+	0.01867	0.00111	0.0000	11.26736	1.39696	0.00000
USList	-	0.00055	0.00064	0.4150	-0.09580	0.47309	0.84000
Size	?	-0.00048	0.00008	0.0000	-0.11222	0.05205	0.03100
Big4	+	0.00127	0.00060	0.0690	0.37696	0.25475	0.13900
Dominated	-	0.00005	0.00041	0.8970	-0.05936	0.16777	0.72300
EarningsMgmt	?	-0.00041	0.00040	0.3410	-0.03888	0.15372	0.80000
CFmetric	+	0.00057	0.00024	0.0460	0.52634	0.23730	0.02700
MTB	-	-0.00015	0.00011	0.1970	-0.03951	0.07376	0.59200
MandAdopter	-	-0.00013	0.00028	0.6660	-0.73245	0.26335	0.00500
n = 967					n = 967		
Adjusted R-squared	0.1381				Pseudo R-squared	0.1010	
F-Test	12.04	(p-value <0.0001)			Wald Chi-square	90.87	(p-value <0.0001)

<sup>1</sup> Year dummies are employed (untabulated).

With regard to the corporate governance and management-related factors which we additionally explore, we obtain the following results. For the indicator variable *Big4*, we document a positive association that is significant at the 10%-level. In line with our expectation, we find that firms which have their financial statements audited by a *Big4* audit firm increase OCF more extremely by classification

choices, thus moving further away from concurrent national German accounting customs (represented by the benchmark '*OCF\_adjusted*'). Accordingly, the *DeltaOCF* of firms with a Big 4 auditor is 48% higher compared to firms without a Big 4 auditor. This is consistent with the view of Big 4 auditors acting not only as a constraint but also as IFRS advisors (Cole et al., 2013). With regard to the indicator variable



*Dominated* which proxies for the degree of information asymmetry between managers and shareholders, we do not find a significant association. Similarly, we are not able to report a significant association between *MandAdopter* and *DeltaOCF*.

Moving on to management-related factors, we document a negative association between OCF-increasing choices and our earnings management variable (*EarningsMgmt*), a relationship for which we did not predict the coefficient sign. This indicates that the relationship of 'cash flow management' and earnings management may be substitutive in nature. However, our result is not significant. Our proxy for potential undervaluation of a firm, the market-to-book ratio, is negatively associated with an increase of OCF as expected, yet not significant.

Finally, we document a positive association between the use of cash flow based measures for internal control purposes (*CFmetric*) and the magnitude of OCF increases by classification choices which is significant at the 5%-level. This suggests that firms which include cash flow based measures into their segment reporting according to IFRS 8 and which, accordingly, presumably steer their business also on the basis of cash flows are more likely to make OCF-increasing classification choices. We interpret this as managers of those firms paying more attention to cash flow figures and facing stronger incentives to shape cash flow performance than others, e.g. due to being evaluated on the basis of cash flows.

#### **Likelihood of OCF-increasing choices: Classification of interest paid as financing**

To analyze the likelihood of OCF-increasing classification choices, we run a pooled logistic regression with indicator variables for years and robust standard errors using the indicator variable *InterestPaidFin* as dependent variable. For the following variables, we document significant associations (with equal sign) that have also been obtained in the Fama-MacBeth regressions above: *LeverageHi*, *Profitability*, *IndPractice*, *Size*, and *CFmetric*. This reinforces our findings on the important roles of contracting concerns, profitability, industry practice as well as the use of cash flows for internal control purposes as determinants of cash flow classification choices. For example, firms which are highly leveraged are 47% more likely to classify interest paid as financing in order to increase their OCF. Similarly, firms which use cash flow metrics for internal control purposes are 69% more likely to do so.<sup>56</sup> Furthermore, in line with our findings above, we do not obtain significant results for the firms' closeness to financial distress (*DistressHi*), need to approach the capital market (*EqIssues*), and cross-

listing in the US (*USList*). With regard to the existence of analyst cash flow forecasts (*AnalystForecast*) as well as the auditor type (*Big4*), we find positive, yet insignificant associations. Similarly, the coefficients for earnings management (*EarningsMgmt*), information asymmetry (*Dominated*) as well as undervaluation (*MTB*) remain insignificant.

In addition, in the logistic regression, the coefficient for *MandAdopter*, i.e. firms that reported under German GAAP until they had to switch to international standards mandatorily, is negative and significant at the 1%-level. Firms which did not opt for voluntary adoption of IFRS are 52% less likely to classify interest paid as financing. This is in line with our expectation and indicates that firms which did not opt to voluntarily early adopt IFRS are more likely to keep their pre-IFRS German GAAP practice (i.e. classification of interest paid into OCF) thereby contributing to the persistence of international differences under IFRS that have been documented in the literature (see chapter 2.2). Moreover, this finding supports the notion by Stadler and Nobes (2014) that management's default decision regarding policy choices under IFRS is to follow previous practice if possible.

Overall, our analysis regarding the classification of interest paid supports the picture drawn from the previous estimations where the determinants of the magnitude of the increase of OCF due to the use of IFRS-specific classification choices were examined. Taken together, our results provide evidence for the notion that highly-leveraged and/or less profitable firms use discretion over cash flow reporting in order to augment financial information (Adhikari and Duru, 2006). Furthermore, our findings support claims that industry practice is an important driver of accounting policy choices, a factor that may be understated in cross-country settings. The findings further indicate the relevance of whether firms use cash flow based measures internally for their external reporting choices. In addition, our results provide some evidence for differences between voluntary and mandatory adopters of IFRS, the role of analyst forecasts as well as the relevance of auditor types, especially in the context of IFRS-specific reporting matters where Big 4 audit firms seem to act as advisors rather than solely as auditors (Cole et al., 2013).

#### **4.5 Robustness checks and additional analyses**

We conduct various robustness checks and additional analyses to validate our results. Besides the determinants of classification choices examined above, we test for the effect of several other constructs. In order to further examine the areas of financial distress and profitability, we control for

<sup>56</sup> The change in probabilities is calculated as follows: 47% arising from  $(e^{0.3817728} - 1)$ , 69% as  $(e^{0.5263381} - 1)$ , and -52% as  $(e^{-0.732452} - 1)$  obtained from the coefficients in the logistic regression (see Table 8, Panel B).

firms with negative net income or negative OCF as well as the interest coverage ratio as a frequently used measure of financial stability. Neither of these variables is significantly associated with OCF-increasing classification choices made by German firms. We also replace the general indicator variable for cash flow based measures in segment reporting by a more narrowly defined indicator variable that equals 1 if a firm reports OCF on a segment basis but results remain similar. Additionally, we run our regressions without a control for the use of cash flow measures for internal control purposes since our proxy is based on recent information only and, thus, less reliable for the years before IFRS 8 had to be applied.

As far as the relation between earnings management and decisions to influence cash flows is concerned, we replace the earnings management variable based on Jansen et al. (2012) by a related indicator variable which proxies for upwards management of earnings only. However, as in our main analyses, we do not find a significant association between the two constructs. Additionally, we employ a continuous variable measuring free float as the percentage of widely-held shares instead of using an indicator variable that equals 1 if a firm is dominated (free float < 50%) and an alternative definition for *Size* that employs the natural logarithm of sales instead of market capitalization. In both cases, our results remain unchanged.

#### ***Alternative industry classifications, exclusion of industries and industry indicators***

In our main analyses, we follow Gordon et al. (2014) and use the industry classification by Barth et al. (1998). Since one of our main insights is the relevance of industry practice, we conduct all of our analyses again with alternative industry classifications. Our results remain qualitatively unchanged using the industry classification following Frankel et al. (2002) or a standard two-digit SIC classification. To further validate our results regarding the influence of industry reporting practices, we run our main regressions excluding firms from industries with less than 30 firm-year observations according to Table 4. We obtain results similar to our main analyses. In order to test the robustness of the influence of industry, we also run our model separately with a set of indicator variables for industries instead of the variable *IndPractice*. However, results remain unchanged and confirm the strong association between industry and cash flow classification.

#### ***Only observations with explicit disclosure of interest paid***

Based on our observation that interest and dividends appear on the face of the cash flow statement when being classified as investing or financing, we treat observations where interest paid were not disclosed as

if interest paid were classified implicitly as operating in our main logistic regressions. Therefore, we run these regressions only with observations where interest paid was identified on the face of or close to the cash flow statement or in the footnotes. Results remain unchanged as expected due to the high percentage of firms that disclose interest paid separately.

#### ***Index affiliation***

Our sample is based on the four most important German stock indices. However, firms in these indices differ. In particular, firms contained in the leading German index DAX30 are substantially larger and presumably more proficient in terms of accounting disclosure and choices than others, especially compared to recently listed smaller firms contained in the SDAX or TecDAX. Moreover, they receive greater public and investor attention which may lead to higher incentives with regard to OCF. Further, belonging to an index may affect the firms' perceived peers and, therefore, lead to homogeneous reporting among firms from the same index similar to the inclination to follow industry practice. Although *Size* already captures partly such effects, we additionally control for such 'index-related effects' and construct an indicator variable for DAX30 affiliation as well as, alternatively, one for DAX30 or MDAX affiliation. However, both indicator variables are insignificant and do not change the overall results.

## **5. Conclusion**

Comparability is an important attribute of financial information and enhances its usefulness (Framework, QC.4, QC20-QC25). Consequently, it has been one of the aims followed when IFRS were introduced in the EU. However, the comparability of IFRS financial statements may be reduced for several reasons, including explicit accounting options (Nobes, 2006). Among such options are the classification choices for interest and dividends in the statement of cash flows according to IAS 7. We document substantial diversity regarding the classification of interest paid and received as well as dividends received that are classified as operating cash flows by more than two thirds of our sample of German firms between 2005 and 2012. Contrary, dividends paid are classified as financing almost without exception. Assuming interest and dividend cash flows to be economically similar phenomena across non-financial firms, the alternative classifications documented reduce comparability (see Framework, QC25). Importantly, the choices are not merely 'cosmetic', but rather affect important subtotals, especially OCF (Kvaal and Nobes, 2010). Empirical and experimental evidence further indicates the relevance of the classification decisions to cash flow prediction models (Gordon et al., 2014) and user

perceptions of the firm's financial strength (van der Heijden, 2015).

Our results show that reported OCF is significantly increased by the discretion allowed under IFRS as compared to German GAAP practice under GAS 2 as well as US GAAP. Moreover, we find that OCF-increasing choices, especially the classification of interest paid as a financing cash flow, are associated with firms being highly leveraged and less profitable which suggests that classification is driven by firm-specific incentives rather than economic differences. In addition, unlike prior cross-country studies (Gordon et al., 2014) our results suggest that industry practice is highly relevant to the individual reporting decisions of a firm, at least when holding country factors constant. We further find that incentives arising from accessing equity markets are of minor relevance to cash flow reporting in Germany consistent with the country being traditionally characterized as a bank-dominated, debt-financed economy (Monnet and Quintin, 2007).

We further provide some evidence suggesting that firms that are audited by a Big 4 auditor are more likely to exploit IFRS-specific classification choices which supports claims that big international auditors also serve as advisors to their clients' IFRS financial statements (Cole et al., 2013). In addition, our findings indicate that mandatory IFRS adopters are less likely to classify interest paid outside OCF consistent with the notion that management's default decision regarding IFRS policy choices is to follow previous practice (Stadler and Nobes, 2014). Moreover, our results indicate that firms using cash flow measures for internal control purposes are more inclined to use IFRS-specific classification choices to increase OCF, possibly due to the higher relevance of cash flows for the firms' operations and the evaluation of the management. Contrary, although incentives to manage earnings and influence cash flows are not mutually exclusive (Lee, 2012), we do not find a significant association between a firm's inclination to increase OCF and earnings management behavior. However, our initial analyses should motivate further research on whether earnings and cash flows are influenced differently depending on the firm's situation.

Our results are subject to limitations. First, we are focusing on specific explicit choices under IAS 7 and, thus, the drivers of classification of other cash flows may differ. Second, we are examining large listed firms which may impede the generalizability of our results. However, large listed firms are among the main preparers of IFRS consolidated financial statements and have a role model function for aspiring companies. Third, some of our analyses provide initial insights on the relevance of possible determinants of classification choices, e.g. information asymmetry, the use of cash flow measures for internal control purposes, and inclination to earnings management. Thus, we aim to encourage further research to employ alternative and refined proxies for these constructs. In

addition, subsequent papers could further explore the role of compensation agreements as well as different proxies for the comparability of cash flows and decisions to increase OCF.

While we contribute to the literature on comparability of financial reporting under IFRS as well as on the use of managerial discretion over cash flow reporting, our results are of interest beyond these literature streams. First, our results are of interest to users of cash flow information who we advice to take a close look at the composition of the subtotals in the statement of cash flows before incorporating the information into their decision-making. Second, we advice academics to not simply rely on claims that OCF is a comparable measure or on data which is not adjusted for diverse classification. At least, researchers should be aware of potential differences when drawing inferences on cash flow data. Third, our study contributes to the ongoing debate about the theoretically preferable classification of interest and dividends as well as the related question of whether to allow flexibility or not. Standard setters should be aware that diverse classification of cash flows, without economic justification, creates non-comparability which is potentially driven by firm-specific incentives. Therefore, our results encourage a removal of the options currently provided under IFRS. In addition, to improve comparability across accounting regimes, national and international standard setters should cooperate more closely since the different treatment of interest and dividends is elusive in a time where the statement of cash flows is largely aligned between accounting regimes.

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## References

1. Adhikari, A. and A. Duru, 2006, Voluntary Disclosure of Free Cash Flow Information, *Accounting Horizons* 20(4), 311-332.
2. ADS International (Adler, H., W. Düring, and K. Schmaltz; eds.), 2002, Rechnungslegung nach Internationalen Standards – Kommentar [Accounting under international standards – Commentary], Stuttgart: Schäffer-Poeschel, (in German).
3. Altman, E. I. and E. Hotchkiss, 2006, Corporate financial distress and bankruptcy. 3<sup>rd</sup> Edition. New Jersey: John Wiley & Sons.

4. Barth, M. E., W. H. Beaver, and W. R. Landsman, 1998, Relative valuation roles of equity book value and net income as a function of financial health, *Journal of Accounting and Economics* 25(1), 1-34.
5. Bradshaw, M. T., B. J. Bushee, and G. S. Miller, 2004, Accounting Choice, Home Bias, and U.S. Investment in Non-U.S. Firms, *Journal of Accounting Research* 42(5), 795-841.
6. Burgstahler, D. and I. Dichev, 1997, Earnings management to avoid earnings decreases and losses, *Journal of Accounting and Economics* 24, 99-126.
7. Cascino, S., M. Clatworthy, B. García Osma, J. Gassen, S. Imam, and T. Jeanjean, 2014, Who Uses Financial Reports and for What Purpose? Evidence from Capital Providers, *Accounting in Europe* 11(2), 1-25.
8. Clacher, I., A. Duboise de Ricquebourg, and A. Hodgson, 2013, The Value Relevance of Direct Cash Flows under International Financial Reporting Standards, *Abacus* 49(3), 367-395.
9. Cole, V., J. Branson, and D. Breesch, 2013, Determinants Influencing the IFRS Accounting Policy Choices of European Listed Companies, Working Paper, February 14, 2013, available at SSRN: <http://ssrn.com/abstract=2217498>.
10. Daske, H. and G. Gebhardt, 2006, International Financial Reporting Standards and Experts' Perceptions of Disclosure Quality, *Abacus* 42, 461-498.
11. Daske, H., L. Hail, C. Leuz, and R. Verdi, 2013, Adopting a Label: Heterogeneity in the Economic Consequences Around IAS/IFRS Adoptions, *Journal of Accounting Research* 51, 495-547.
12. Dechow, P., W. Ge, and C. Schrand, 2010, Understanding earnings quality: A review of the proxies, their determinants and their consequences, *Journal of Accounting and Economics* 50, 344-401.
13. Deutsche Börse AG, 2012, THE DAX INDEX WORLD. available at: <http://www.dax-indices.com/EN/index.aspx?pageID=4> (last retrieved: February 25, 2015).
14. Fama, E. and J. D. MacBeth, 1973, Risk, Return, and Equilibrium: Empirical Tests, *The Journal of Political Economy* 81, 607-636.
15. Frankel, R. M., M. F. Johnson, and K. K. Nelson, 2002, The Relation between Auditors' Fees for Nonaudit Services and Earnings Management, *The Accounting Review* 77(Supplement), 71-105.
16. Gebhardt, G. and H. Mansch (eds.), 2012, Praxis der Aufstellung und Nutzung von Kapitalflussrechnungen deutscher Industrieunternehmen [*Practice of preparation and use of cash flow statements of German industrial companies*], *Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung* (zbf), special issue 66/12. (in German).
17. Gordon, E. A., E. Henry, B. Jorgensen, C. L. Linthicum, 2014, Flexibility in Cash Flow Classification under IFRS: Determinants and Consequences, Working Paper, December 6, 2014, available at SSRN: <http://ssrn.com/abstract=2439383>.
18. Graham, J., C. Harvey, and S. Rajgopal. 2005, The economic implications of corporate financial reporting, *Journal of Accounting and Economics* 40, 3-73.
19. Haller, A. and M. Wehrfritz, 2013, The impact of national GAAP and accounting traditions on IFRS policy selection: Evidence from Germany and the UK, *Journal of International Accounting, Auditing and Taxation* 22, 39-56.
20. Hitz, J.-M. and T. Teuteberg, 2013, Verpflichtende und freiwillige Cashflow-Berichterstattung: empirischer Befund für den deutschen Kapitalmarkt [*Mandatory and voluntary cash flow reporting: empirical evidence for the German capital market*], *Internationale und kapitalmarktorientierte Rechnungslegung (KoR)* 13(1), 33-42. (in German).
21. IASB (International Accounting Standards Board), 2012, Exposure Draft ED/2012/1: Annual Improvements to IFRSs 2010-2012 Cycle, available at: <http://www.ifrs.org/Current-Projects/IASB-Projects/Annual-Improvements/ED-May-2012/Pages/Exposure-draft-and-comment-letters.aspx> (last retrieved: April 13, 2015).
22. IASB (International Accounting Standards Board), 2013, IASB Update April 2013, available at: <http://www.ifrs.org/Updates/IASB-Updates/2013/Pages/IASB-Updates-2013.aspx> (last retrieved: April 13, 2015).
23. IFRS Foundation, 2014, The Essentials - Issue No. 1: Cash Flow Statements, available at: <http://www.ifrs.org/Investor-resources/IASB-Investor-Education/Pages/The-Essentials.aspx> (last retrieved: April 14, 2015).
24. IFRS IC (IFRS Interpretations Committee), 2013, Project IAS 7: Statement of Cash Flows – Paper Topic: Definitions of operating, investing and financing activities, IFRS IC Meeting March 12-13, 2013, Agenda Paper 7, available at: <http://www.ifrs.org/Meetings/Pages/InterpretationsMarch2013.aspx> (last retrieved: April 13, 2015).
25. Imam, S., R. Barker, and C. Clubb, 2008, The use of valuation models by UK investment analysts, *European Accounting Review* 17(3), 503-535.
26. Jaafar, A. and S. McLeay, 2007, Country Effects and Sector Effects on the Harmonization of Accounting Policy Choice, *Abacus* 43(2), 156-189.
27. Jakoby, S., J. Maier, and T. Schmechel, 1999, Internationalisierung der Publizitätspraxis bei Kapitalflussrechnungen – Eine empirische Untersuchung der DAX-Unternehmen für den Zeitraum 1988 bis 1997 [*Internationalization of the reporting practice regarding the statement of cash flows – An empirical investigation of DAX firms for the period from 1988 to 1997*], *Die Wirtschaftsprüfung (WPg)* 52, 225-238. (in German).
28. Jansen, I. P., S. Ramnath, and T. L. Yohn, 2012, A Diagnostic for Earnings Management Using Changes in Asset Turnover and Profit Margin, *Contemporary Accounting Research* 29, 221-251.

29. Jegadeesh, N. and W. Kim, 2010, Do Analysts Herd? An Analysis of Recommendations and Market Reactions, *Review of Financial Studies* 23(2), 901-937.
30. Kirsch, R. J., 2006, The International Accounting Standards Committee: A political History. Wolters Kluwer (UK) Limited.
31. Kvaal, E. and C. Nobes, 2010, International differences in IFRS policy choice: a research note, *Accounting and Business Research* 40(2), 173-187.
32. Kvaal, E. and C. Nobes, 2012, IFRS Policy Changes and the Continuation of National Patterns of IFRS Practice, *European Accounting Review* 21(2), 343-371.
33. Lang, M., J. S. Raedy, and M. H. Yetman, 2003, How Representative Are Firms That Are Cross-Listed in the United States? An Analysis of Accounting Quality, *Journal of Accounting Research* 41(2), 363-386.
34. Lee, L. F., 2012, Incentives to inflate reported cash from operations using classification and timing, *The Accounting Review* 87, 1-33.
35. Leuz, C., 2000, The Development of Voluntary Cash Flow Statements in Germany and the Influence of International Reporting Standards, *Schmalenbach Business Review* 52(2), 182-207.
36. Lüdenbach, N., 2006, Bilanzpolitik hinsichtlich Zinsen in der Kapitalflussrechnung - Effektive Grenzen durch den Grundsatz der Ausweisstetigkeit? [*Discretion with regard to interest payments in the statement of cash flows – effective constraints by the principle of consistency?*], *Praxis der internationalen Rechnungslegung* (PiR) 3(5), 77-79. (in German).
37. Meyer, M. A., 2007, Cashflow-Reporting und Cashflow-Analyse [*Cash flow reporting and cash flow analysis*], Düsseldorf: IDW Verlag. (in German).
38. Monnet, C. and E. Quintin, 2007, Why do financial systems differ? History matters, *Journal of Monetary Economics* 54(4), 1002-1017.
39. Nobes, C., 2006, The survival of international differences under IFRS: towards a research agenda, *Accounting and Business Research* 36(3), 233-245.
40. Nobes, C., 2011, IFRS Practices and the Persistence of Accounting System Classification, *Abacus* 47(3), 267-283.
41. Nobes, C. and C. Stadler, 2013, How arbitrary are international accounting classifications? Lessons from centuries of classifying in many disciplines, and experiments with IFRS data, *Accounting, Organizations and Society* 38(8), 573-595.
42. Nurnberg, H., 1993, Inconsistencies and Ambiguities in Cash Flow Statements Under FASB Statement No. 95, *Accounting Horizons* 7(2), 60-75.
43. Nurnberg, H., 2006, The distorting effects of acquisitions and dispositions on net operating cash flow, *Accounting Forum* 30, 209-226.
44. Nurnberg, H. and J. A. Largay III, 1998, Interest Payments in the Cash Flow Statement, *Accounting Horizons* 12(4), 407-418.
45. Nwaeze, E. T., S. S. M. Yang, and Q. J. Yin, 2006, Accounting information and CEO compensation: The role of cash flow from operations in the presence of earnings, *Contemporary Accounting Research* 23(1), 227-265.
46. PwC (PricewaterhouseCoopers), 2014, Manual of Accounting – IFRS 2015, London: Bloomsbury Professional.
47. Rapp, M. S., 2010, Information asymmetries and the value-relevance of cash flow and accounting figures – empirical analysis and implications for managerial accounting, *Problems and Perspectives in Management* 8(2), 64-75.
48. SEC (Securities and Exchange Commission), 2007, Acceptance From Foreign Private Issuers of Financial Statements Prepared in Accordance With International Financial Reporting Standards Without Reconciliation to U.S. GAAP, Release No. 33-8879, (December 21, 2007).
49. Smith, T., 1992, Accounting for Growth – Stripping the Camouflage from Company Accounts, Random House UK.
50. Stadler, C. and C. Nobes, 2014, The Influence of Country, Industry, and Topic Factors on IFRS Policy Choice, *Abacus* 50(4), 386-421.
51. Stolowy, H. and S. Walser-Prochazka, 1992, The American Influence in Accounting: Myth or Reality? The Statement of Cash Flows Example, *The International Journal of Accounting* 27, 185-221.
52. van der Heijden, H., 2015, User Evaluations of Financial Statements: The Effects of Presentation Choices under IFRS and US GAAP. In: 38th European Accounting Association Annual Congress 2015, Glasgow. Working Paper.
53. Wallace, R. S. O., M. S. I. Choudury, and A. Adhikari, 1999, The Comprehensiveness of Cash Flow Reporting in the United Kingdom: Some Characteristics and Firm-specific Determinants, *The International Journal of Accounting* 34(3), 311-347.
54. Zhang, R., 2009, Cash flow management in the Chinese stock market: An empirical assessment with comparison to the U.S. market, *Frontiers of Business Research in China* 3, 301-322.

## Appendix A

Variable Definitions	
<i>DeltaOCF</i>	OCF as reported by the firm <i>i</i> in the year <i>t</i> less the hypothetical benchmark which is computed by adjusting as-reported OCF to include interest paid and received as well dividends received. Both OCF as reported as well as the benchmark are scaled by total assets of the respective firm as at the beginning of the period.
<i>InterestPaidFin</i>	Indicator variable equal to 1 if the firm chooses to classify interest paid in the financing section of the statement of cash flows and 0 otherwise.
<i>DistressHi</i>	Indicator variable equal to 1 if the firm's distress level based on the Altman's Z-score is $\leq 1.81$ , and 0 otherwise.
<i>LeverageHi</i>	Indicator variable equal to 1 if the firm's leverage, as measured by total liabilities over beginning of period total assets, is greater than the median of all firms in the respective year.
<i>EqIssues</i>	Percent change of contributed capital over the sample period.
<i>Profitability</i>	Return on Assets as measured by the firm's net income over beginning of period total assets.
<i>AnalystForecast</i>	Indicator variable equal to 1 if at least one analyst cash flow forecast is available for that firm on I/B/E/S, and 0 otherwise.
<i>IndPractice</i>	Percentage of firms within an industry which choose to classify interest paid in the financing section of the statement of cash flows. The industry classification is based on Barth et al. (1998).
<i>USList</i>	Indicator variable equal to 1 if the firm is listed on a US stock exchange in addition to a German stock exchange, and 0 otherwise.
<i>Size</i>	Natural logarithm of a firm's beginning of period market capitalization.
<i>Big4</i>	Indicator variable equal to 1 if the firm's financial statements have been audited by a Big 4 audit firm, i.e. PwC, KPMG, Ernst & Young, or Deloitte, in the respective year.
<i>Dominated</i>	Indicator variable equal to 1 if a firm's free float is $\leq 50\%$ , and 0 otherwise, based on Rapp (2010).
<i>EarningsMgmt</i>	Indicator variable indicating earnings management (PM/ATO diagnostic based on Jansen et al., 2012).
<i>CFmetric</i>	Indicator variable equal to 1 if the firm employs cash flow based metrics in the segment reporting according to IFRS 8, and 0 otherwise.
<i>MTB</i>	A firm's market-to-book ratio measured by the market capitalization over the beginning of period book value of equity.
<i>MandAdopter</i>	Indicator variable equal to 1 if a firm had not switched its reporting to IFRS prior to the year 2005 and still applied German GAAP in 2004. The identification of IFRS and German GAAP preparers in 2004 is based on the Datastream item 'Accounting Standards Followed' (WC07536) using the coding of Daske et al. (2013).

## Appendix B

### Anecdotal evidence of cash flow based debt covenant agreements

Extract from a comment letter of SEOPAN, a grouping of the main Spanish construction companies and worldwide leaders in the transport infrastructure concessions industry, to the IFRS Interpretations Committee highlighting the use of OCF as incorporated measure in debt covenants. The comment letter is dealing with the presentation of cash flows for construction or upgrading services within the scope of IFRIC-12, Service Concession Arrangements.

*"We want to remark that this is not only a theoretical discussion on accounting but also a practical issue with negative impact in the business, because, if the change proposed in IAS 7 by the IFRIC is finally approved, most of the covenants of the debt financing these projects, in particular, financial expenses coverage ratio, will be affected, as normally that ratio uses operating cash flow as a reference of cash generation to pay interest of the debt."*

The comment letter has been published as appendix to the Agenda Paper 3 for the IFRS Interpretations Committee meeting in July 2012. The whole Staff Paper "IAS 7 Statement of Cash Flows: Examples illustrating the classification of cash flows" can be retrieved on the website of the IFRS Foundation (<http://www.ifrs.org/Meetings/Pages/IFRICJuly2012.aspx>, last retrieved: April 24, 2013).